PANHANDLE GROUNDWATER CONSERVATION DISTRICT

2020 ANNUAL REPORT

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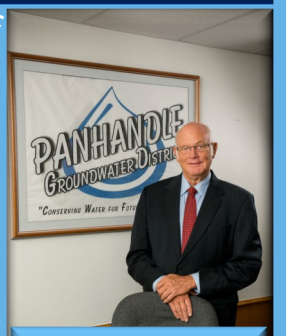
2020 Anything but Normal or Mundane



C. E. Williams
General Manager

As we started the 2020 fiscal year in October of 2019, we were extremely busy issuing Operating Permits for the entire district. This task took us most of 2019 and until January of 2020 to accomplish. Overall, we've received approximately 600 permits total. The staff thought with that behind us the rest of the year would fall into place and be somewhat routine.

The field staff started winter aquifer level measurements on the District's network of 840+ wells. They also read approximately 1,300 meters to gather the initial readings on the production of water throughout our seven county District.

The District hosted the 5th Biennial Water Conservation Symposium on February 12. Despite a winter storm that brought snow and ice, there were over 250 attendees present and participating in the day-long conference. The District has been hosting a symposium biennially since 2012.

PGCD, along with their 26 sponsors, hosted 15 speakers from all over the state of Texas and even one from out-of-state. Sarah Schlessinger, Executive Director with the Texas Water Foundation, gave an update on the foundation's plan for a state-wide water conservation campaign. A common theme from the day was to help people understand that water conservation should always be at the forefront of our minds until it becomes second nature, and not just a necessity during times of drought. The presentations from the February Symposium were recorded and are now available to view on PGCD's YouTube Channel.

A month after the symposium, the Covid-19 pandemic hit Texas with a vengeance. Governor Abbott shut down all non-essential businesses. The groundwater districts throughout Texas were determined to be an essential function due to the need to for people to drill wells. We shut our doors to the public to protect the people of our District and our employees. For the most part, we were able to continue to function by using technological resources or by offering curbside services. Fortunately, our office complex is arranged where social distancing can be easily accomplished, and the employees could continue to work safely.

In May, we kicked off our weather modification program's 20th year. Unfortunately, our four-year twin engine pilot suffered a fatal stroke during the winter months. Also, during that time, the District lost its long-term meteorologist and had to contract with a remote meteorologist to run the day-to-day operations, while I coordinated the logistics of the program from our office. The summer of 2020 was fairly dry throughout the District, but we tried to capture every opportunity to enhance the rainfall. This year's program operated for about five months rather than the normal six, and we had 18 operational days that started on May 24th and ended September 2nd.

2020 was one of the most challenging years in my 30 years with the District, but with the hard work and flexibility of the staff, we were able to make it a successful year.

MANAGER'S ADDRESS

BOARD OF DIRECTORS

Phillip Smith
President
Serving since 1990

Chancy Cruse
Vice President
Serving since 2013

Bill Breeding
Secretary
Serving since 2013

Charles Bowers
Director
Serving since 1990

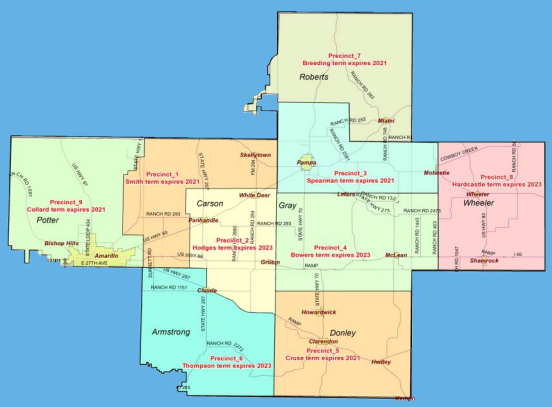
F. G. Collard
Director
Serving since 2010

Danny Hardcastle
Director
Serving since 1997

John R. Spearman
Director
Serving since 2000

Jim Thompson
Director
Serving since 1994

David Hodges
Director
Serving since 2020



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.

"Conserving Water for Future Generations"

50/50 STANDARD: OUR MOTTO

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

WHO ARE WE?

- Created in 1955 by Texas Legislature
- Derives its authority from Chapter 36 Texas Water Code
- Funded by ad valorem taxes

DISTRICT MISSION & OVERVIEW

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 10 directly and/or indirectly support Goal 1. DFCs adopted for the Ogallala and Dockum aquifers by GMA 1 on November 1, 2016, and subsequently adopted by the Panhandle GCD Board of Directors on July 14, 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.

