



FY 2017 ANNUAL REPORT

High Plains Underground Water Conservation District No. 1
Lubbock, Texas

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A LOOK BACK AT 2017 (*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 **66th year** of operation during fiscal year 2017.

The High Plains Water District strives to conserve, preserve, and protect the groundwater resources of the Ogallala and Dockum 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 2017, staff continued work on the programs outlined in the High Plains Water District's 10-year management plan, which was originally adopted by the Board of Directors on August 11, 1998. The management plan was amended and re-adopted on Jan. 29, 2004, February 18, 2010, July 19, 2011, and August 12, 2014.

This document contains management goals, performance standards, and responses to the performance standards for FY 2017.

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.

This annual report was reviewed and approved by the High Plains Underground Water Conservation District No. 1 Board of Directors at their January 9, 2018 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 (<i>Canyon</i>)
Lance Epperson	Field Technician
Mark Hamilton	Field Technician
Lance Jerden	Field Technician
Jed Leibbrandt	GIS Specialist
Vance Porter	Field Technician
Andres Villarreal	Field Technician
Victoria Messer Whitehead	Governmental Affairs Director

COUNTY ADVISORY COMMITTEES

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

PARMER	<p>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</p>
POTTER	<p>Bruce Blake, Amarillo, TX Michael Menke, Amarillo, TX</p>
RANDALL	<p>Charles Allison, Amarillo, TX Jason Avent, Canyon, TX Randy Darnell, Amarillo, TX Clinton Glenn, Canyon, TX Dillon Pool, Amarillo, TX Pat Scarth, Amarillo, TX Ryan Wieck, Umbarger, TX David Winters, Canyon, TX</p>
SWISHER	<p>Brian Borchardt, Tulia, TX Trent Finck, Tulia, TX Cindy Hurt, Tulia, TX Max Moore, Kress, TX Jeremy Reed, Kress, TX</p>

KEY EVENTS OF 2017 FISCAL YEAR

(October 1, 2016 to September 30, 2017)

October 2016	New Desired Future Conditions Adopted in GMA # 2. City of Lubbock Drills Dockum Aquifer Test Well. 2016 Dockum Aquifer Study Results Released.
November 2016	HPWD Board Tours Wolfforth EDR Plant. Precinct Three and Four Directors Receive Oath of Office. TWDB Director Kathleen Jackson Visits HPWD Office. HPWD Exhibit at 2016 Amarillo Farm and Ranch Show. November Media Day at Lubbock Dockum Aquifer Well Site.
December 2016	Annual Water Level Measurements Begin. TWDB Holds Work Session At Texas Tech.
January 2017	Reporting Begins For 2016 Water Use. HPWD & Wolfforth To Cost-Share Test Well. 85th Texas Legislature Convenes In Regular Session. RCPP Funding Available.
February 2017	Crosbyton Students Win H2You Contest. HPWD Recognizes Students At Regional Science/Engineering Fair.
March 2017	March 30 Rainwater Harvesting Workshop at Plainview.
April 2017	April 6 Rainwater Harvesting Workshop at Muleshoe. April 11 TX Well Owner Workshop in Canyon. April 13 Rainwater Harvesting Workshop at Levelland. HPWD Booth at April 15 NRHC "Ranch Days." April 27 Rainwater Harvesting Workshop at Canyon.
May 2017	May 4 Rainwater Harvesting Workshop at Lubbock. 85th Texas Legislature Regular Session Adjourns Sine Die. Results Of Annual Water Level Measurements Released. Keni Reese Begins As Summer Communications Intern.
June 2017	New Features Added To HPWD Interactive Web Map Feature. HPWD Board Approves \$65,000 In Grant Funding Requests. Former Field Technician Y.F. Snodgrass dies June 16 at age 87. HPWD Hosts June 28 Rural Legislative Wrap-Up Meeting.
July 2017	Former Precinct Five Director Bruce Rigler dies July 7 at age 91. Special Session of 85th Texas Legislature Begins July 18.
August 2017	Special Session of 85th Texas Legislature Adjourns Sine Die Aug. 15 Assistance In Irrigation Management (AIM) Program Announced; AIM Funds Claimed In Two Week Period. Xcel Innovative Water Supply Well Completed In Lamb County.
September 2017	HPWD Board Lowers 2017 Ad Valorem Tax Rate.

MANAGER'S MESSAGE – Jason Coleman

This annual report is a brief summary of the programs and activities of HPWD during the 2017 fiscal year.



