2018 ANNUAL REPORT

HIGH PLAINS UNDERGROUND WATER CONSERVATION DISTRICT NO. 1
2930 AVENUE Q
LUBBOCK, TEXAS 79411-2499

WWW.HPWD.ORG

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A LOOK BACK AT 2018 (*Photos*)

High Plains Underground Water Conservation District No. 1

Created by local residents and the state legislature in September 1951, the High Plains Underground Water Conservation District No. 1 marked its **67th year** of operation during Fiscal Year 2018.

The High Plains Water District strives to conserve, preserve, and protect the groundwater resources of the Ogallala, Dockum, and Edwards-Trinity (High Plains) Aquifers within its 16-county service area.

The High Plains Underground Water Conservation District No. 1 consists of all of Bailey, Cochran, Hale, Lamb, Lubbock, Lynn, Parmer, and Swisher Counties, and parts of Armstrong, Castro, Crosby, Deaf Smith, Floyd, Hockley, Potter, and Randall Counties. The district's service area is approximately 11,850 square miles.

The purpose of the High Plains Water District, as required by Chapter 36 of the Texas Water Code, is to provide for conserving, preserving, protecting, recharging, and preventing the waste of underground water.

Since 1951, the Water District has developed its management philosophy and resulting management strategies.

During FY 2018, staff continued work on the programs outlined in the High Plains Water District's 10-year management plan, originally adopted by the Board of Directors on August 11, 1998.

The HPWD Board of Directors readopted the amended management plans on these dates:

- January 29. 2004
- February 10, 2010
- July 19, 2011
- August 12, 2014

This document contains management goals, performance standards, and responses to the performance standards for FY 2018.

The High Plains Water District expresses its appreciation to its management and staff for their careful documentation of program data and assistance in compiling this annual report.

The High Plains Underground Water Conservation District No. 1 Board of Directors reviewed and approved this annual report at their January 8, 2019 regular meeting in Lubbock, TX.

BOARD OF DIRECTORS

Dan Seale	Member	Precinct One District Director	Lubbock, TX
Brad Heffington	Vice President	Precinct Two District Director	Littlefield, TX
Mike Beauchamp	Secretary-Treasurer	Precinct Three District Director	Friona, TX
Lynn Tate	President	Precinct Four District Director	Amarillo, TX
Ronnie Hopper	Member	Precinct Five District Director	Petersburg, TX

DISTRICT STAFF

Jason Coleman, P.E.	General Manager
Carmon McCain	Information/Education Group Supervisor
Juan Peña	Permit Supervisor
Gray Sanders	Information Technology Administrator
Keith Whitworth	Field Technician Supervisor

Tammy Anderson	Accountant
Billy Barron	Field Technician
Liz Casias	Receptionist/Administrative Assistant
Katherine Drury	Education and Outreach Coordinator
Ray Eads	Field Technician (*Canyon*)
Lance Epperson	Field Technician
Mark Hamilton	Field Technician
Jed Leibbrandt	GIS Specialist
Vance Porter	Field Technician
Andres Villarreal	Field Technician
Victoria Messer Whitehead	Governmental Affairs Director

COUNTY ADVISORY COMMITTEES

(October 1, 2017 to September 30, 2018)

COUNTY	MEMBERS
ARMSTRONG	Jim Bob Burnett, Wayside, TX
BAILEY	Brett Bamert, Muleshoe, TX John Bruce Barrett, Springlake, TX Tim Black, Muleshoe, TX Jim Pat Claunch, Muleshoe, TX Kelly Kettner, Muleshoe, TX Eric McElroy, Muleshoe, TX
CASTRO	Darrell Buckley, Dimmitt, TX Donny Carpenter, Dimmitt, TX Kirk Farris, Nazareth, TX Coy Myrick, Nazareth, TX Max Swinburn, Dimmitt, TX Dale Wilhelm, Nazareth, TX
COCHRAN	Tommy Carter, Morton, TX Curtis Griffith, Lubbock, TX Glen Lyon, Morton, TX Scott Simpson, Morton, TX Richard Williams, Morton, TX
CROSBY	David Appling, Crosbyton, TX Dusty Cornelius, Crosbyton, TX Wayne Laminack, Ralls, TX John Schoepf, Lorenzo, TX Brad Thornhill, Crosbyton, TX Heath Verett, Ralls, TX Reagan Ware, Ralls, TX
DEAF SMITH	Frankie Bezner, Hereford, TX Kevin Buse, Hereford, TX Michael Carlson, Hereford, TX Andrew Gee, Hereford, TX Chris Grotegut, Dawn, TX Andy Schaap, Hereford, TX Harold Sides, Wildorado, TX