Ogallala Aquifer DFC

The primary water resource in the District is the Ogallala Aquifer, which is a finite resource and must be managed and conserved for the benefit of future generations. The DFC for the Ogallala Aquifer within the boundaries of the District is to have at least 50 percent of the volume in storage remaining in 50 years (50/50 DFC). As discussed above, for the District, the 50/50 DFC (goal) is synonymous and interchangeable with the 50/50 Management Standard. Successful attainment of the 50/50 DFC is accomplished using the District's integrated programs focused on conservation, education, regulation, and permitting which are designed to achieve this umbrella goal. Texas Water Code Section 36.1132(a) states that "a district, to the extent possible, shall issue permits up to the point that the total volume of exempt and permitted groundwater production will achieve an applicable desired future condition under Section 36.108." The District's permitting program has been designed in order to achieve this DFC.

Ogallala						
County	**2020**	**2030**	**2040**	**2050**	**2060**	**2062**
Armstrong	57,984	53,414	48,170	43,462	38,860	38,080
Carson	192,135	184,263	169,931	153,767	137,215	134,055
Donley	74,808	76,289	72,962	67,873	62,058	60,901
Gray	181,105	175,267	162,653	148,713	134,431	131,744
Hutchinson	15,734	16,740	15,156	13,324	11,742	11,455
Potter	16,969	15,820	14,442	13,162	11,836	11,609
Roberts	430,618	455,129	427,218	390,247	350,459	342,748
Wheeler	130,425	138,810	137,385	132,312	124,778	123,309
District Total	**1,099,778**	**1,115,732**	**1,047,917**	**962,860**	**871,379**	**853,901**

Management Objective 1.1

The cornerstone of the many programs and activities of the District is the 50/50 Management Standard which drives its Rules and this Management Plan. The 50/50 Management Standard states that 50 percent of the current volume within the Ogallala Aquifer will remain in 50 years. This 50/50 Management Standard is the tool by which the District will ensure that it meets or exceeds the 50/50 DFC outlined in Rule 1, 3, and 4, which states the maximum allowable volume of pumping from the Ogallala Aquifer is 1-acre foot per acre per year. In order to ensure that the 50/50 Management Standard is being met, the District goes through an annual review process to identify and act upon Contiguous Acreage Tracts exceeding the maximum allowable volume of pumping the Ogallala Aquifer utilizing flow meter data. Management Objective 1.1 is for the District to successfully undergo and complete the annual flow meter data evaluation and review process for each Contiguous Acreage Tract each year by December 1st of the year following the year for which pumping data is collected. 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.

The District also conducts a systematic winter water level program so as to collect data necessary to evaluate achievement of the District's Desired Future Conditions. Results from the District's winter water level monitoring program are presented to the Board of Directors on an annual basis and published in the District's newsletter.

Performance Standard

1.1 A	Quantify Permitted Pumping Volumes based on Flow Meter Readings of Individual Contiguous Acreage Tracts	962,382.52 Acre-feet	Completed
1.1 B	Evaluate Winter Water Level Ogallala Aquifer Measurements	Reported to Board on July 22, 2020	Completed
1.1 C	Board of Directors will Conduct a Sunset Review on the Maximum Allowable Volume of Production	To Be Completed by January 1, 2025	In Progress

Management Objective 1.2

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

Performance Standard

1.2 A	Update and Publish the latest Ogallala Aquifer Saturated Thickness Map. The Map must be Updated at least Every Five Years	Published on 1/22/20—www.pgcd.us/mapping	Complete

Dockum Aquifer DFC

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 DFCs adopted for the Dockum Aquifer in GMA 1 are that the average decline in water levels will be no more than 30 feet within the District over the next 50 years. The maximum allowable volume of pumping from the Dockum Aquifer is 1-acre foot per acre per year.

The estimates of modeled available groundwater for the Dockum Aquifer were extracted from predictive simulations performed for GMA 1 using the updated High Plains Aquifer System.

Dockum						
County	**2020**	**2030**	**2040**	**2050**	**2060**	**2062**
Armstrong	7,131	9,024	9,588	9,704	9,535	9,494
Carson	68	108	140	169	198	204
Potter	38,803	39,113	36,937	34,505	32,008	31,558
District Total	**46,002**	**48,245**	**46,665**	**44,378**	**41,741**	**41,256**

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 the general prevalence of poor water quality and yields 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 30 Feet	Reported to the Board July 22, 2020	Completed

MANAGEMENT OF GROUNDWATER

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, managing, 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 decline 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.

