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 2023
September 1, 2022 through August 31, 2023

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South Plains Underground Water Conservation District

Board of Directors

Name	Representing	Term Ends
Matt Hogue, President	Precinct 2	May 2024
Gabe Neill, Secretary	Director-at-Large	May 2024
Tye Day, Member	Precinct 3	May 2026
E. C. Harlan, Member	Precinct 1	May 2026
Barrett Brown, Member	Precinct 4	May 2024

Report prepared by:

Layne Marlow, General Manager
Darice Russell, Administrative Assistant

Table of Contents

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 2022
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 2022/2023, a total of 143 wells were measured: 136 Ogallala and 7 Edwards-Trinity (High Plains).

Performance Standards
1.01a -- 143 wells were measured in 2022/2023.
1.01b -- Results entered into database, sent to Texas Water Development Board and Hydrologist Amy Bush, and posted on SPUWCD website, www.spuwcd.org.

Management Objective 1.02 — Technical Field Services
Twenty-five (25) requests for Technical Field Services were fulfilled in 2023. This is 10 less than the 35 requests in 2022.

Some tests were made for prospective land buyers.

Performance Standards
1.02a — 25 field service requests were fulfilled.

Management Objective 1.03 — Laboratory Services
The total number of lab tests performed for producers in 2023 was 22. This is less than the 44 tests run in 2022. These requests concern the suitability of irrigation water for certain crops.

Also, 2 bacteria tests were run in 2023, compared to 3 in 2022. Neither of the tests indicated positive for either coliform or e-coli and disinfection and/or additional testing was not recommended.

Performance Standards
1.03a — 24 lab service requests were fulfilled.
1.03b — 12 records entered in database. Data was obtained from water quality lab testing onsite.

Management Objective 1.04 — Irrigation Monitoring

2022 marks the 20th year for the District's Flow Meter Program. With the help of approximately 26 cooperators, the District reads flow meters during the growing season to determine water usage on various crops. Water usage for 2022 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.

	Cotton	Peanuts	Grain	Wheat	Grapes
2003	10.79	19.85	5.30	5.87	
2004	7.99	14.46	0.49	6.25	
2005	9.86	16.59	0.50	3.42	
2006	14.09	20.51	7.03	5.71	
2007	6.52	13.36	9.16	3.34	
2008	10.70	13.78	5.78	9.61	
2009	13.46	20.81	8.35	8.07	
2010	10.15	14.69	4.43	4.42	
2011	17.92	24.58		7.54	
2012	12.59	25.19	5.32	6.24	
2013	14.71	23.02	15.98	8.95	6.27
2014	11.29	14.23	7.14	5.94	4.78
2015	5.52	8.90	5.09	2.61	4.51
2016	8.34	10.90	2.00	3.33	4.92
2017	9.91	13.64	1.81	1.45	8.80
2018	11.74	17.08	3.54	3.82	11.86
2019	7.98	13.95	9.66	3.62	5.64
2020	9.96	15.94	5.02	4.21	12.33
2021	5.38	10.86	6.90	5.97	6.11
2022	12.80	16.35	10.61	6.10	11.4
	211.7	328.69	114.11	106.47	76.62
Average	**10.59**	**16.43**	**6.01**	**5.32**	**7.66**

Performance Standards

1.04a — In 2022, there were 39 irrigation systems in the cooperative program.

1.04b — Each year, the crops which are monitored vary according to what producers plant. In 2023, 8 different crops were monitored. These crops included cotton, peanuts, grain, 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. With inventory conducted every five years, the district is wrapping up the 2023 Survey.

Performance Standards
1.05a — 2023 Inventory is approximately 80% complete as of October 2023.
1.05b — 1,403 pivots and 129 sub-surface/above-ground drip-type irrigation systems were inventoried in 2018 and entered in District's database and posted on website.

Goal 2.0 Controlling and Preventing Waste of Groundwater

Management Objective 2.01 — Well Permitting and Completion
Since March 1993, the District has issued 4,709 permits. The total number of permits issued during 2023 was 377 -- 301 irrigation well permits and 76 exempt/domestic/stock well permits. This is higher than the 372 issued in 2022. March had the highest number of permits issued (46). Of the permits issued, 22 were either not used or a well was not completed or was plugged. Of the permits issued, approximately 10 were reported as deepening existing wells.

309 wells, which include irrigation and exempt, were inspected during 2023 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 7,749 (84%) of the 9,194 wells within the District have GPS coordinates associated with them.

Performance Standards
2.01a — 301 irrigation permits issued.
201b --- 76 exempt-well registrations issued.
2.01c — 309 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.

Two (2) deteriorated or uncovered wells were reported to or discovered by District staff during 2023.

