

**Annual Report
to the
Board of Directors
on
Attainment of Management Plan Goals
and
Selected Activities
of the
South Plains Underground
Water Conservation District**



**Fiscal Year 2020
September 1, 2019 through August 31, 2020**

**PO Box 986
Brownfield, TX 79316
806-637-7467**

South Plains Underground Water Conservation District

Board of Directors

<u>Name</u>	<u>Representing</u>	<u>Term Ends</u>
Matt Hogue, President	Precinct 2	May 2022
Vacant	Director-at-Large	May 2020
Tye Day, Member	Precinct 3	May 2024
David Swaringen, Secretary	Precinct 1	May 2024
Barrett Brown, Member	Precinct 4	May 2022

Report prepared by:

Lindy Harris, Manager
Layne Marlow, Field Technician
Darice Russell, Administrative Assistant

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District Mission Statement

The South Plains Underground Water Conservation District will develop, promote, and implement management strategies to provide for the conservation, preservation, recharging, and prevention of waste of the groundwater resources, over which it has jurisdictional authority, for the benefit of the people that the District serves.

Introduction and Overview

SB 1, 75th Texas Legislature (1997), requires groundwater conservation districts governed by Chapter 36, Texas Water Code, to submit management plans for certification by the Texas Water Development Board. The management plans must specifically address the following management goals as applicable:

1. providing for the most efficient use of groundwater
2. control and prevention of the waste of groundwater
3. control and prevention of subsidence
4. conjunctive surface water management issues
5. natural resource issues
6. drought conditions
7. conservation
8. recharge enhancement
9. rainwater harvesting
10. precipitation enhancement
11. brush control
12. desired future condition of the aquifers

The management plans must also identify the performance standards and management objectives under which each district will operate to achieve their management goals.

The current District Management Plan is effective until November 2023. After notice and hearing, the Board of Directors officially adopted the plan on October 9, 2018. The plan was certified by the Texas Water Development Board on November 14, 2018

This annual report is a review of the District's activities for fiscal year 2020 and an evaluation of the District's performance in meeting its goals and objectives.

Report on Attainment of Goals

Goal 1.0 **Providing the Most Efficient Use of Groundwater**

Management Objective 1.01 — Water Level Monitoring

During the winter of 2020, a total of 147 wells were measured: 139 Ogallala and 8 Edwards-Trinity (High Plains).

Performance Standards

1.01a -- 147 wells were measured in 2020.

1.01b -- 1 well added to the network.

Management Objective 1.02 — Technical Field Services

43 requests for Technical Field Services were fulfilled in 2020. This is 3 more than the 40 requests in 2019.

Some tests were made for prospective land buyers.

Performance Standards

1.02a — 43 field service requests were fulfilled.

Management Objective 1.03 — Laboratory Services

The total number of lab tests performed for producers in 2020 was 17. This is less than the 38 tests run in 2019. These requests concern the suitability of irrigation water for certain crops.

Also, 6 bacteria tests were run in 2020, compared to 2 in 2019. Four of the tests were positive for either coliform or e-coli and were recommended for disinfection and/or additional testing.

Performance Standards

1.03a — 23 lab service requests were fulfilled.

1.03b — 101 records entered in database. Data was obtained from water quality lab testing onsite.

Management Objective 1.04 — Irrigation Monitoring

2020 marks the 18th year for the District's Flow Meter Program. With the help of approximately 32 cooperators, the District reads flow meters during the growing season to determine water usage on various crops. Water usage for 2020 will be calculated at the end of the growing season. The following table contains a summary of irrigation water applied during previous years. The data received from the flow meter readings also helps the District calculate water efficiency in crop production.

	<u>Cotton</u>	<u>Peanuts</u>	<u>Grain</u>	<u>Wheat</u>
2002	8.44 in	19.35 in	6.00 in	7.00 in
2003	10.79 in	19.85 in	5.30 in	5.87 in
2004	7.99 in	14.46 in	0.49 in	6.25 in
2005	9.86 in	16.59 in	0.50 in	3.42 in
2006	14.09 in	20.51 in	7.03 in	5.71 in
2007	6.52 in	13.36 in	9.16 in	3.34 in
2008	10.70 in	13.78 in	5.78 in	9.61 in
2009	13.46 in	20.81 in	8.35 in	8.07 in
2010	10.15 in	14.69 in	4.43 in	4.42 in
2011	17.92 in	24.58 in	N/A	7.54 in
2012	12.59 in	25.19 in	5.32 in	6.24 in
2013	14.71 in	23.02 in	15.98 in	8.95 in
2014	11.29 in	14.23 in	7.14 in.	5.94 in
2015	5.52 in.	8.90 in.	5.09 in.	5.94 in.
2016	8.34 in.	10.90 in.	2.00 in.	3.33 in.
2017	9.91 in.	13.64 in.	1.81 in.	1.45 in.
2018	11.74 in	17.08 in.	3.54 in.	3.82 in
2019	7.98 in	13.95 in	3.62 in	7.92 in
Average	10.11 in.	16.05 in.	5.14 in.	5.12 in.