Performance Standard

2.1 A	Measure Water Levels in 90 Percent of Wells in District's Observation Network	Measured 843 of 852—99 Percent	Completed
2.1 B	Prepare and Publish Annual Depletion Maps in the Panhandle Water News	Published in July 2020 Newsletter	Completed
2.1 C	IRS Depletion Maps & Letters Updated and Sent	Mailed January 27, 2020	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	October 2019 and April 2020	Completed
2.2 B	Review Ag Loan Applications within 60 Days of Receipt	All Applications were Reviewed within 60 Days	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 the Panhandle Water news on a Quarterly Basis	October 2019, January 2020, July 2020	Completed
2.3 B	Participate in the Annual Amarillo Farm & Ranch Show	Attended December 3—5. 2019	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).

2.4 A	Attend and participate in 75% of TAGD, TWCA and GMDA Meetings.	Attended 16 of the 16 required meetings—100%	Completed

Management Objective 2.5

The District has adopted rules that require an approved metering method on all wells producing more than 35 gallons per minute. 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 a metering method for wells pumping more than 35 gallons per minute, 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 meter data from installed, registered, and accessible, meters in the District annually. The information from the District's metering program will be published in the District's Annual Report. Additionally, the District will provide water-users with meter data production reports. Finally, the Board will consider meter data with respect to individual Contiguous Acreage Tracts in order to document compliance with the District maximum allowable production rate.

Performance Standard

2.5 A	Read & Record Data for 90% of Approved Metering Methods Annually	Field Technicians Read & Recorded Data for 1094 out of 1103 Meters—99%	Completed
2.5 B	Send Production Reports to Producers by September 1, 2020	All Reports sent out by March 16, 2020	Completed
2.5 C	Prepare and Send TWDB Annual Agriculture Water Estimates	Report sent to TWDB on April 30, 2020	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 five 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	Record, Investigate and Report Complaint to Landowners/ Operators within Five Working Days	No Formal Complaints were Reported this Year.	Completed
3.1 B	Report complaints to the Board with Staff Recommendations and Solutions	No Formal Complaints were Reported this Year.	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 one of these efforts is described below in Management Objectives 4.1, others are documented elsewhere in the management plan. For example, the District operates a state-permitted precipitation enhancement program, described below in Goal 8.

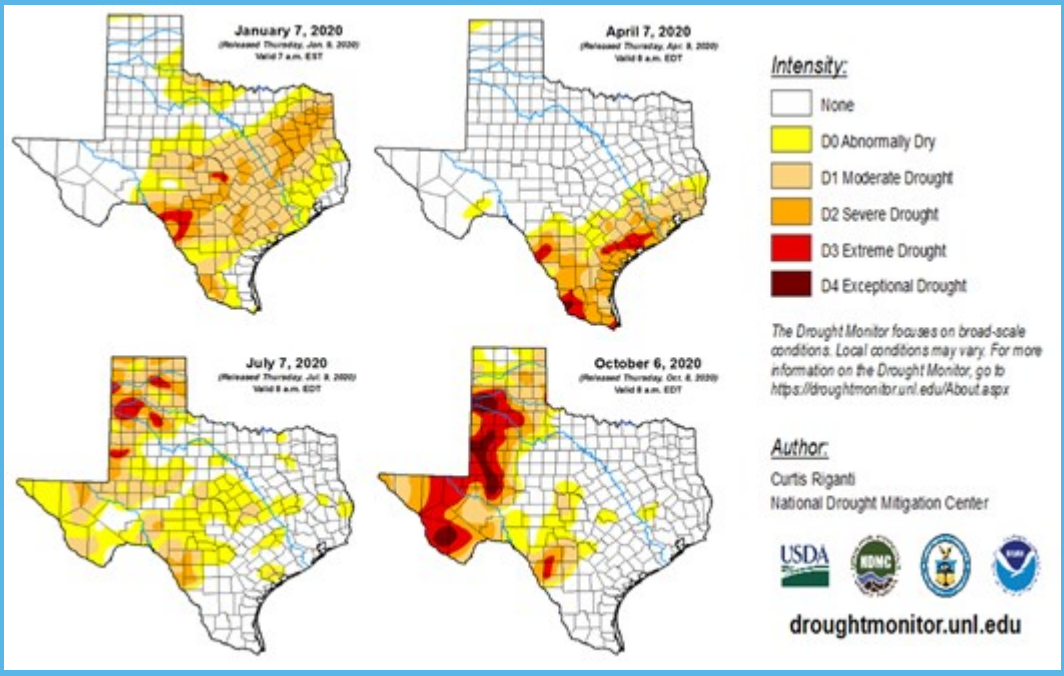
Management Objective 4.1

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

4.1 A	Update link to the NOAA Drought Monitor Indices on the District's Website	https://www.pgcd.us/links	Completed

2020 TEXAS DROUGHT MONITOR MAP



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 or designee will participate 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	District Staff Member will participate in at least 75% of PWPG Meetings & Activities	Attended 9 out of 9 Meetings & Activities—100%	Completed