FLOYD	Ray Brady, Floydada, TX Hulon Carthel, Floydada, TX Warren Mitchell, Lockney, TX Kerry Pratt, Floydada, TX
HALE	Rob Bass, Plainview, TX Gaylord Groce, Petersburg, TX Jeff Harrell, Plainview, TX Brad Martin, Edmonson, TX John Ross, Plainview TX Jimmy Sageser, Kress, TX
HOCKLEY	David Carter, Levelland, TX George Childress Jr., Levelland, TX Raymond Marek, Pep, TX Donald Rhoads, Ropesville, TX Preston Turner, Levelland, TX
LAMB	Jeff Edwards, Amherst, TX Kerry Faver, Littlefield, TX Steve Johnson, Olton, TX Bryan Patterson, Amherst, TX Kevin Riley, Springlake, TX Tullie Struve, Olton, TX
LUBBOCK	Steve Barrett, Lubbock, TX J.O. Dawdy, Floydada, TX Gary Evitt, Idalou, TX Lynn Harrist, Shallowater, TX Clay Hill, Lubbock, TX Linda Taylor, Ropesville, TX Rodney Terry, Wolfforth, TX
LYNN	Ty Askew, Tahoka, TX Kevin Buxkemper, Slaton, TX Craig Heinrich, Lubbock, TX Ralph Huffaker, Tahoka, TX Stacy Smith, Wilson, TX Michael White, Tahoka, TX

PARMER	Tony Beauchamp, Bovina, TX Jerry Don Glover, Muleshoe, TX Cris Ingram, Friona, TX Terry Jesko, Muleshoe, TX Steve Kaltwasser, Farwell, TX Josh McDonald, Muleshoe, TX Ryan Williams, Farwell, TX
POTTER	Bruce Blake, Amarillo, TX Michael Menke, Amarillo, TX
RANDALL	Charles Allison, Amarillo, TX Randy Darnell, Amarillo, TX Greg Glover, Amarillo, TX Dillon Pool, Amarillo, TX Pat Scarth, Amarillo, TX Ryan Wieck, Umbarger, TX David Winters, Canyon, TX
SWISHER	Brian Borchardt, Tulia, TX Trent Finck, Tulia, TX Cindy Hurt, Tulia, TX Max Moore, Kress, TX Jeremy Reed, Kress, TX

KEY EVENTS OF HPWD FISCAL YEAR 2018

(October 1, 2017 to September 30, 2018)

October 2017	HPWD Remembers 30th Anniversary of Jessica McClure Open Well Incident
November 2017	HPWD Will Apply For Additional TWDB Funding For 2018.
December 2017	Fall 2017 Conservation Connect Magazine Distributed.
January 2018	Annual Water Level Measurements Begin. Drought Conditions Prevalent At End Of 2017. RCPP Funding Available. TAWC Water College Set for January 24 in Lubbock. Dr. Steve Amosson Retires Jan. 31 From Texas A&M University System
February 2018	Feb. 13-14 No Till Texas Soil Health Symposium at Lubbock. Feb. 28 Fourth Biennial Panhandle Water Conservation Symposium. Hereford ISD Students Win H2You Contest. City of Wolfforth To Drill New Municipal Water Supply Well.
March 2018	Annual HPWD County Advisory Committee Meetings Held. HPWD Accepting Requests For Water Depletion Data. Brooke Paup of Austin Appointed to TX Water Development Board. Enrollment begins for 2018 Irrigation Assessment Program. HPWD Accepting RFPs For Research, Demonstration, and Education Projects. Hope Henderson Begins As Communications Intern.
April 2018	April 5 Rainwater Harvesting Workshop at Canyon. April 12 Rainwater Harvesting Workshop at Lubbock. April 19 Rainwater Harvesting Workshop at Levelland. H2You Contest Winners Travel To Austin. Results Of Annual Water Level Measurements Released.
May 2018	Drought May Alter Summer Crop Planting Decisions. House Committee On Natural Resources Interim Hearing At Brady. Lubbock County Advisory Committee Member Tracey Kitten Dies At 53.
June 2018	House Committee On Natural Resources Interim Hearing At Canyon Senate Agriculture, Water, and Rural Affairs Interim Hearing At Austin. Area Residents Reminded To Conserve Water Due To Excessive Heat. Board Approves Research And Demonstration Funding. HPWD Shares Water Information At June 13 Teacher Workshop.
July 2018	HPWD Releases 2017 Irrigation Assessment Program Results. HPWD Has Information Table at July 7 TTU Homeowner Landscape Field Day. Filing Period Begins For Precinct 1, 2, & 5 District Director Positions. Interactive Features Added To HPWD Website. Texas 4-H Water Ambassadors Visit HPWD on July 27. Much Of Texas Experiences Record High Temperatures During 2018 Summer.
August 2018	All 2018 AIM Program Cost-Share Funds Claimed By Producers. Filing Period Ends Aug. 20 For HPWD District Director Election.
September 2018	Sept. 14 Deadline Nears for RCPP Final Applications. Board Adopts 2018 Ad Valorem Tax Rate. Dr. John Abernathy passes away Sept. 18 at age 73.

MANAGER'S MESSAGE – Jason Coleman

The HPWD annual report is a brief summary of the programs and activities conducted during the 2018 fiscal year. Most of the content relates to objectives contained in the district management plan.