Table 1: Average Irrigation Application for Selected Crops (source: SPUWCD meters)

Performance Standards

1.04a — In 2020 there were 49 irrigation systems in the cooperative program.

1.04b — Each year, the crops which are monitored vary according to what producers plant. In 2020, 7 different crops were monitored. These crops included cotton, peanuts, wheat, watermelons, pumpkins, peas, and grapes.

1.04c — The table above shows the irrigation application for the major crops monitored.

Management Objective 1.05 — Irrigation System Inventory

The District conducted an Irrigation System Inventory in 2018.

Performance Standards

1.05a — No Irrigation System Inventory was required in 2020.

1.05b — 1,403 pivots and 129 sub-surface/above-ground drip-type irrigation systems are active and entered in District's database.

Goal 2.0

Controlling and Preventing Waste of Groundwater

Management Objective 2.01 — Well Permitting and Completion

Since March 1993, the District has issued 3,638 permits. The number of permits issued during 2020 was 210. This is higher than the 130 issued in 2019. March had the highest number of permits issued (56). Of the permits issued, 9 were either not used or a well was not completed.

66 exempt-well registrations were issued in 2020.

221 wells, which include irrigation and exempt, were inspected during 2020 to ensure proper completion and spacing. At the time of inspection, the GPS location of each well is obtained. This information is added to the database. The coordinates are also added to the District's ArcMap program so that all wells can be mapped. Currently 6,647 (79%) of the 8,268 wells within the District have GPS coordinates associated with them.

Performance Standards

2.01a — 210 permits issued.

2.01b --- 66 exempt-well registrations issued.

2.01c — 221 well sites inspected.

Management Objective 2.02 — Open, Deteriorated or Uncovered Wells

Open or uncovered wells are discovered in one of two ways:

1. a person reports it to the District office; or
2. District staff discovers the well during a field visit.

One deteriorated or uncovered well was reported to or discovered by District staff during 2020.

Performance Standards

2.02a — 1 open, deteriorated or uncovered wells discovered by the District.

2.02b — Initial inspection July 10, 2020; resolution activities ongoing.

Management Objective 2.03 — Maximum Allowable Production

No instances of a maximum production violation were discovered this year.

Performance Standards

2.03a — Not Applicable

Management Objective 2.04 — Water Quality Monitoring

Water quality samples were taken from 82 irrigation wells during the summer of 2020. The samples were tested for conductivity, total dissolved solids, chlorides and nitrates.

Performance Standards

2.04a — 82 samples collected and analyzed.

2.04b --- 82 of 83 irrigation wells sampled, 21 more wells than 2018.

2.04c --- 82 water quality test results entered in database.

Goal 3.0 **Controlling and Preventing Subsidence**

(Not applicable.)

Goal 4.0 **Conjunctive Surface Water Management Issues**

(Not applicable.)

Goal 5.0 **Natural Resource Issues**

Performance Standards

The District received no complaints related to surface water, groundwater, or any natural resource within the District.

Goal 6.0 **Drought Conditions**

Management Objective 6.01 — Rain Gauges

The District maintains a network of 36 electronic rain gauges. These gauges allow staff to gather rainfall information at any time, not necessarily at the end of each month. The exact time and amount of rain collected is downloaded from the gauge to a computer. This information is published on the District's web site.

Performance Standards

6.01a — 36 rain gauges in District network.

Goal 7.0 Conservation

Management Objective 7.01 — Classroom Education

During 2020, seven presentations were made to the schools within the District. Also, at the beginning of the school year, 4th and 5th grade science teachers received a gift basket which included information about curriculum and the District's availability to give presentations to the students.