Chapter 36 of the Texas Water Code specifies the types of goals which a groundwater conservation district (GCD) must address. This process helps ensure transparency and accountability for GCDs, since we are local governments and political subdivisions of the state.

The programs of HPWD are all focused on helping landowners and residents make the most efficient use of groundwater supplied by local aquifers. These programs are advertised and shared using newsletters, social media, personal communication, and other methods. If you know of someone that should receive this information, please encourage them to visit the HPWD web site (www.hpwd.org) and subscribe to our newsletter.

HPWD conducted all programs and activities for the 2017 fiscal year at a total cost of about \$2.5 million.

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

We also invite you to use our services, including:

- Rainwater harvesting workshops each spring
- Individual well testing, including flow rate, water levels, and water quality screening
- Water well data, such as records of completion and pump installation
- Educational programs for students and civic clubs
- Specialized grant programs, such as our recent Assistance in Irrigation Management (AIM) equipment cost share

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 welcomed.

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). Annual measurements are made each winter during the time that most of the irrigation usage is at a minimum.

Performance Standards

1.1a Number of wells measured in 2017.

There were 1,409 wells measured. Of these, 1,377 were Ogallala Aquifer wells and 32 were Dockum Aquifer wells.

1.1b Number of wells that were unable to be measured in 2017 (34 wells)

1.1c Number of new wells added to the observation well network in 2017.

There were 23 Ogallala wells removed from the network and 10 Dockum wells added to the network. The observation well network is being reorganized.

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**.

In addition, results of the district's 2017 water level measurements are available to the public via an annual report at **www.hpwd.org/reports**. A print version is also available upon request.

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

There are 38 continuous water level monitoring transducers installed/maintained in wells within the district. Of these, 21 wells must be visited to download data and 17 wells update data on a daily basis. Data from these wells is available at **map.hpwd.org** → **Observation Wells** → **Daily**.

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	33
Bailey	74	72
Castro	73	66
Cochran	42	38
Crosby	5	88
Deaf Smith	77	66
Floyd	79	70
Hale	42	64
Hockley	68	42
Lamb	93	52
Lubbock	67	56
Lynn	27	41
Parmer	90	54
Potter	5	58
Randall	31	50
Swisher	39	50

1.2b Provide saturated thickness data via the district website.

These data are available to the public as part of the HPWD interactive observation wells 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.

HPWD is currently updating the maps in its hydrologic atlas series. Contour maps depicting the elevation of the base of the Ogallala Aquifer are online at www.hpwd.org/atlasses/

Management Objective 1.3 – Technical Field Services

HPWD is frequently consulted by the public to determine water well capacities. A variety of tools, such as ultrasonic flow meters and e-lines, are used by district staff for this purpose.

Performance Standards

1.3a Document the number of flow tests performed by district staff in 2017. (671)

1.3b Number of flow tests performed by the public using the metering equipment loaned to water users by the district. (2 noted in equipment check-out book)

1.3c Number of water level measurements performed for individual well owners.

A total of 610 water level measurements were made in FY 2017. Approximately 515 of these were made as part of the Irrigation Assessment Program. The remaining 95 measurements were requested by 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 2016 crop year.

Performance Standards

1.4a Number of sites enrolled in the district's irrigation assessment program.
(114 sites covering 17,143 acres of land.)

1.4b Document the types of crops being irrigated.
(Corn, cotton, grain sorghum, peanuts, silage, and wheat were the primary crops.)

1.4c Document the irrigation methods being utilized.
(Furrow irrigation, 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 made available on a variety of platforms, such as electronic and print media. Timely delivery of this information and ease of access by the public are also 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 also 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 2017 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 off of the District’s minimum distance rules.

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

- Aquifer Maps.
- Hydrologic Atlases – The District is updating the maps in its hydrologic atlas series. Previous PDF files were removed/replaced with an updated “Elevation of the Base of the Ogallala Aquifer” for each county in Sept. 2016.
- 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. Documenting the type and number of irrigation systems within the district’s service area may be accomplished through remote imagery or other tools.

Performance Standards

1.6a Number of irrigation systems documented.

There are 13,928 center pivot systems and 5,802 subsurface drip irrigation systems in operation within the district. (2016)

1.6b Calculate acreage covered by the irrigation systems.

Approximately 2,172,911 acres are irrigated within the district. Of these, 1,741,133 acres are irrigated with center pivots and 431,778 acres are irrigated with subsurface drip irrigation. (2016)

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.

	2017	2016
Dockum Aquifer	21	19
Edwards-Trinity (High Plains) Aquifer	1	0
Ogallala Aquifer	543	444
TOTAL	566	463

2.1b Number of well completions per aquifer.