Performance Standards
2.02a — Two (2) deteriorated or uncovered well discovered by the District.
2.02b — Initial discovery was in February and March 2023; Both landowners contacted by phone; issue resolved immediately.

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 29 domestic wells during the summer of 2023. The samples were tested in-office for conductivity, total dissolved solids, and chlorides. All samples were then submitted to Lower Colorado River Authority (LCRA) Environmental Laboratory Services for additional testing and reporting.

Performance Standards
2.04a — Approximately 29 samples collected and tested in-office.
2.04b --- Approximately 29 water quality test and analyzation results entered in database and an interactive map available on the Districts website: https://arcg.is/DqXHW

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,
www.spuwcd.org/Conservation/rainfall monitoring.
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Performance Standards
6.01a -- 36 rain gauges in District network.
6.01b –- Rain gauge results posted to website on interactive map and historic printout and mailed to landowner participants.

Goal 7.0 Conservation

Management Objective 7.01 – Classroom Education

During 2022-2023, twenty-four (24) total presentations were made to schools within the district.

Teacher "welcome" gift baskets were distributed in August 2023 to nine campuses in Terry County (three school districts) as an introduction to services offered by the UWCD. Baskets contain classroom items, information about curriculum resources, available literature/library resources, and other useful instruction materials. Introduction contact was made with new campus administrators to offer support to their staff.

This year marks the 18th annual "Water Conservation Calendar Artwork Contest" for local 4th & 5th grade students within the district. Students submit water conservation artwork after hearing a presentation about water usage and conservation practices. The winning artwork is featured in the 2024 calendar to be published, distributed, and made available to the public by the District. Over 300 entries were received in the Spring of 2023. Approximately seventy-five (75) 2023 SPUWCD Water Conservation Calendars were distributed throughout the district and local communities.

October 2022 – Kids, Kows & More program (4th graders); Terry County Farm Tour for Kids (5th grade)

December 2022 – Kendrick Memorial Library Story Hour Program (Pre-school age)

February 2023 – "Celebrity" Reading at Arnold Center for Educational Services (ACES); Calendar Artwork Contest presentation to Oak Grove 4th& 5th grade students; Calendar Artwork Contest presentation to Wellman-Union 4th & 5th grade students

March 2023- Calendar Artwork Contest presentation to Meadow 4th & 5th grade students; Kendrick Memorial Library Story Hour (preschool age)

April 2023 – Terry County Soil Stewardship Breakfast (4th &5th grade students)

May 2023 – Present Calendar Artwork Contest winners to Meadow, Oak Grove, and Wellman-Union (3); Present Scholarship Essay Contest winners to seniors from Meadow, Brownfield, and Wellman-Union

June 2023 – Kendrick Memorial Summer Reading Program (PK-10th grade); Host Tier I Texas 4H Water Ambassadors Leadership group (9th-12th grade); Present summer programs to Oak Grove Summer Aces program (3 different topics/events) for grades Kinder-5th grade.

Performance Standards

7.01a – Twenty-four (24) ongoing and long-term classroom and library education presentations and programs were made available to children ages pre-kinder to 12th grade during 2022 - 2023.

Management Objective 7.02 — Newsletter

The District's paper newsletter, South Plains Groundwater News, was discontinued during the 2020 fiscal year. The District continues to maintain and update appropriate information on the website www.spuwcd.org. Website upgrades and updates, along with links to complimentary websites, provide comprehensive information. SPUWCD is directing efforts into providing historical and contemporary information via digital access of social media and website.

Performance Standards
7.02a — Previous editions of paper South Plains Groundwater News archived and available on website www.spuwcd.org under the ***Newsletters*** heading.

Management Objective 7.03 – News Releases
Brownfield News and Town Talk Radio both posted news releases for SPUWCD and SOCOP. There were also approximately 85 posts to Facebook and Twitter between September 2022 and August 2023.

January 2023 – Scholarship Essay Contest info & topic release article

March 2023 – Reminder PR article on Scholarship contest

March 2023 -- Women in Ag event with Terry County Soil & Water Conservation District

March 2023 – Texas 4H Water Ambassadors Applications open

May 2023 – SPUWCD 2024 Calendar Winners

May 2023 – SPUWCD Scholarship Winners article and pictures

May 2023 -- Promotion of Rainwater Harvesting Week and workshop on Facebook page, Brownfield News and Town Talk Radio page/website

Performance Standard
7.03a — Seven (7) articles were published in the local newspaper and/or local news media websites and social media.