Performance Standards

7.01a — The District made 7 presentations at schools:

Oct. 2019 - Meadow/WU Kids Farm Tour (5th grade)

OG Kids Farm Tour (5th grade)

Kids, Kows & More (4th grade)

Kendrick Story Hour (EC-5)

Feb 2020 - Kendrick Story Hour

March 2020 - Calendar Contest Presentations (OG 4th & 5th, Meadow 4th)

WU 4th & 5th & Meadow 5th (Cancelled due to COVID-19)

April 2020 - Education Trailer & HS Ag Career Expo (Cancelled due to COVID-19)

May 2020 - Western Day Colonial Heights (Cancelled due to COVID-19)

Presented calendar winners to schools for school staff to deliver to recipients and winners (4th & 5th graders, all schools)

Management Objective 7.02 — Newsletter

Two editions of the District's newsletter, *South Plains Groundwater News*, were published during the 2020 fiscal year. The November 2019 edition featured a map depicting the rain gauges in Terry County and updates on the Texas 4-H Water Ambassadors Program, Essay Scholarship Program, and Rainwater Harvesting efforts. Information about Domestic Well Water Quality screenings was included also.

The March 2020 edition of the newsletter contained a history of water level measurements from the District's network of water level measurement wells. Also included was a map of the District showing locations of the measurement wells.

Performance Standards

7.02a—Two newsletter editions were published.

7.02b—1,133 newsletters were distributed.

Management Objective 7.03—News Releases

Two news articles were published in the Brownfield News during 2020. The news articles included items concerning National Groundwater Awareness Week and conservations tips and scholarship winners for Spring 2020. Once again, the District was a sponsor of the Ag Section in the Sunday edition of the local newspaper.

Performance Standard

7.03a — Two news releases were published in the local newspaper.

Management Objective 7.04 — Public Speaking Engagements

The District fulfilled 8 public speaking engagements during 2020. These included:

Sept 2019 - ACES; Terry Co Farm Tour; Terry Co Farm Bureau Meeting
Oct. 2019 - Kids Farm Tours (2) and Kids & Kows
Jan 2020 - SP Ag Conference
April 2020 - Town Talk Radio

Performance Standard

7.04a — Eight programs were presented.

Management Objective 7.05 — Printed Material Resource Center

Thirty-six (36) different publications are displayed in the reception area of the office. These publications are obtained from various sources, including the TWDB, the USGS and AgriLife Extension Service. District staff developed twelve of the brochures.

104 items were distributed from the resources center.

Performance Standards

7.05a — There were 23 items on conservation, 63 on rules/management plan, and 18 on water quality procured by the public from the resource center. Also, rule books were given to permit applicants as a part of the permitting process.

Management Objective 7.06 — Saturated Thickness Maps

A new saturated thickness map was created in 2016.

Performance Standards

7.06a — One saturated thickness map is available in the District office. The map is also available on the District's web site. Real estate agents and prospective land buyers frequently request this document. Eight maps were obtained from the resource center.

Management Objective 7.07 — Conservation Literature

Eleven (11) publications displayed in the reception area of the office are devoted to water conservation for the home and the farm.

Performance Standards

7.07a — 11 publications are dedicated to water conservation.

7.07b — 23 items were obtained by the public.

Goal 8.0 **Recharge Enhancement**
(Not applicable.)

Goal 9.0 **Rainwater Harvesting**

Management Objective 9.01 — Public Awareness Program

In 2020, the District continued emphasizing rainwater harvesting.

- In 2017, Terry County Judge Wagner proclaimed the first week of May to be Rainwater Harvesting Awareness week. The staff set up at various locations around town throughout that week with our rainwater harvesting display and education trailer. People who stopped by entered to win a rain barrel and rain chain which were given away each of the 3 days.
- The 9th Annual Rainwater Harvesting Workshop, scheduled for the first full week of May 2020, was suspended due to restrictions of COVID-19.

Performance Standards

9.01a — District published two articles in Brownfield News about rainwater harvesting.

Goal 10.0 **Precipitation Enhancement**
(Not applicable.)

Goal 11.0 **Brush Control**
(Not applicable.)

Goal 12.0 **Desired Future Condition of the Aquifers**

The members of GMA 2 met on September 24, 2019, at the LEUWCD office in Seminole. They also met on October 22, 2019, at the Sandy Land UWCD office in Plains. TWDB liaison, Robert Bradley, was also in attendance. The District representatives discussed plans for the next round of adopting a DFC.