	2017	2016
Dockum Aquifer	3	3
Edwards-Trinity (High Plains) Aquifer	0	1
Ogallala Aquifer	470	380
TOTAL	473	384

2.1c Production categories of well permits issued in FY2017.

DOCKUM AQUIFER		
	2017	2016
70 gallons per minute	1	1
265 gallons per minute	0	5
390 gallons per minute	0	1
500 gallons per minute	17	10
> 500 gallons per minute	3	2
TOTAL	21	19

EDWARDS-TRINITY (High Plains)		
	2017	2016
70 gallons per minute	0	0
265 gallons per minute	0	0
390 gallons per minute	0	0
500 gallons per minute	0	0
> 500 gallons per minute	1	0
TOTAL	1	0

OGALLALA AQUIFER		
	2017	2016
70 gallons per minute	98	75
165 gallons per minute	210	167
265 gallons per minute	84	71
390 gallons per minute	54	53
560 gallons per minute	78	66
1,000 gallons per minute	9	5
> 1,000 gallons per minute	10	7
TOTAL	543	444

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 field work or notice of these wells may be received from the public.

Performance Standards

2.2a Number of open, deteriorated, or uncovered wells reported. (44)

2.2b Number of well caps provided to cover open wells. (14)

2.2c Number of open, deteriorated, or uncovered wells that were capped, closed, or repaired during FY 2017, in accordance with district rules. (38)

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. (6)

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

MONTH	ARTICLE HEADLINE
November 2016	Adjust Landscape Sprinklers To Avoid Unnecessary Winter Watering

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 FY2017.

HPWD Staff attended the following Region O meetings:

- August 22, 2017 South Plains Association of Governments, Lubbock.
- October 5, 2016 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 above-average precipitation in 2017. Amarillo received 26.48 inches and Lubbock received 21.95 inches. The normal values are 20.08 for Amarillo and 18.82 inches for Lubbock. It is for this reason that limited drought information was provided this year.

MONTH	ARTICLE HEADLINE
April 2017	Texas Tech Launches West Texas Mesonet App

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 2017.

There are 1,577 electronic version subscribers and 666 print version subscribers at the end of Calendar Year 2017.

7.1b Number of electronic/print newsletters produced/distributed in 2017.

There were 25 electronic issues and 12 print issues produced/distributed during Calendar Year 2017.

7.1c Number of articles addressing conservation practices during FY2017.

There were 17 articles addressing conservation practices in Fiscal Year 2017.

MONTH	NEWSLETTER ARTICLE HEADLINE
October 2016	Conserve Water In The Shower
November 2016	Adjust Landscape Sprinklers To Avoid Unnecessary Winter Watering
January 2017	Water Conservation A 2017 New Years’ Resolution?
March 2017	USGS Interactive Water Use Visualization
March 2017	EPA WaterSense Infographic: The Facts On Leaks
March 2017	Rainwater Harvesting Workshop Announcement
April 2017	Conserve Water This Spring And Summer
April 2017	Why Are They Watering On A Day Like Today? (Part 1)
April 2017	Join HPWD Irrigation Assessment Program
May 2017	Water Levels Decrease -0.52 Of A Foot
May 2017	Why Are They Watering On A Day Like Today? (Part 2)
June 2017	Why Are They Watering On A Day Like Today (Part 3)
June 2017	Low Water Use Plants Add Color To Landscape
July 2017	July Is Smart Irrigation Month
August 2017	Scout Project Highlights Rainwater Harvesting
August 2017	Irrigation System Monitoring Equipment Eligible For Cost-Share Funds
September 2017	Crop Residue Field Day Held

In addition, the Fall 2017 *Conservation Connect* magazine featured the following conservation articles:

Assistance In Irrigation Management Program
Healthy Soils Help Conserve Water
HPWD-Supported Water Research
Lions Legacy Project Celebrates Conservation
New Water Treatment Facility Online in Wolfforth
Reclaiming the Rain: Texas Business Used Reclaimed Water In Offices
Growing With Rain: Rain Gardens on the Texas High Plains
Learning Landscape: Bushland ISD Educational Garden
2016-2017 H2You Contest

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 23 news releases produced and distributed to the media in FY 2017.
(Our goal of a minimum of one news release per month was achieved.)

7.2b Number of news releases addressing conservation practices.

There were eight news releases addressing conservation practices that were produced and distributed to the media in FY 2016.