Chapter 36 of the Texas Water Code specifies the goals that a groundwater conservation district (gcd) must address in the management plan.

HPWD conducted all programs and activities for the 2018 fiscal year at a total cost of about $2.5 million.

All bills and monthly financial reports for the district are available on its web site. The public has access to the information presented during each board meeting using the "Agendas and Minutes" link.

Many landowners in the HPWD service area have invested a great deal in conservation of their groundwater resources. Our education and outreach staff members share some of these stories in our annual publication, "Conservation Connect". This magazine is available electronically on our web site. A print version is also available upon request.

We encourage district residents to use our online web map and other HPWD resources for understanding aquifer conditions and the variability of groundwater supply.

Recent updates to the web map provide more aquifer information and greater flexibility of use. HPWD has created short instructional videos regarding these updates, and we encourage you to peruse them.

In addition, we have staff members available for personalized training in the use of this resource. Please contact our office if you have any questions about this service.

The staff at HPWD is highly qualified, and committed to providing service to all landowners and groundwater users.

If you have a question about groundwater resources within HPWD, please contact us and use our experienced staff.

Your comments and questions about HPWD programs are always welcome.

ANNUAL REPORT OF ATTAINMENT OF GOALS

GOAL 1: PROVIDING THE MOST EFFICIENT USE OF GROUNDWATER

Management Objective 1.1 – Monitor Water Levels

Water level measurements are vital to the study of the aquifers within the High Plains Water District (HPWD). Field staff make these measurements each winter when most of irrigation is at a minimum.

Performance Standards

1.1a Number of wells measured in 2018.

There were 1,395 wells measured. Of these, 1,313 are Ogallala Aquifer wells, 50 are Edwards-Trinity (High Plains) Aquifer wells, and 32 are Dockum Aquifer wells.

1.1b Number of wells unmeasured wells in 2018.

Approximately 19 wells were unmeasurable in 2018. Of these, one was a Dockum Aquifer well and 18 were Ogallala Aquifer wells.

1.1c Number of new wells added to the observation well network in 2018.

HPWD Field Staff added 70 new Ogallala Aquifer wells to the observation well network in 2018. There were no new Dockum Aquifer wells added. There were 94 Ogallala Aquifer wells dropped from the observation well network in 2018.

1.1d Construct maps illustrating the yearly changes in water levels.

District staff updated the annual changes in depth-to-water and saturated thickness in wells within the district's observation well network. These data are available for online viewing at **map.hpwd.org**.

1.1e Maintain continuous water level monitoring transducers in at least 10 water wells.

There are 39 continuous water level monitoring transducers installed/maintained in wells within the district. Of these, 21 wells are visited to download data and 18 wells update data on a daily basis. Data from these wells is available at **map.hpwd.org → Daily Observation Wells.**

Management Objective 1.2 – Monitor Saturated Thickness

Saturated thickness represents the aquifer section where groundwater pumping occurs. Water users should be aware of changes in saturated thickness.

Performance Standards

1.2a Calculate the saturated thickness for water level observation wells that have a log of well construction.

County	Number of Observation Sites With Log of Construction	Average Saturated Thickness from Observation Wells
Armstrong	4	35
Bailey	73	62
Castro	88	64
Cochran	47	40
Crosby	15	92
Deaf Smith	95	64
Floyd	89	71
Hale	48	61
Hockley	66	41
Lamb	93	52
Lubbock	82	61
Lynn	38	49
Parmer	97	52
Potter	6	52
Randall	37	52
Swisher	50	47

1.2b Provide saturated thickness data via the district website.

These data are available to the public as part of the HPWD interactive observation well feature at **map.hpwd.org**. Clicking on an observation well location on the map brings up a table with the observation well number, county, permit number, depth to base of the aquifer, and depth to water/saturated thickness information for a 10-year period.

Management Objective 1.3 – Technical Field Services

The public often consults with HPWD staff for information to determine water well capacities. Ultrasonic flow meters and e-lines are among the tools used by staff for this purpose.

Performance Standards

1.3a Document the number of flow tests performed by district staff in 2018. Approximately 921 tests were conducted in 2018. This includes 764 water wells and 157 irrigation systems.

1.3b Number of flow tests performed by the public using the metering equipment loaned to water users by the district. HPWD loaned out flow meters seven times during the year. Multiple wells may have been monitored with these flow meters.

1.3c Number of water level measurements performed for individual well owners. There were 764 water level measurements made for individual well owners in Fiscal Year 2018. Of these, 665 were for the Irrigation Assessment Program. The remaining 99 measurements were for individual landowners/operators.

Management Objective 1.4 – Irrigation Assessment Program

Agricultural irrigation comprises the majority of groundwater use within the district's 16-county service area. For this reason, it is important for the district to understand the patterns of groundwater use on different crops. The district monitors application amounts and crop types through voluntary cooperation of a network of agricultural producers. The following data reflects the 2018 crop year.

