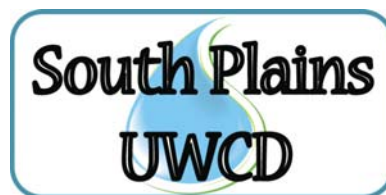


**Annual Report
to the
Board of Directors
on
Attainment of Management Plan Goals
and
Selected Activities
of the

South Plains Underground
Water Conservation District**



Fiscal Year 2009

September 1, 2008 through August 31, 2009

**PO Box 986
Brownfield, TX 79316
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South Plains Underground Water Conservation District

Board of Directors

| <u>Name</u> | <u>Representing</u> | <u>Term Ends</u> |
|----------------------------|---------------------|------------------|
| Doyle Moss, President | Precinct 1 | May 2012 |
| Scott Hamm, Vice-president | Precinct 4 | May 2010 |
| Matt Hogue, Secretary | Precinct 2 | May 2010 |
| Larry Yowell, Member | Director-at-Large | May 2012 |
| Dan A. Day, Jr., Member | Precinct 3 | May 2012 |

Report Prepared By

Jason Coleman
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Manager
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Table of Contents

| | |
|--|---|
| District Mission Statement..... | 1 |
| Introduction and Overview | 2 |
| Report on Attainment of Goals | |
| Goal 1.0 Providing the Most Efficient Use of Groundwater | |
| Management Objectives | |
| 1.01 Water Level Monitoring | 3 |
| 1.02 Technical Field Services | 3 |
| 1.03 Laboratory Services | 3 |
| 1.04 Irrigation Monitoring | 3 |
| 1.05 Center Pivot Inventory | 4 |
| Goal 2.0 Controlling and Preventing Waste of Groundwater | |
| Management Objectives | |
| 2.01 Well Permitting and Well Completion | 4 |
| 2.02 Open, Deteriorated or Uncovered Wells..... | 4 |
| 2.03 Maximum Allowable Production..... | 5 |
| 2.04 Water Quality Monitoring..... | 5 |
| Goal 3.0 Controlling and preventing subsidence..... | 5 |
| Goal 4.0 Conjunctive surface water management issues..... | 5 |
| Goal 5.0 Natural resource issues | 5 |
| Goal 6.0 Drought Conditions..... | 5 |
| Management Objectives | |
| 6.01 Rain gages..... | 5 |
| Goal 7.0 Conservation | |
| Management Objectives | |
| 7.01 Classroom Education | 6 |
| 7.02 Newsletter | 6 |
| 7.03 News Releases | 6 |
| 7.04 Public Speaking Engagements | 6 |
| 7.05 Printed Material Resource Center and Technical File | 7 |
| Goal 8.0 Recharge Enhancement..... | 7 |
| Goal 9.0 Rainwater Harvesting | |
| Management Objectives | |
| 9.01 Public Awareness Program..... | 7 |
| Goal 10.0 Precipitation Enhancement | 7 |
| Goal 11.0 Brush Control..... | 8 |
| Goal 12.0 Desired Future Condition of the Aquifers | 8 |

| | |
|--|----|
| IRS Cost-in-Water Depletion Program..... | 9 |
| SPUWCD.ORG | 9 |
| Joint Planning | 9 |
| Public Education | 9 |
| Water Level Recorders | 10 |
| Ogallala Aquifer Display | 10 |
| Lawn Sprinkler Gages..... | 10 |
| Other Activities..... | 10 |
| Summary | 11 |

Appendix A

| | |
|------------------------------------|----|
| Water Level Recorder Data | 13 |
| Water Level Data (24-45-7372)..... | 14 |
| Water Level Data (24-47-6542)..... | 15 |
| Water Level Data (24-53-4651)..... | 16 |
| Water Level Data (24-54-1551)..... | 17 |
| Water Level Data (24-55-8111)..... | 18 |
| Water Level Data (24-63-9371)..... | 19 |
| Water Level Data (27-05-3851)..... | 20 |
| Water Level Data (27-06-1241)..... | 21 |

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. provision 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; and
7. conservation

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 Management Plan of the District was developed during the spring and summer of 2008. After notice and hearing, the Board of Directors officially adopted the plan on September 9, 2008. The plan became effective on September 9, 2008 and was certified by the Texas Water Development Board on November 10, 2008.

This annual report is a review of the District's activities for fiscal year 2009 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 2009, a total of 142 wells were measured (136 Ogallala and 6 Edwards-Trinity (High Plains)). Of this total, 142 of the 143 wells from 2008 were measured. One new well was added to the network.