MONTH	NEWS RELEASE
January 2017	USDA-NRCS Announces Availability Of RCPP Funds
February 2017	HPWD Schedules Rainwater Harvesting Workshops
March 2017	There's Still Time To Register For Rainwater Harvesting Workshops
March 2017	HPWD Seeking Producers For Irrigation Assessment Program
April 2017	Be Sure To Conserve Water This Spring And Summer!
May 2017	Water Level Measurements Reveal Average Decrease of -0.52 Of A Foot
July 2017	RCPP Funding Still Available For Interested Producers
August 2017	Cost-Share Funding Available For Irrigation System Monitoring Equipment

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) announcement of rainwater harvesting workshops; 3) summer water conservation tips; and 4) advance announcement of the H2YOU conservation campaign contest.

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 60 presentations about water conservation during FY 2017.

Jason Coleman	7
Katherine Drury	36
Ray Eads	1
Carmon McCain	11
Keith Whitworth	1
Victoria Whitehead	4
TOTAL	60

7.4b Document estimated attendance at each venue.

HPWD personnel estimated the attendance at each venue, which ranged from as few as seven persons to as many as 1,400 students (*“Ag in the Bag”* program). It is estimated that more than 5,000 people learned more about water conservation as a result of HPWD presentations in 2017.

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 rainwater harvesting workshops at Plainview (*March 30*), Muleshoe (*April 6*), Levelland (*April 13*), Canyon (*April 27*), and Lubbock (*May 4*). A total of 108 persons attended the five workshops. No rainwater harvesting tours were conducted in Fiscal Year 2017.

In addition, HPWD staff assisted with rainwater harvesting presentations at the Llano Estacado UWCD workshop and the South Plains UWCD workshop.

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

Approximately 125 rainwater harvesting barrels and rain chains were distributed to the public at workshops held in Fiscal Year 2017.

Management Objective 7.6 – Conservation Research

HPWD will seek opportunities to participate and partner 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) in 2017. Chemigation check valves, flow meters, and soil moisture monitoring equipment are among the high priority items designated for RCPP funding.

Performance Standards

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

The HPWD Board of Directors have approved more than \$65,000 in funding requests for five water-related research and demonstration projects in FY 2017.

They include:

- Automatic Center Pivot Speed Control for Irrigation Water Conservation.
- Comparing Forage Potential of Forage Sorghum, Pearl Millet, and Corn under Limited Irrigation.
- Ogallala Commons Community Internship.
- Texas 4-H Water Ambassadors.
- Well Monitoring Instrumentation for the Northern HPWD Region.

7.6b Number of newsletter articles describing the research projects.

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

MONTH	ARTICLE HEADLINE
June 2017	Board Approves Grant Funding Requests

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 following venues:

DATE	VENUE	ATTENDANCE	Presenter
10/11/2016	Ag In The Bag, Lubbock	478	CLASSROOM: Katherine Drury
10/11/2016	Ag In The Bag, Lubbock	478	CLASSROOM: Katherine Drury
10/11/2016	Ag In The Bag, Lubbock	478	CLASSROOM: Katherine Drury
10/26/16	TALL Cohort, Muleshoe	24	Jason Coleman
11/3/16	Chamber Ag Committee	12	Jason Coleman and Katherine Drury
11/29/2016 - 12/1/16	Amarillo Farm and Ranch Show	1000	Carmon McCain and Katherine Drury
1/18/17	Brownfield Noon Lions	13	Carmon McCain and Lindy Harris, SPUWCD
02/07/17	Muleshoe Rotary Club	15	Katherine Drury
2/11/17	Lubbock Memorial Arboretum	36	Katherine Drury
2/15/17	High Plains Irrigation Conference	50	Carmon McCain and Katherine Drury
02/16/17	Ag Day, Friona	65	Katherine Drury
3/4/2017	Severe Weather Awareness Day	500	Katherine Drury
3/15/2017	Chamber Ambassadors	45	Katherine Drury
3/23/2017	Precision Ag Workshop	20	Jason Coleman and Keith Whitworth
3/30/2017	Rainwater Harvesting - Plainview	11	Carmon McCain and Katherine Drury
3/31/2017	Harmony Science Academy	21	CLASSROOM: Katherine Drury
4/3/2017	Rainwater Harvesting - Seminole	18	Katherine Drury
4/4/2017	Lbk Master Gardeners Meeting	40	Katherine Drury
4/6/2017	Rainwater Harvesting - Muleshoe	12	Carmon McCain and Katherine Drury
4/8/2017	Girl Scouts Science Event	25	Katherine Drury
4/11/2017	Lamb County Farm Bureau	45	Heffington/Coleman/Whitehead
4/12/2017	Bayless Elementary	35	CLASSROOM: Katherine Drury
4/15/2017	Ranch Day - NRHC	500	Carmon McCain and Katherine Drury
4/20/2017	Rainwater Harvesting Workshop	50	Katherine Drury
4/23/2017	Texas Tech EcoFair	25	Katherine Drury
4/24/2017	Playa Lake Workshop - Nazareth	15	Ray Eads
4/27/2017	Rainwater Harvesting - Canyon	21	Carmon McCain and Katherine Drury
5/4/2017	Rainwater Harvesting - Lubbock	34	Carmon McCain and Katherine Drury
5/12/2017	Lockney Rotary Club	7	Katherine Drury
5/18/2017	Lamb County Ag Day	180	Katherine Drury
5/30/2017	AgriLife Horticulture Agent Training	30	Katherine Drury
6/5/2017	NRHC Ranch Day Classes	8	Katherine Drury
6/19/2017	Dimmitt City Council Meeting	20	Katherine Drury
7/8/2017	TTU Turfgrass Field Day	20	Carmon McCain and Katherine Drury
7/17/2017	Treehouse Learning Center	50	CLASSROOM: Katherine Drury
7/31/2017	Xcel Energy Employee Presentation	30	Jason Coleman
7/26/2017	Farwell Rotary Club	30	Katherine Drury
9/4/2017	LISD Teacher Training	14	Katherine Drury
8/29/2017	Randall County Ag Day	60	Carmon McCain
8/15/2017	AMCOE Corn Breeding Field Day	30	Jason Coleman
9/6/2017	Littlefield Lions Club	9	Carmon McCain
9/25/2017	TAMU Cotton Planning	40	Katherine Drury
9/12/2017	TAIA	40	Jason Coleman
9/13/2017	Playa Lake Workshop - Whiteface	120	CLASSROOM: Katherine Drury
9/19/2017	Hockley County Ag Day	300	CLASSROOM: Katherine Drury
9/27/2017	Tulia Rotary Club	10	Katherine Drury
TOTAL		5064	

7.7b Estimate the attendance at each venue. (See table 7.7a).

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 14 presentations that reached an estimated 2,690 students in FY 2017. These included the annual Ag in the Bag, Ag Awareness Days, summer youth camps, 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 2,225 students and 65 teachers participated in the Waterwise™ program during academic year 2016-2017. A description of the program is available at <http://getwise.org/Home/InstallationInstructions> or www.hpwd.org/urban

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 45,974 page views during Fiscal Year 2017. On average, we have 3,831 page views each month.

The top five pages users visit are as follows: Home Page, Interactive Maps, Aquifers, Who We Are, and *The Cross Section*.

The Interactive Map page received 8,409 views during Fiscal Year 2017. This accounts for 18.5% of the total page visits. Users spent an average of 4 minutes using this tool.

HPWD also provides information about groundwater availability, 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

A review of past work conducted by others indicates that this goal is not appropriate at the present time. Therefore, this goal is not applicable.

GOAL 9: PRECIPITATION ENHANCEMENT

This goal is not applicable.

GOAL 10: BRUSH CONTROL

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. Therefore, this goal is not applicable.

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 2017.

There were 239 reports submitted to HPWD. Of these, 58 were simple reports and 181 were detailed reports.

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

Concentrated Animal Feeding Operations (CAFOs)	21
Flow Meters	106
Maximum Capacity	6
Nozzle Package	33
One Crop Option	40
Utility Bills	33
TOTAL	239

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

Reported Acres By Industry:

Agriculture	201 reporting for total of 147,499 acres.
Industrial	9 reporting for total of 52,626 acres.
Municipal	29 reporting for total of 68,800 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)	158.9 acre-inches.
Flow Meters	863.8 acre-inches.
Maximum Capacity	108.0 acre-inches.
Nozzle Package	365.2 acre-inches.
One Crop Option	720.0 acre-inches.
Utility Bills	216.9 acre-inches.
TOTAL	2,432.8 acre-inches

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

A LOOK BACK AT FISCAL YEAR 2017 (*Photos*)



4-H Water Ambassadors



CAC Meeting at Lubbock



RWH Scout Project



Research Committee



CAC Meeting at Hereford



H2YOU Winner Trip to Austin



RWH Workshop at Levelland



NRHC "Ranch Day"



TTU Turfgrass Field Day



Crop Residue Field Day



AMCOE Presentation



Rural Legislative Wrap-Up Meeting

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