Performance Standards

1.4a Number of sites enrolled in the district's irrigation assessment program. There are 129 sites covering 18,517 acres of land.

1.4b Document the types of irrigated crops. Corn, cotton, grain sorghum, peanuts, silage, and wheat are the primary crops in 2018. In addition, there is alfalfa, grass, and sunflowers.

1.4c Document the irrigation methods being utilized. The irrigation methods are primarily center pivot irrigation and subsurface drip irrigation.

Management Objective 1.5 – Data Availability

It is our goal to provide the best available hydrologic information to water users within the district. This information is available on a variety of platforms, including electronic and print media. Timely delivery of this information and ease of access by the public are critically important.

Performance Standards:

1.5a Summary and description of new/improved data tools.

The format for the daily water level measurement charts has been revised to automatically show the base of the aquifer as visitors move their cursor over the chart. These data can be reviewed for one month, three month, six month, year to date, or longer periods.

Rain gauge data has also been added to the interactive map. For example, bar charts depict 2018 rainfall by month. Clicking on each bar chart brings up an expanded view of rainfall by day for that respective month.

1.5b Summary and description of existing data tools.

The online map allows the public to view well locations and download associated documents, which include permits, well logs and geophysical logs. The locations of Observation Network wells are available to view Annual and Daily water levels through an interactive graph. Employing the Well Spacing Guide will allow users to estimate a desired drilling location based upon the District's minimum distance rules. A new "Aquifer Info" tab allows persons to access a "virtual bore" for any location within the HPWD service area. This tool provides representative data for elevation of the water table, saturated thickness of the aquifer, depth to the formation, and thickness of the formation.

1.5c Inventory of all data tools available to the public.

- Aquifer Info tab with "virtual bore" for any location in the HPWD service area.
- Interactive web map feature with base to aquifer, depth-to-water, and saturated thickness.
- Groundwater Management Area (GMA) Map.
- Regional Water Planning Group (RWPG) Map.
- Rain Gauge Network Map.
- Drought Map.
- Center Pivot and SDI Location Map.

Management Objective 1.6 – Irrigation System Inventory

As groundwater availability changes, it is expected that the amount of irrigated acreage will change as well. Remote imagery and other tools allow HPWD staff to document changes in the type and number of irrigation systems within the district.

Performance Standards

1.6a Number of irrigation systems documented.
There are approximately 14,284 center pivot systems and 5,798 subsurface drip irrigation systems in operation within the district. (2018 inventory)

1.6b Calculate acreage covered by the irrigation systems.
There are approximately 2,276,220 irrigated acres within the district. This includes 1,827,794 acres irrigated with center pivots and 448,426 acres irrigated with subsurface drip irrigation. (2018 inventory)

GOAL 2: CONTROLLING AND PREVENTING WASTE OF GROUNDWATER

Management Objective 2.1 – Well permitting and well completion

HPWD issues permits for water wells expected to produce 17.5 gallons per minute or more from the Ogallala Aquifer, the Edwards-Trinity (High Plains) Aquifer, and the Dockum Aquifer.

Performance Standards

2.1a Number of water well permits issued per aquifer.

	2018	***2017***
Dockum Aquifer	26	*21*
Edwards-Trinity (High Plains) Aquifer	1	*1*
Ogallala Aquifer	495	*543*
TOTAL	**522**	***566***

2.1b Number of well completions per aquifer.

	2018	***2017***
Dockum Aquifer	16	3
Edwards-Trinity (High Plains) Aquifer	4	0
Ogallala Aquifer	617	470
TOTAL	**637**	**473**

2.1c Production categories of well permits issued in Fiscal Year 2018.

DOCKUM AQUIFER		
	2018	***2017***
70 gallons per minute	2	1
165 gallons per minute	1	0
265 gallons per minute	0	0
500 gallons per minute	18	17
> 500 gallons per minute	5	3
TOTAL	**26**	**21**

EDWARDS-TRINITY (High Plains)		
	2018	***2017***
70 gallons per minute	0	0
165 gallons per minute	1	0
265 gallons per minute	0	0
390 gallons per minute	0	0
500 gallons per minute	0	0
> 500 gallons per minute	0	1
TOTAL	**1**	**1**

OGALLALA AQUIFER		
	2018	***2017***
70 gallons per minute	98	98
165 gallons per minute	214	210
265 gallons per minute	82	84
390 gallons per minute	43	54
560 gallons per minute	54	78
1,000 gallons per minute	2	9
> 1,000 gallons per minute	2	10
TOTAL	**495**	**543**

Management Objective 2.2 – Open, Deteriorated, or Uncovered Wells

Open, deteriorated, or uncovered wells pose a threat to groundwater quality as well as human/animal safety. Staff members may discover such wells during routine work in the field or the public may notify the District about open wells.