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 District's Water Quality Network Biennially	Sampled 312 out of 364—86%	Completed
6.1 B	Record Water Quality Data in District Database within 30 Days of Sampling	400 Total Water Samples (312 by District Staff and 88 bought in by District Constituents) were collected and Recorded in the Database	Completed

Katie Hodges
Business Administrator

NATURAL RESOURCE ISSUES

CUSTOMER SERVICE

Management Objective 7.1

Customer service is of great importance to the Board of Directors 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:

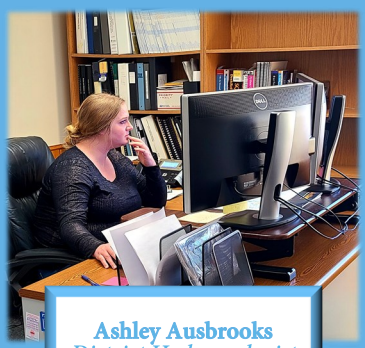
- Pump flow tests.
- Processing of well drilling permits.
- Review and revision of District Rules, as necessary, to incorporate revisions required by new legislation and as necessary to achieve adopted Desired Future Conditions.
- Well camera recordings.

Performance Standard

7.1 A	Provide Requested Flow Tests within Five Working Days	Provided tests within 5 working days and recorded in database	Completed
7.1 B	Manager's Action on Well Drilling Permits within 10 Working Days of Approval	Manager's Action on Well Drilling Permits within 10 Working Days of Approval	Completed
7.1 C	Provide Well Camera Service within 5 Working Days & Archive the DVD to District Library	All Requests Completed	Completed

Kelly Lane
Compliance Officer

Julie Bennett
Permitting Clerk



Ashley Ausbrooks
District Hydrogeologist

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 confirm precipitation enhancement 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 the Precipitation Enhancement Program from April 1st to September 30th	April 1—September 30th	Completed
8.1 B	Calculate Baseline Costs for Precipitation Enhancement Program Each Year	$0.04 per acre	Completed
8.1 C	Collect and Record Rain Gauge Readings	At Least Quarterly	Completed
8.1 D	Annually Maintain all Flight Records and Archived Data on all Precipitation Enhancement Operations and Make Available Upon Request	Current Flight Tracks are on our Website https://www.pgcd.us/flight-tracks	Completed
8.1 E	Provide Precipitation Enhancement Annual Report to the Texas Department of Licensing and Regulation	Provided to TDLR and NOAA on December 17, 2020	Completed

PRECIPITATION ENHANCEMENT

2020 PGCD Precipitation Enhancement Review

The PGCD Weather Enhancement Program completed its 20th year of consecutive cloud seeding operations this past September. The 2020 Campaign had 18 operational days with a total of 20 missions, and 62 convective cells were seeded that at the end resulted in 45 seeded storms.

The first seeding mission took place on May 24th when a large storm was initially seeded over Carson County and extended over Roberts County; that day, 15 burn-in-place AgI flares were used with at excellent timing. During the last mission on September 2nd , four storms were seeded over Roberts, Wheeler, Donley, and Carson Counties using 34 burn-in-place AgI flares with excellent results. After that day no more seedable cloud resources were observed over the target area, and the Campaign was closed on September 30th.

The following table illustrates a brief comparison among campaigns during the last 8 years:

Year	# of Operational Days	# of Seeded Clouds	Total Increase in Acre-Feet
2013	20	28	380,000
2014	17	37	559,500
2015	19	24	565,400
2016	28	45	718,900
2017	16	19	465,200
2018	24	40	767,100
2019	11	16	202,100
2020	**18**	**45**	**651,000**

Minimal in operational days and seeded clouds were reached in 2019, but in 2020, resources and operational days seemed to come to normal values which in turn led to a noticeable estimated increase (last column in acre-ft). Such an increase represented about 15 % of the natural resources in rain gage data, and all the counties in the target area were benefited by the operations.

The 2020 Campaign was developed in a moderate to moderately dry synoptic weather pattern since the NOAA reported average rainfall for the region between April and September was about 11.11 in which is about 72 % of the normal value (15.50 in). It explains why the season suffered some long spells of dry days. At the end, results have been evaluated as satisfactory.