Performance Standards

1.01a—142 wells were measured in 2009

1.01b—1 well was not measured because of continuous pumping

1.01c—142 water level measurements entered into database

1.01d—143 wells in network

1.01e—1 replacement Ogallala well added

Management Objective 1.02—Technical Field Services

47 requests for Technical Field Services were fulfilled in 2009. This is 32 less than the 79 requests in 2008. July was the busiest month for flow tests, when 12 tests were performed.

A number of tests were made for prospective land buyers.

Performance Standards

1.02a—47 field service requests were fulfilled

1.02b—106 tests were entered in database. Some of the results were from previous years.

Management Objective 1.03—Laboratory Services

The total number of lab tests performed for producers in 2009 was 42. This is lower than the 61 tests run in 2008. These requests concern the suitability of irrigation water for certain crops.

Also, 8 bacteria tests were run in 2009, compared to 31 in 2008. Five of the tests were positive for either coliform or e-coli bacteria.

Performance Standards

1.03a—50 lab service requests were fulfilled

1.03b—168 records entered in database. Some of the results were from previous years.

1.03c—50 results were reported to constituents. There were two tests performed for wells not located in the district.

Management Objective 1.04—Irrigation Monitoring

2009 marks the eighth year for the District's Flowmeter Program. With the help of approximately 50 cooperators, the District reads flow meters each month during the growing season to determine water usage on various crops. Each month a report is mailed to the producer showing water usage for that month and the total for the year. Water usage for 2009 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 |
|----------------|----------------|-----------------|----------------|----------------|
| 2002 | 8.44 in | 19.35 in | 6.0 in | 7.0 in |
| 2003 | 10.79 in | 19.85 in | 5.3 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 |
| Average | 9.77 in | 16.84 in | 4.89 in | 5.88 in |

Performance Standards

1.04a—In 2009 there were 66 irrigation systems in the cooperative program

1.04b—Each year, the crops which are monitored vary according to what producers plant. In 2009, 9 different crops were monitored. These crops included cotton, peanuts, wheat, sorghum silage, grain sorghum, pasture grass, watermelons, sesame and black-eyed peas.

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

Management Objective 1.05—Center Pivot Inventory

No center pivot inventory was required in 2009 by the District’s Management Plan.

Performance Standards

1.05a—N/A

1.05b—N/A

1.05c—1,375 pivots and 18 sub-surface 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 over 2,023 permits. The number of permits issued during 2009 was 83. This is lower than the 101 issued in 2008. July had the highest number of permits issued, which was 15.

Also, 109 wells were inspected during 2009 to insure proper completion and spacing.

Performance Standards

2.01a—83 permits issued

2.01b—109 well sites inspected

2.01c—4 well sites failed to meet completion standards

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

No deteriorated or uncovered wells were reported to or discovered by District staff during 2009.

Performance Standards

2.02a— No open, deteriorated or uncovered wells reported to the District

2.02b—N/A

2.02c—N/A

2.02d—N/A

2.02e—N/A

Management Objective 2.03—Maximum Allowable Production

No instances of a maximum production violation were discovered this year

Performance Standards

2.03a—N/A

2.03b—N/A

2.03c—N/A

Management Objective 2.04—Water Quality Monitoring

Water quality samples were taken from 35 domestic wells during the summer of 2009. These samples were sent to the LCRA Environmental Laboratory Services in Austin for extensive analysis. The analysis included the following parameters: conductivity, nitrate/nitrite, chloride, fluoride, sulfate, arsenic and total organic carbon. The 2008 water quality map was posted for viewing and printing on the District's web site.

Performance Standards

2.04a—35 samples collected and analyzed

2.04b—33 of 35 wells (94%) sampled in 2007 were tested in 2009

2.04c—2 Water quality maps were made available to the public at the District office and on the web site.

2.04d—35 test results were 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**
(not applicable)

Goal 6.0 **Drought Conditions**

Management Objective 6.01—Rain Gages

The District maintains a network of 33 rain gages. The readings from the rain gages are gathered monthly and rainfall maps are published on the District's web site. District staff notifies the local newspaper when new rainfall maps are published.