Performance Standards

2.2a Number of open, deteriorated, or uncovered wells reported. (39)

2.2b Number of well caps provided to cover open wells. (6)

*2.2*c **Number of open, deteriorated, or uncovered wells that were capped, closed, or repaired during FY 2018, in accordance with district rules.** (34) *There are five case reports of open, deteriorated, or uncovered wells still in progress at year's end.*

Management Objective 2.3 – Waste of Groundwater

Waste of groundwater is usually reported to the HPWD office by the public. It may also be discovered by a staff member in performance of their duties. Since groundwater waste is prohibited by State Law, all reports of groundwater waste are investigated by staff. The corresponding well owner is notified of the wasteful practice and encouraged to take corrective measures.

Performance Standards

2.3a Number of water waste reports investigated by district staff. There were eight reports of irrigation tailwater waste and two reports of urban water waste in 2018. Each was investigated and resolved by HPWD staff.

2.3b Number of newsletter articles addressing waste prevention. (1)

MONTH	ARTICLE HEADLINE
December 2017	Walking In A Winter-Waster Land

GOAL 3: CONTROLLING AND PREVENTING SUBSIDENCE

This goal is determined to be non-applicable to the High Plains Water District.

GOAL 4: CONJUNCTIVE SURFACE WATER MANAGEMENT ISSUES

Management Objective 4.1 – Coordination with Surface Water Management Agencies.

There are limited surface water resources within the High Plains Water District service area. Participation in the Llano Estacado Regional Water Management Planning Group (Region O) will ensure that the district is current on issues facing surface water agencies within the region.

Performance Standards

4.1a Number of Region O meetings attended by HPWD staff in FY 2018.

HPWD Staff attended the following Region O meetings:

- January 23, 2018 South Plains Association of Governments, Lubbock.
- April 3, 2018 South Plains Association of Governments, Lubbock.
- August 8, 2018 South Plains Association of Governments, Lubbock.

GOAL 5: NATURAL RESOURCE ISSUES

This goal is determined to be non-applicable to the High Plains Water District.

GOAL 6: DROUGHT CONDITIONS

Management Objective 6.1 – Provide Ongoing, Relevant Drought Information

Drought awareness helps water users understand the level of conservation required to meet a particular need.

Performance Standards

6.1a Provide drought-related articles to the public. This can also include the district website.

The region received below-average precipitation in early 2018. However, rain and snow helped improve conditions in late 2018. Amarillo received 13.60 inches of precipitation and Lubbock received 15.27 inches of precipitation in 2018. The normal values are 20.36 inches for Amarillo and 19.12 inches for Lubbock. The departure from normal for Amarillo was -6.76 inches while the departure from normal for Lubbock was -3.85 inches.

MONTH	ARTICLE HEADLINE
January 2018	Drought Conditions Prevalent At End Of 2017
January – October 2018	Monthly Drought Monitor Maps in print & e-newsletter.

6.1b Provide rainfall data to the public.

West Texas Mesonet Rainfall Totals as well as historic rainfall data for both Amarillo and Lubbock are available on the "Maps → Other" section of the HPWD website (www.hpwd.org/other).

GOAL 7: CONSERVATION, RECHARGE ENHANCEMENT, RAINWATER HARVESTING, PRECIPITATION ENHANCEMENT, OR BRUSH CONTROL, WHERE APPROPRIATE AND COST-EFFECTIVE.

Management Objective 7.1 – District Newsletter

HPWD will produce a newsletter (*"The Cross Section"*) and distribute it to area residents and other interested parties. Articles discussing methods to conserve and preserve groundwater quality and quantity will be included.

Performance Standards

7.1a Number of newsletter subscribers in 2018.

There are 2,672 electronic version subscribers and 672 print version subscribers at the end of Calendar Year 2018.

7.1b Number of electronic/print newsletters produced/distributed in 2018.

There were 25 electronic issues and 12 print issues produced/distributed during Calendar Year 2018.

7.1c Number of articles addressing conservation practices during FY2018.

There were 21 articles addressing conservation practices in Fiscal Year 2018.

MONTH	NEWSLETTER ARTICLE HEADLINE
October 2017	Overview of Residential Water Use Efficiency
November 2017	Keep The Crop Stubble – It's No-Till November! HPWD Will Apply For Additional TWDB Funds For 2018
December 2017	RCPP Funds Available For Monitoring Equipment Annual Water Level Measurements Begin In January HPWD Magazine Showcases Conservation Success Stories
January 2018	RCPP Funds For Installation Of Irrigation Monitoring Equipment Healthy Soils Conserve Water
February 2018	City Of Wolfforth To Drill New Municipal Water Supply Well
March 2018	4th Biennial Water Conservation Symposium Sign Up For Our 2018 Irrigation Assessment Program Learn More About Rainwater Harvesting! HPWD Accepting RFPs For Conservation Projects
April 2018	Water Level Measurements Indicate Average Decrease of -0.16 Of A Ft. Repair Sprinklers To Save Water
May 2018	HPWD Shares Water Information At Ag Awareness Day
June 2018	Be Sure To Conserve Water This Spring And Summer Irrigation Timing And Rates Critical For Cotton Boll Development
July 2018	Announcement Of TTU Homeowner Landscape Field Day
August 2018	AgriLife Offers WaterWise Tips For Turfgrass
September 2018	All 2018 AIM Funds Have Been Claimed

In addition, the Fall 2018 *Conservation Connect* magazine featured the following conservation articles:

Interactive Web Map Feature
Evolution of the Center Pivot
Watching Water: Improving Irrigation Efficiency with Telemetry
AIM-ing for Efficiency
Weathering the Drought
Minor Aquifer – Major Potential?
Digging Deeper: A Study of the Dockum Aquifer
On The Horizon: Cutting-Edge Agricultural Research
Crate A Water-Wise Landscape
WaterWise Plant List
Banking on a Rainy Day: FirstBank Southwest Rainwater Harvesting System

The magazine is available in both print and electronic versions.