Management Objective 12.01—Calculate Annual Drawdown

Performance Standards

12.01a — The average drawdown results were presented to the District Board at their March Board meeting.

12.01b — The average drawdown results were published in the March edition of the *Board of Directors Groundwater News*.

OTHER ACTIVITIES

IRS COST-IN-WATER DEPLETION PROGRAM

2020 was the 21st year the Board of Directors Underground Water Conservation District participated in the IRS cost-in-water depletion program. This program benefits irrigated landowners who have experienced a cash loss due to declining water levels. 31 landowner requests were processed.

SPUWCD.ORG

In 2019, the District web site was given an upgrade to a more modern look. The site provides education and information for District constituents, as well as people state-wide. The web site can be accessed from the Texas Alliance of Groundwater District's web site and is linked from various water district web sites. General information, hydrologic maps, a 2018 Terry County vineyard map, rainfall information, newsletters, rules, management plan and water level data are available on the site. In 2015, a weather station was installed at the District office. The real-time information is accessible on the Home Page. Interactive maps were also added to enhance water levels and water quality information. Although information is updated on a consistent as-needed basis, no major modifications were made to the website in 2020.

HIGH SCHOOL ESSAY SCHOLARSHIP PROGRAM

2020 was the sixth year that scholarships were made available to all three high schools in the District. This year's essays topic was the "**Local Groundwater Districts.**" Multiple entries from each school were submitted. The essays were judged by a panel of retired teachers. 1st and 2nd place scholarships were awarded in each high school for a total of \$4,500. To date, the District has awarded \$25,355 in scholarships.

SOUTHERN OGALLALA CONSERVATION AND OUTREACH PROGRAM

In 2007, the District joined Llano Estacado UWCD and Sandy Land UWCD to form The Southern Ogallala Conservation and Outreach Program (SOCOP) which serves the education needs of the three districts. Through the Education Coordinator hired by SOCOP, more emphasis has been placed on education to students in the three school districts in the SPUWCD.

This year, the 15th annual "Water Conservation Art Contest" for 4th and 5th graders was conducted. Students submitted water conservation art work after hearing a presentation concerning water usage and conservation. The winning art works will be featured in a 2021 calendar to be published and distributed by the District. Approximately one hundred 2020 Water Conservation calendars were distributed throughout the District.

The education website, www.savingH2O.org continues to be a part of the District's public education outreach. This outlet contains water conservation tips and information regarding the District's education program along with curriculum ideas for teachers.

SOCOP participated in and held numerous education programs for the three school districts. Other education outreaches are held within the District through SOCOP.

- Two Presentations at Kendrick Memorial Library
- Numerous invitations by TownTalk Radio to talk about education programs
- Calendar art contest presentations at all 3 elementary schools.
- Texas 4H Water Ambassadors—SOCOP has been involved in the program since its inception in 2016 through sponsorship donations. Students represented Tier I level ambassadors & SOCOP (Michelle Cooper) served on the state 4H Water Ambassador Advisory Board. The Ambassador Program allows these students to learn about water in all areas of the State.
- Education Trailer at the FHV Tractor Treat; Kids, Kows & More; Farm Tour for Kids .
- SOCOP Education Trailer—the educational trailer is filled with many lessons about water and water conservation. It continues to travel throughout the District to both student and adult events.

AGRICULTURAL CAREER EXPO (ACE)

In 2012, a group of ag and education professionals held the first Ag Career Expo. The goal of the Ag Career Expo is to inform high school sophomores about the many different education and job opportunities which are available in the agricultural fields. Local colleges, equipment companies and other types of companies which deal in any form of agriculture are represented at the ACE event. The District has participated in each ACE day since its inception. (Canceled due to COVID 19.)

RAINWATER HARVESTING PROJECT

No Rainwater Harvesting projects completed in 2020 due to COVID 19 restrictions.

WOMEN IN AG

No Women in Ag projects completed in 2020 due to COVID 19 restrictions.

LEGISLATIVE SESSION

There was no legislative session in 2020.

SUMMARY

The original legislative intent of groundwater district performance evaluations through management plan certification and auditing was to answer two main questions:

1. Is the district operational, and
2. Is the district actively engaged in achieving stated goals, objectives, and performance standards?

Without a doubt, the South Plains Underground Water Conservation District is operational and is achieving its stated goals, objectives, and standards.