County	Number of BIP Flares	Number of Hygroscopic Flares	Percentage of Total Flares
Armstrong	73		17.42%
Carson	92		21.96%
Donley	75		17.90%
Gray	32		7.64%
Potter	109	3	26.01%
Roberts	20		4.77%
Wheeler	18		4.30%

The total number of Flares used in the 2020 operational season are shown in the table above.

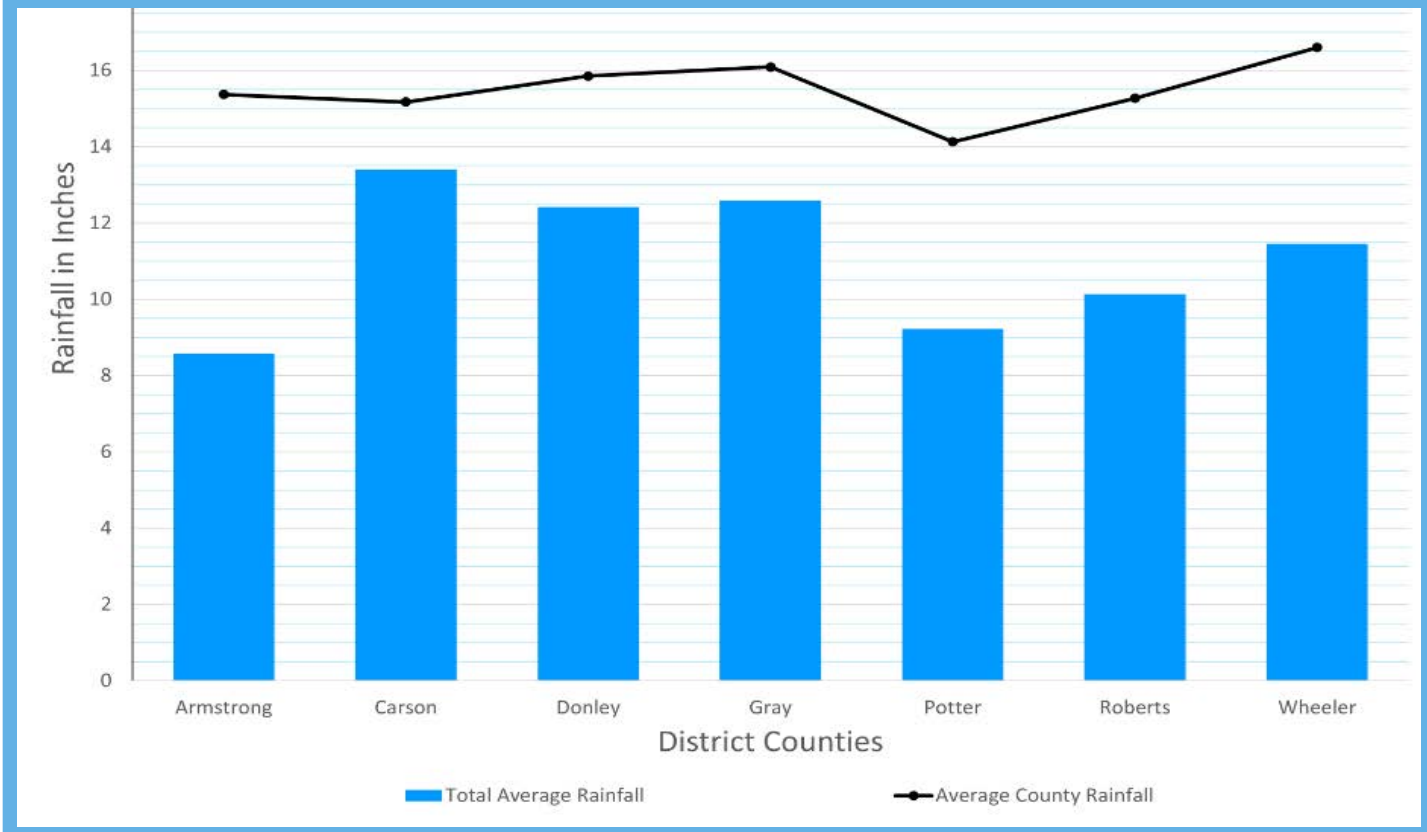
Management Objective 8.2

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	Twice a Year	Completed
8.2 B	Provide at least 1 Article about the Program to all Local Papers	Weekly Rain Report to White Deer News	Completed
8.2 C	Provide at least 2 Presentations Annually to a Public or Civic Group	Due to COVID-19, PGCD Limited In-Person Presentations	Incomplete
8.2 D	Complete the Program Summary Report and Include in District's annual Report Each Year	See Table Below	Completed

January—September 2020 Rainfall Totals



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 30 educational settings. 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.