Management Objective 7.2 – News Releases

HPWD will produce news releases about water conservation practices and other relevant subjects for distribution to print media, electronic media, and other interested parties.

Performance Standards

7.2a Number of news releases published.

There were 22 news releases produced and distributed to the media in FY 2018.

7.2b Number of news releases addressing conservation practices.

There were nine news releases addressing conservation practices.

MONTH	NEWS RELEASE
November 2017	December 8 Deadline Nears For H2You Contest Entries RCPP Funds Available For Irrigation Monitoring Equipment
February 2018	City Of Wolfforth To Drill Edwards-Trinity Well
March 2018	HPWD Sets Dates, Locations For Rainwater Harvesting Workshops HPWD Enrolling Producers For 2018 Irrigation Assessment Program
April 2018	Water Level Measurements Indicate Average Decrease of -0.16 Of A Ft.
July 2018	Research And Demonstration Project Funding Approved RCPP Funds Available To Producers
August 2018	All Cost Share Funds For 2018 AIM Program Claimed

Management Objective 7.3 – Radio Announcements

HPWD will distribute pre-recorded 60-second radio announcements about water conservation practices and other subjects to stations within the district.

Performance Standards

7.3a Number of radio announcements produced.

There were four radio announcements produced and distributed. (One announcement per quarter.) Topics included: 1) annual water level measurements in progress, 2) general HPWD services, 3) water level measurement results, and 4) new HPWD interactive web map features.

Management Objective 7.4 – Public Presentations

HPWD representatives will present information about water conservation practices, district programs and activities, and other subjects to civic clubs, professional organizations, and other interested parties.

Performance Standards

7.4a Number of presentations given.

HPWD personnel gave 71 presentations about water conservation during Fiscal Year 2018.

Staff Member	Number of Presentations In Fiscal Year 2018
Jason Coleman	9
Katherine Drury	24
Carmon McCain	12
Juan Peña	3
Gray Sanders	3
Keith Whitworth	7
Victoria Whitehead	13
TOTAL	**71**

7.4b Document estimated attendance at each venue.

HPWD personnel estimated the attendance at each venue, which ranged from as few as five persons to as many as 1,300 students (*"Ag in the Bag" program*). More than 2,300 people learned more about water conservation because of HPWD presentations in 2018. (See Table 7.7a)

Management Objective 7.5 – Rainwater Harvesting

HPWD will promote awareness of rainwater harvesting as a conservation practice to district residents.

Performance Standards

7.5a Number of public presentations dedicated to rainwater harvesting.

The district hosted annual rainwater harvesting workshops at Canyon (April 5); Lubbock, (April 12); and Levelland (April 19). Approximately 93 persons attended the workshops.

7.5b Number of rainwater harvesting barrels and rain chains distributed to the public.

HPWD staff distributed approximately 75 rainwater harvesting barrels to the public at workshops held in Fiscal Year 2018.

Management Objective 7.6 – Conservation Research

HPWD will seek opportunities to participate with other groups conducting water conservation research and development.

While not included in the HPWD management plan, the District served as lead partner for the USDA-NRCS Resource Conservation Partnership Program (RCPP) from 2015 to 2018. Chemigation check valves, flow meters, and soil moisture monitoring equipment are among the initial high priority items designated for RCPP funding. The program later expanded to include medium priority items, such as irrigation pipelines, center pivots, and subsurface drip irrigation. Program publicity included articles in *The Cross Section*, news releases, and social media posts.

Performance Standards

7.6a Number of water conservation research projects in which HPWD participates.

The HPWD Board of Directors approved more than $143,000 in funding requests for 11 water-related research and demonstration projects in FY 2018.

They include:

- Edwards-Trinity Aquifer Investigation.
- Plant Polymers for Total Dissolved Solids (TDS) Removal.
- Xeric Landscape Installation at an Area Middle School.
- Drought-Tolerant Corn Hybrids.
- Water Quality Parameters for Recharge Wells.
- Water Productivity of Aquaponics.
- Lawn Irrigation Management Workshop.
- Soil Health in Residential Landscapes.
- Playa Field Days and Festivals.
- Texas 4-H Water Ambassadors.
- Rainwater Harvesting Tanks for a Local Community Garden.

7.6b Number of newsletter articles describing the research projects.