Management Objective 7.04 -- Public Speaking Engagements
The District fulfilled seventeen (17) public speaking engagements during the 2022/2023 fiscal year. These included:

SPUWCD:
September 2022 -Terry County Farm Tour

October 2022 - Kids Farm Tour, Kids Kows and More

January 2023 Rotary Club

March 2023 Tex Peanut Producer Board Lubbock – Water Quality. Western Peanut Growers Meeting, Seminole.

April 2023 Town talk Radio Ag appreciation dinner, annual rainfall. Ag appreciation dinner. Grape growers meeting in Lubbock – water quality

May 2023 Rainwater Harvesting Week

July 2023 Terry County Wine Tour – Vineyard Irrigation compared to conventional crops.

SOCOP:
October 2022 – Kendrick Memorial Library "Children's Place" ribbon cutting

November 2022 – Meeting with Congressman Jodey Arrington & staff;

March 2023– Town Talk Radio; Terry County Retired Educators – program on Xeriscaping

April 2023 – Terry County Ag Appreciation Dinner with Water Ambassadors; Women in Ag Conference & Luncheon; Terry County Soil & Water Conservation Breakfast; Newsom Grape Day Pre-Event Social

June 2023 – Host Tier I Texas 4H Water Ambassadors Leadership group, meet-and-greet with TTU Dean of CASNR Dr. Krehbiel

Performance Standard
7.04a -- Ten (10) programs were presented in conjunction with and by Education Coordinator/SOCOP.

7.04b -- Seven (7) public speaking engagements presented by General Manager Layne Marlow.

Management Objective 7.05 — Printed Material Resource Center
Over 36 different publications are displayed in the reception area of the office. These publications are obtained from various sources, including the Texas Water Development Board (TWDB), the United States Geological Survey (USGS), and AgriLife Extension Service. District staff developed twelve of the brochures.

Forty (40) items were distributed from the resources center.

Performance Standards
7.05a — Of the 40 different publications distributed from the reception area of the SPUWCD office, 16 items related to water conservation/harvesting, 18 covered rules/management plan, 5 explain water quality, and 1 discuss water level/aquifer.

Management Objective 7.06 — Saturated Thickness Maps
In years past, saturated thickness maps were printed and reproduced and kept in the office. We have suspended this process due to the fact that information on the maps was too small to read and better, more legible information is available on the www.spuwcd.org website.

Performance Standards
7.06a — USGS Interactive Hydrogeologic Data Map - Ogallala Formation Saturated Thickness Zone Layer - is Maintained by USGS and updated annually with District water level measurements. https://webapps.usgs.gov/HDE/SouthernHighPlains/.

Management Objective 7.07 — Conservation Literature
Fourteen (14) publications displayed in the reception area of the office are devoted to water conservation for the home and the farm.

Performance Standards
7.07a — 14 publications are dedicated to water conservation.

7.07b — 16 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

Rainwater Harvesting Week 2023 took place the first week of May, Monday, May 01, 2023 through Thursday, May 04, 2023. The educational trailer was parked at Terry County Heritage Museum, located at 600 E. Cardwell all three days, between the hours of 11:00 AM and 1:30 PM. Local residents were invited to visit and view the trailer and register to win a rain barrel and rain chain. Winners were: Monday, May 01 – Linda Edmonds; Tuesday, May 02 – Patricia Alcala; Wednesday, May 03 – Kisa Luther.

Approximately 21 people attended the Rainwater Workshop on Thursday, May 04, 2023, Lindy Harris Day. Layne Marlow presented a PowerPoint presentation and information regarding Xeriscape, Softscape and Hardscape in homeowner landscaping. The first 18 pre-registered attendees received rain barrels and rain chains.

Winners of the "Every Raindrop Counts" award were Jessica & Javier Duran, who took home a certificate and a rain barrel and rain chain.

Performance Standards

9.01a — District published two articles in Brownfield News about rainwater harvesting and ran ads for two weeks in the Brownfield News. Town Talk and the Brownfield Chamber of Commerce also posted information and photographs on their social media accounts. Information and photographs, daily rain barrel and rain chain winners were posted on SPUWCD Facebook page.

Goal 10.0 Precipitation Enhancement

(Not applicable.)

Goal 11.0 Brush Control

(Not applicable.)

Goal 12.0 Desired Future Condition of the Aquifers

The process of adopting a Desired Future Condition (DFC) was established by the Texas Legislature in 2005 and requires groundwater conservation districts within their respective GMA to establish DFCs for relevant aquifers at least once every five (5) years.

The members of GMA 2 met on March 25, 2021 via virtual meeting. Each GMA 2 district was represented at the meeting. Representatives of Groundwater Management Area 2 adopted the proposed desired future conditions.