Performance Standard

9.1 A	Make at least 5 Civic Educational Presentations	Carson Co. Playa Festival (10/2/19) Potter/Randall Co. Ag Day (11/06/19) 2020 Water Conservation Symposium (2/12/20) Carson Co. Ag Day (2/25/20)	Incomplete
9.1 B	Present Water Conservation Presentations in at least 30 Educational Settings	Presented to 24 educational settings in person, and sent virtual presentation on YouTube to all 52 schools	Complete
9.1 C	Provide at least 3 scholarships (student essay competition)	1st Place - MacKenzi Miller, Panhandle HS, 2nd Place - Alexander Davis, Wheeler HS, 3rd Place - Richard Judy, Jr., Highland Park HS	Complete
9.1 D	Water Warrior Presentations to at Least 3 Educational Settings	Carson Co. Playa Festival (10/2/19), Potter/Randall Co. Ag Day (11/06/19) Carson Co. Ag Day (2/25/20)	Complete

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.

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 Rebate Program	www.pgcd.us/rainwater-harvesting	Completed
10.1 B	Provide a Link to TWDB's Rainwater Harvesting Webpage	www.pgcd.us/links	Completed

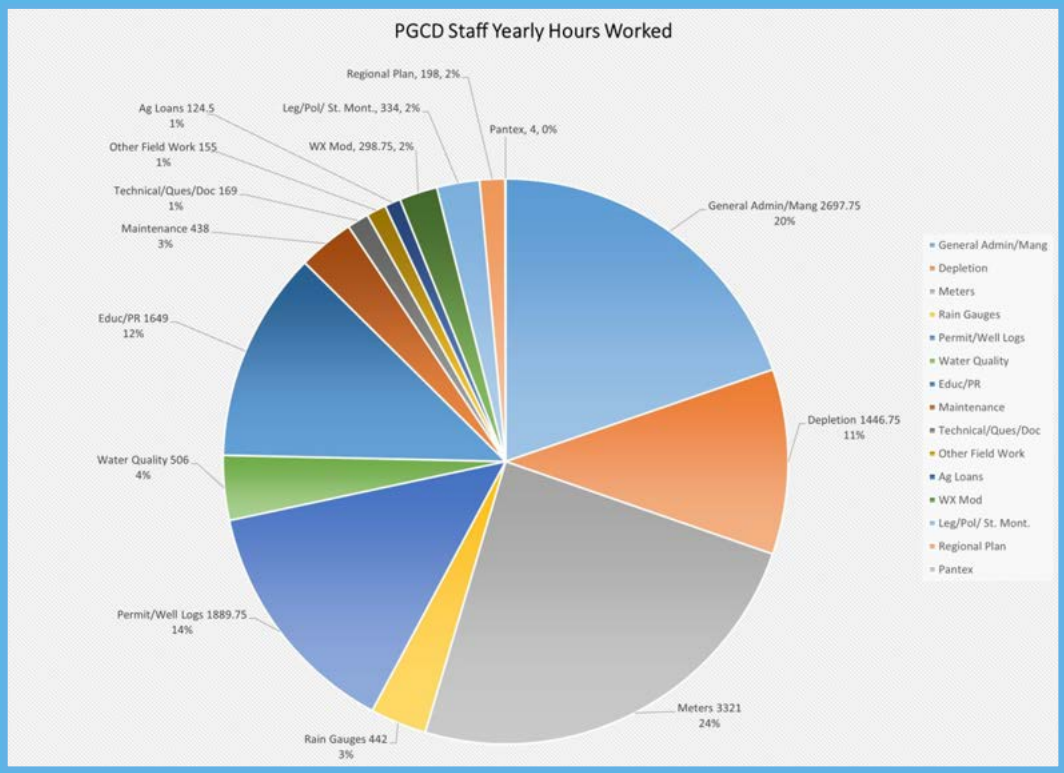
RAINWATER HARVESTING

Rainwater Harvesting Systems Installed 2019—2020
• 1600 GALLON TANK
• 2500 GALLON TANK
• 39,000 GALLON TANK
• 50,000 GALLON TANK
• 93,100 GALLONS TOTAL