There was one newsletter article describing/discussing the research projects.

MONTH	ARTICLE HEADLINE
June 2018	Board Approves Research And Demonstration Funding

Management Objective 7.7 – Public Information

District staff will provide general water conservation information at suitable venues within the district each year. This may include exhibits at farm shows and information tables with publications at other meetings.

Performance Standards

7.7a Document the venues at which water conservation information is provided.

HPWD staff provided water conservation information at the venues listed in the table on the following page.

Table 7.7a

FY 2018 PRESENTATIONS

DATE	VENUE	ATTENDANCE	Presenter
10/5/2017	Playa Festival- Muleshoe	50	Katherine Drury
10/10/2017	Ag In The Bag	441	Katherine Drury
10/11/2017	Ag In The Bag	365	Katherine Drury
10/12/2017	Ag In The Bag	500	Katherine Drury
10/12/2017	Farm Mgrs & Rural Appraisers	50	Jason Coleman
10/13/2017	WTAMU Masters & PhD students	23	Victoria Whitehead
10/17/2017	Playa Basin Festival - Nazareth	50	Katherine Drury
10/20/2017	PhD Leadership Course Tour	5	Jason Coleman & Carmon McCain
10/31/2017	Amarillo Downtown Lions Club	25	Katherine Drury & Victoria Whitehead
11/2/2017	Roscoe Wilson 1st Grade	80	Katherine Drury
11/14/2017	TX Farm Bureau AgLead Class	8	Carmon McCain & Victoria Whitehead
11/28/2017	* Amarillo Farm and Ranch Show	35	Katherine Drury & Carmon McCain
11/29/2017	* Amarillo Farm and Ranch Show	35	Katherine Drury & Carmon McCain
11/30/2017	* Amarillo Farm and Ranch Show	35	Katherine Drury & Carmon McCain
1/22/2018	AIM Presentation -- Lubbock	8	Victoria Whitehead
2/6/2018	AIM Presentation -- Lockney	8	Victoria Whitehead
2/6/2018	Amarillo Downtown Lions Club	35	Katherine Drury
2/6/2018	AIM Presentation -- Lockney	12	Jason Coleman & Victoria Whitehead
2/14/2018	AIM Presentation -- Floydada	25	Jason Coleman & Victoria Whitehead
3/1/2018	County Advisory Mtg - Hereford	21	JC, KD, JP, KW, VW, GS
3/2/2018	County Advisory Mtg - Lubbock	16	JC, KD, JP, KW, VW, GS
3/5/2018	County Advisory Mtg -- Plainview	6	JC, KD, JP, KW, VW, GS
3/8/2018	AIM Presentation - Tahoka	16	Jason Coleman & Keith Whitworth
3/19/2018	Ropesville Lions Club	20	Katherine Drury & Jason Coleman
3/21/2018	AIM Presentation -- Liberty Gin	6	Victoria Whitehead & Keith Whitworth
3/28/2018	AIM Presentation -- Morton	10	Victoria Whitehead & Keith Whitworth
4/3/2018	AIM Presentation -- Hereford	8	Victoria Whitehead
4/5/2018	Rainwater Harvesting Workshop	27	Carmon McCain
4/12/2018	Rainwater Harvesting Workshop	28	Carmon McCain & Katherine Drury
4/19/2018	Rainwater Harvesting Workshop	38	Carmon McCain
4/24/2018	Dr. David Weindorf's Class -- TTU	4	Jason Coleman
4/25/2018	Dr. Joseph Cepeda's Class - WTAMU	7	C. McCain, G. Sanders, & K. Whitworth
5/17/2018	Lamb County Ag Awareness Day	150	Carmon McCain
6/6/2018	Littlefield Lions Club	8	Carmon McCain
6/13/2018	Lubbock Water Education Workshop	10	Carmon McCain
7/19/2018	TX Well Owners Network Workshop	20	Katherine Drury
7/25/2018	4-H Livestock Ambassadors	24	Katherine Drury
7/27/2018	TX 4-H Water Ambassadors Visit	30	Katherine Drury
8/16/2018	Caprock Ambucs	25	Katherine Drury
8/24/2018	AgriLife Extension Field Agents	40	Katherine Drury
9/6/2018	TAWC Field Day	40	Katherine Drury
9/14/2018	Olton Ag Day	250	Katherine Drury
9/18/2018	Hockley County Ag Day	400	Katherine Drury
TOTAL		**2304**	

* Estimated daily visitors to HPWD booth at show.
Actual show attendance is much greater

7.7b Estimate the attendance at each venue. (*See Table 7.7a above*).

Management Objective 7.8 – Classroom Education

HPWD will promote water conservation education in schools within its service area by sharing such information with students. This includes sponsorship of the WaterWise™ conservation education program at schools in the district.

Performance Standards

7.8a Document the number of classroom presentations and number of students reached.

HPWD Education and Outreach staff gave 13 presentations that reached an estimated 2,351 students in FY 2018. These included the annual Ag in the Bag, Ag Awareness Days, Playa Basin Festivals, and various classroom presentations.