- A GMA 2-wide average drawdown of 28 feet between 2013 and 2080 for the Ogallala and Edwards-Trinity (High Plains) Aquifers.
- A GMA 2-wide average drawdown of 31 feet between 2013 and 2080 for the Dockum Aquifer.

GMA 2 member Districts had a 90-day public comment period (March 25-June 23, 2021). Each district conducted a public hearing to receive comments about the proposed DFCs during this time.

August 17, 2021: Dr. Hutchison presented Resolution 21-01 which adopts the Desired Future Conditions (DFCs) for the Ogallala, Edwards-Trinity (High Plains), and Dockum Aquifers in GMA 2. The GMA 2 members also discussed, considered, and approved the final draft explanatory report for the adopted desired future conditions. The Explanatory report, along with Resolutions, was submitted to the TWDB October 18, 2021.

Management Objective 12.01 — Calculate Annual Drawdown

Performance Standards

12.01a -- The average drawdown result of minus point eighty eight feet (-.88') was presented to the District Board at the March 2022 Board meeting.

12.01b -- The average drawdown results were published on the District website, www.spuwcd.org.

OTHER ACTIVITIES

SPUWCD.ORG

SPUWCD continues to build and upgrade its website. Content and offerings are updated monthly. The site provides education and information for District constituents, as well as people state-wide. The website can be accessed from the Texas Alliance of Groundwater District's website and is linked from various water district websites. General information, hydrologic maps, a 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.

In 2022, new headings were added to easily identify Newletters and Regulatory & Compliance information.

HIGH SCHOOL ESSAY SCHOLARSHIP PROGRAM

2022-2023 was the ninth year scholarships were made available to all three high schools within the District. The essay topic for 2023 was "Accelerating Change Through Partnerships and Cooperation," which correlated with the theme for World Water Day 2023. 1st and 2nd place scholarships were awarded to graduating seniors from each high school in Terry County, for a total of $4, 500. The scholarship winners for the 2022/2023 school year were as follows:

Brownfield High School: 1st Place – Clarissa Perez

2nd Place – Brianna Quilantan

Wellman-Union High School: 1st Place – Marisa Gallegos Sanchez

2nd Place – Adrian Ramirez

Meadow High School: 1st Place – Juan Estrada

2nd Place – Trevor Brockway

SOUTHERN OGALLALA CONSERVATION AND OUTREACH PROGRAM (SOCOP)

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.

The education website, www.savingH2O.org, as well as the Facebook and Twitter pages for SOCOP, continue to be a part of the District's public education outreach. The website contains water conservation tips and information regarding the District's education program along with curriculum ideas for teachers. The social media pages serve as an up-to-date resource regarding program participation, including but not limited to the Texas 4H Water Ambassador program, school programs etc. They also provide a method to share resources from other entities such as Farm Bureau, FFA, etc., through which local students can become more involved in water conservation.

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

- Presentations at Kendrick Memorial Library Story Hour and summer reading programs
- Presentations to Oak Grove ACES Summer Enrichment Program
- Texas 4H Water Ambassadors Program sponsor and service on Advisory Board for the State of Texas
- SOCOP Education Trailer was taken to numerous events, Kids, Kows & More; Farm Tour for Kids, Summer ACES Program at Oak Grove, etc. This mobile classroom continues to travel throughout the District to both student and adult events
- SOCOP participates in the statewide Groundwater Education Collaborative and mentors other groundwater educators new to the field. The collaborative is a network of groundwater educators from across the state of Texas

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 (ACE) is to inform high school sophomores about the many different education, scholarship, and job opportunities available in the agricultural industry. Local colleges, equipment companies, vendors, and local producers are represented at the ACE event. The District has participated in and helped organize each ACE Day since its inception.

Spring 2020 and Spring 2021 were both cancelled due to Covid. Spring of 2022 and Spring 2023 were not held due to limited availability of vendors, producers, and volunteers, as the West Texas Young Farmers group was dissolved. Due to lack of interest and local support, this event has yet to be reinstated.

RAINWATER HARVESTING PROJECT

Several Producers and landowners indicated interest in applying for the District's assistance with rainwater harvesting projects. Plans and location designs pending further direction.

WOMEN IN AG

This is a joint project with Terry County Soil & Water Conservation District. The third and fourth annual Women in Ag Conference scheduled for April 2020 & April 2021 were cancelled due to Covid-19.

The event was re-organized and took place in April 2022 for the third year. The event has grown yearly and, in 2023, had participation from both local and national Women in Agriculture members, in addition to recognition by Texas Congressmen and Legislators. The theme for April 2023 was "Horses give us the wings we lack. Live life like someone left the gate open!" Conference topics were related to horses and the connections horses have with us as ranchers, farmers, and women in agriculture.

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.