2019—2020 EXPENDITURES

Bank Card Fees	$ 616.83
Symposium Expenses	$ 17,523.00
Fund Transfer	$ 0.00
App. Districts	$ 34,386.50
Board Expense	$ 13,898.78
Capitol Exp. A	$ 0.00
Car Expense	$ 20,946.93
Dues	$ 8,490.33
Election Exp.	$ 0.00
Field Equipment Asset	$ 7,236.77
Field Supplies	$ 6,840.36
Grants Funds	$ 0.00
Insurance	$ 108,986.30
Labor	$ 591,500.75
Meter Expense	$ 92,175.63
Miscellaneous	$ 2,880.80
Office	$ 23,274.68
Postage	$ 4,682.85
Public Relations	$ 43,448.56
Prof. Services	$ 122,353.91
Regional Planning	$ 18,927.00
Repairs	$ 9,026.45
Scholarship	$ 9,000.00
Service Charges	$ 95.00
Tax Increment Payment	$ 10,828.00
Special Studies	$ 47,775.54
Travel & Training	$ 14,763.93
Utilities	$ 18,798.76
Water Quality	$ 7,772.48
Weather Modification	$ 155,678.32
Total Expense	**$ 1,460,985.74**

PGCD Staff Yearly Hours Worked



TIME TRACKING

PERMITTING AND REGISTRATION

WELL PERMITS APPROVED					
County	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
Armstrong	0	3	8	2	2
Carson	14	13	20	11	18
Donley	5	7	8	8	13
Gray	5	7	12	8	10
Hutchinson	0	0	0	0	0
Potter	0	5	21	42	37
Roberts	2	1	2	2	4
Wheeler	5	9	9	14	13
Total	**31**	**45**	**80**	**87**	**97**

DOMESTIC, STOCK & RIG SUPPLY WELL REGISTRATIONS RECEIVED					
County	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
Armstrong	14	22	28	10	11
Carson	18	22	33	13	6
Donley	19	37	22	20	21
Gray	30	32	19	21	15
Hutchinson	0	1	0	0	0
Potter	60	65	12	22	9
Roberts	9	5	12	7	10
Wheeler	26	22	23	32	22
Total	**176**	**206**	**149**	**125**	**94**

OBERSERVATION, MONITORING & REMEDIATION WELL REGISTRATIONS RECEIVED					
County	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
Armstrong	0	0	0	0	0
Carson	45	8	31	15	4
Donley	0	0	0	0	0
Gray	3	0	1	0	0
Hutchinson	0	0	0	0	0
Potter	6	7	30	13	5
Roberts	0	0	0	0	0
Wheeler	0	4	4	4	4
Total	**54**	**19**	**66**	**32**	**13**

OPERATING PERMITS APPROVED	
County	OCTOBER 2019—SEPTEMBER 2020
Armstrong	28
Carson	137
Donley	57
Gray	75
Hutchinson	0
Potter	2
Roberts	21
Wheeler	57
Total	**377**

Symposium 2020 Highlights

SYMPOSIUM 2020

Panhandle Groundwater Conservation District (PGCD) hosted the 5th Biennial Water Conservation Symposium on February 12, 2020. Despite a winter storm that brought snow and ice, there were over 250 attendees present and participating in the day-long conference.

PGCD, along with their 26 sponsors, hosted 15 speakers from all over the state of Texas and even one from out-of-state. One of the hot topics of the day was the Hemp Panel, which featured Dan Hunter, Assistant Commissioner for Water and Rural Affairs with the Texas Department of Agriculture, Dr. Charles Beall, a Senior Scientist with Ana-Lab, Calvin Trostle, Researcher with Texas A&M AgriLife in Lubbock and Rafe Schroder, a Hemp Producer from Colorado. Each panelist gave their expertise regarding Hemp Production in Texas, and the unique challenges producers in our area can expect to face once production begins.

A few more highlights include: Sarah Schlessinger, Executive Director with the Texas Water Foundation, who gave an update on the foundation's plan for a state-wide water conservation campaign. Herman Berngen with Hilmar Cheese in Dalhart informed attendees of how the company practices water conservation in its facilities. Damen Ratliff with the City of Amarillo spoke about their award-winning Waste Water Reclamation Program, and shocked attendees with how much water the city is saving and reusing each year. In addition to the speaker sessions, 18 of the 26 sponsors had booths with special giveaways and provided networking and educational opportunities for the attendees.

The District has been hosting a symposium biennially since 2012. In the summer of 2011, Texas began to experience the worst drought on record in our state's history. To battle the toll of the heat, residential and agricultural water consumption increased dramatically. Watching the trend of water use rising, the need and awareness for water conservation became apparent very quickly. Now the District continues to host a symposium every two years whether the area is under drought conditions or not. The reality is that water conservation should always be at the forefront of our minds, so it becomes second nature and not just a necessity during times of drought.