WATERWISE™ PROGRAM:

HPWD also provides the Waterwise™ Conservation Education program to students each academic year. Although not part of the current management plan, approximately 2,228 students and 58 teachers participated in the Waterwise™ program during academic year 2017-2018. A program description is available at www.hpwd.org/education/ and/or http://getwise.org/Home/InstallationInstructions

Management Objective 7.9 – HPWD Website

HPWD will provide information about groundwater availability, water conservation, and other subjects on its website.

Performance Standards

7.9a Document annual website traffic using an analytical program—such as Google Analytics or other.

According to Google Analytics, the HPWD website received 47,405 page views during Fiscal Year 2018. On average, we have 3,950 page views each month.

The top five pages users visit are as follows: Home Page, Interactive Maps, Aquifers, Contact Us, and Reporting

The Interactive Map page received 7,645 views during Fiscal Year 2018. This accounts for 16% of the total page visits. Users spent an average of 4 minutes using this tool.

HPWD also provides information about groundwater availability, domestic water wells, aquifer information, water conservation, and other topics through use of social media. Although not part of the current management plan, Facebook, Pinterest, Twitter, and YouTube are also accessible via the HPWD website.

GOAL 8: RECHARGE ENHANCEMENT

This goal is not applicable. A review of past work conducted by HPWD staff and researchers indicates that this goal is not appropriate at this time.

GOAL 9: PRECIPITATION ENHANCEMENT

This goal is not applicable. On October 1, 2002, the HPWD Board of Directors voted to terminate the District's Precipitation Enhancement Program that had been in operation since 1997. An October 12, 2002 editorial in the *Lubbock Avalanche-Journal* stated, "The Weather Modification Program, however well-intentioned, had become a controversy. The amount of concern and opposition voiced by people in the District was reason enough to call a halt to it."

GOAL 10: BRUSH CONTROL

This goal is not applicable. Existing programs administered by the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) are addressing this issue. This activity is not cost-effective nor applicable for the District at this time.

GOAL 11: DESIRED FUTURE CONDITIONS OF THE AQUIFERS

Management Objective 11.1 – Water Use Reporting

The HPWD Board of Directors adopted a desired future conditions (DFC) goal that requires water users adhere to a yearly allowable production rate (APR). To facilitate compliance, HPWD will provide a variety of reporting options to well owners and operators.

Performance Standards

11.1a Number of water users reporting usage in FY 2018.

There were 2,397 reports submitted to HPWD. Of these, 2,235 were simple reports and 162 were detailed reports.

11.1b Type of reporting methods used (*How was water use reported?*)

Concentrated Animal Feeding Operations (CAFOs)	16
Flow Meters	112
Nozzle Package	19
One Crop Option	2,219
Utility Bills	31
TOTAL	**2,397**

11.1c Reporting by count of water user group (i.e. number of agriculture, industrial, municipal, etc.)

Reported Acres By Industry:

Agriculture	2,299 reporting for total of 984,772 acres.
Industrial	14 reporting for total of 56,048 acres.
Municipal	84 reporting for total of 292,671 acres.

Management Objective 11.2 – Estimating Annual Usage

Calculating annual groundwater use is necessary for monitoring progress toward achieving the desired future conditions. Although a regional groundwater model provides estimate of usage to meet that goal, a more specific local estimate may increase our understanding of the usage and corresponding changes in volume.

Performance Standards

11.2a Estimate total usage within the district using reported data.

Concentrated Animal Feeding Operations (CAFOs)	176 acre-inches.
Flow Meters	865 acre-inches.
Nozzle Package	162 acre-inches.
One Crop Option	39,942 acre-inches.
Utility Bills	172 acre-inches.
TOTAL	41,317 acre-inches.

11.2b Compare estimated annual usage to data from the Ogallala Aquifer Groundwater Availability Model. (GAM).

GAM Runs 16-028 and 16-029 contain the modeled available groundwater estimates for HPWD, based on the 2016 adopted desired future conditions (DFC). Annual groundwater usage estimates for HPWD are compiled from several resources, including the Irrigation Assessment program.

Tables in the GAM reports include availability numbers for the Ogallala, Edwards-Trinity (High Plains) and Dockum aquifers, by decadal period. For instance, in the decade beginning 2020, total estimated groundwater availability in the Ogallala and ETHP aquifers is about 2.2 million acre-feet. Our most recent annual usage estimates within HPWD show annual usage for 2016 to be about 2.05 million acre-feet.

A LOOK BACK AT FISCAL YEAR 2018

TAWC Water College

H2YOU Contest Winners

Conservation Symposium

Precinct 3 & 4 CAC Meeting

Precinct 1 & 2 CAC Meeting

Precinct 5 CAC Meeting

RWH Workshop - Canyon

RWH Workshop - Lubbock

WTAMU Class Field Trip

TX 4-H Water Ambassadors

Crosby County Playa Field Day

Hub City BBQ

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