The presentations from February were recorded and are now available to view on PGCD's YouTube Channel.

YEAR IN REVIEW

October 2019

10.2 Carson County Playa Lake Festival, Panhandle

2019 Carson County Playa Lake Festival
Panhandle, TX

November 2019

11.6 Potter/Randell County Ag Day

December 2019

12.2 Ag Communicators of the High Plains, Amarillo

12.3—5 Amarillo Farm and Ranch Show

12.12 TDLR WX Mod Advisory Meeting

12.18 TWCA Risk Management Appraisal

January 2020

1.28 PGCD Board Meeting

February 2020

2.12 5th Water Conservation Symposium

2.25 Carson County Ag Day, Panhandle

March 2020

3.3—6 TWCA Annual Meeting, Fort Worth

3.3 Pattern Wind Committee Meeting, Panhandle

3.9 TWF Committee Meeting, Zoom

3.10 North Plains GCD Grower Information Day

3.11 PGCD Board Meeting

April 2020

4.3 NWRA Legislative Conference Call

4.9 TAGD Joint Planning Subcommittee, Virtual Meeting

4.23 Regional Water Planning Public Hearing, Virtual Meeting

4.28 PGCD Board Meeting, Virtual Meeting

4.30 WCAC Meeting. Virtual Meeting

May 2020

5.6 Texas Water Foundation Board, Virtual Meeting

5.12 Discussion with Inter A on New Database. Virtual Meeting

5.21 GMA1 Meeting, Zoom Meeting

5.22 Panhandle Runs on Water, Zoom Meeting

5.27—28 TAGD/TX Water Foundation, Virtual Meeting

June 2020

6.5 TWCA Groundwater Panel Board Meeting, Virtual Meeting
6.11 TAGD Joint Committee Planning Meeting, Virtual Meeting
6.17—19 TWCA Mid Year Conference, Virtual Meeting
6.25 GMA1 Meeting, Zoom Meeting
6.30 Panhandle Runs on Water, Zoom Meeting

C. E. Williams
General Manager

July 2020

7.8 CRMWA Board Meeting, Zoom Meeting
7.8 GMA1 Meeting, Zoom Meeting
7.9 Budget Committee Meeting, Zoom Meeting
7.10 Discussion with Inter A on New Database, Virtual Meeting
7.16 TWCA Committee Meeting Webinar
7.20 TAGD Joint Committee Planning Meeting, Virtual Meeting
7.22 PGCD Board Meeting, Virtual Meeting
7.23 GMA1 Meeting, Zoom Meeting

August 2020

8.3 Ashley Ausbrooks started work at PGCD
8.7 Ogallala Saturated Thickness 2020 Map Kickoff, Virtual Meeting
8.10 Suzy Pool started work at PGCD
8.12—13 American Groundwater Trust Texas Webinar
8.19 PWPG Regional Planning Group Executive Committee Meeting
8.25 TWCA Committee Meeting Webinar
8.27 PGCD Board Meeting
8.28 TAWC/TWCA Board Meeting

Ashley Ausbrooks, Britney Britten, Suzy Pool

September 2020

9.1—3 TAGD Summit, Virtual Meeting
9.3 Texas Water Foundation Meeting, Virtual Meeting
9.11 TAGD Joint Planning Meeting, Virtual Meeting
9.11 Panhandle Runs on Water, Zoom Meeting
9.17 PGCD Board Meeting
9.24 TWCA Committee Meeting Webinar
9.24 GMA1 Meeting, Zoom Meeting
9.25 RWPG Regional Planning Meeting, Zoom Meeting
9.29 TAGD Regional Business Meeting, Virtual Meeting

STAFF MEMBERS & JOB TITLES

PGCD STAFF MEMBERS

Back Row (Left to Right): C. E. Williams, Jake Robinson, Richard Dills, Kelly Lane
Front Row (Left to Right): Ashley Ausbrooks, Katie Hodges, Britney Britten, Julie Bennett, Suzy Pool

- C. E. Williams—General Manager
- Britney Britten—Assistant General Manager
- Kelly Lane—Compliance Officer
- Julie Bennett—Permitting Administrator
- Katie Hodges—Business Administrator
- Suzy Pool—Public Relations/Education Director
- Ashley Ausbrooks—District Hydrogeologist
- Jake Robinson—Field Technician
- Richard Dills—Field Technician