Performance Standards

6.01a—33 rain gages in District network

6.01b—395 monthly rain gage readings of 396 possible

Goal 7.0

Conservation

Management Objective 7.01—Classroom Education

During 2009, the District continued its 2 classroom educational programs, which consist of book covers and the *Major Rivers* curriculum. The Education Coordinator gave presentations on water conservation to all 4th and 5th grade classrooms in the District

Performance Standards

7.01a—*Major Rivers* was distributed to all 4th grade classes at the three schools within the District

7.01b—4,500 book covers distributed

Management Objective 7.02—Newsletter

Four editions of the District's newsletter, *South Plains Groundwater News*, were published during 2009. The May 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—Four newsletter editions were published

7.02b—3,747 newsletters were distributed

7.02c—Seven articles addressed methods of enhancing and protecting the quantity of useable quality groundwater

Management Objective 7.03—News Releases

Twenty-three news articles were published in the *Brownfield News* during 2009. The District was a sponsor of the Ag Section in the local newspaper and submitted articles for that section in the Sunday editions. They included articles on legislation, irrigation information and conservation, rainfall, the drought and the aquifer.

Performance Standard

7.03—Twenty-three news releases were prepared for publication in the local newspaper

Management Objective 7.04—Public Speaking Engagements

The District fulfilled 7 public speaking engagements during 2009. These included:

- Update on water levels and water quality at the 2009 South Plains Ag Conference
- One presentation was made to approximately 180 4th and 5th graders at Kids, Kows & More in October.
- Presentations were given at all three schools in May regarding the Conservation Calendar Art Contest
- The Education Coordinator gave a presentation at the District sponsored Landscape Workshop
- The Education Coordinator was a guest on the local Town Talk radio program

Performance Standard

7.04—Seven programs were presented to protect and enhance our groundwater

Management Objective 7.05—Printed Material Resource Center and Technical File
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 the Texas Ag Extension Service. District staff has developed eight of the brochures.

161 items were distributed from the resources center.

Performance Standards

7.05a—There were 46 items on conservation, 21 on rules/management plan, 25 on water quality, 10 on rainwater harvesting, and 59 on general information procured by the public from the resource center

7.05b—No items were requested from the District’s technical file

Management Objective 7.06—Saturated Thickness Maps

The most recent saturated thickness map is from 2005. No additional saturated thickness map is required until 2010.

Performance Standards

7.06a—There are currently 3 saturated thickness maps displayed in the District office. The maps are also available on the District’s web site. Real estate agents and prospective land buyers frequently request this document. Six were obtained from the resource center.

Management Objective 7.07—Conservation Literature

Nine publications displayed in the reception area of the office are devoted to water conservation for the home and the farm.

Performance Standards

7.07a—9 publications are dedicated to water conservation

7.07b—46 items were obtained by the public in 2009

Goal 8.0

Recharge Enhancement

(not applicable)

Goal 9.0

Rainwater Harvesting

Management Objective 9.01—Public Awareness Program

The District sponsored a Water Wise Landscape workshop in April. The workshop featured Billy Kniffen who gave a presentation on rainwater harvesting. Handouts on rainwater harvesting were given. Door prizes included a rain barrel and rain chains. Approximately 25 people attended the workshop.

Performance Standards

9.01a—Rainwater harvesting information presented to the public at a workshop in April

Goal 10.0

Precipitation Enhancement

(not applicable)

Goal 11.0 **Brush Control**
(not applicable)

Goal 12.0 **Desired Future Condition of the Aquifers**
(not applicable)

IRS COST-IN-WATER DEPLETION PROGRAM

2009 was the tenth year the South Plains 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. The program was considered a success, as 81 landowner requests were processed, including 5 new requests.

SPUWCD.ORG

The District has developed and maintains a web site. 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, rainfall information, newsletters, rules, management plan and district program descriptions are available on the site. In 2009, there were a total of 13,984 visitors to the web site.

JOINT PLANNING

As required by the Legislature, the members of GMA #2 met during 2009 and discussed several issues, including delineation of aquifer subdivisions, differing uses and supplies of groundwater across the management area, and minor aquifer GAMs. District staff is continuing several studies to help the Board with the goal of defining a desired future condition for the applicable aquifer(s). These studies include analysis of water level changes and historic water usage. Currently, the GMA has pending model requests with the TWDB.

PUBLIC EDUCATION

In 2007, the District joined Llano Estacado UWCD, Permian Basin UWCD and Sandy Land UWCD and hired an Education Coordinator to serve the education needs of all four districts. Through the Education Coordinator, more emphasis has been placed on education to students in the three school districts in the SPUWCD.

This year, the third annual "Water Conservation Art Contest" 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 2010 calendar to be published and distributed by the District. Approximately one hundred of the 2009 Water Conservation calendars were distributed throughout the District.

The Education Coordinator gave a presentation on water conservation at the Kendrick Memorial Library. Two children's books on water conservation were donated to the library.

The education website, www.savingH2O.org continues to be a part of the District's public education outreach along with an education blog and a Twitter entry. These mediums contain water conservation tips and information on the District's education program.

The District sponsored a Water Wise Landscape workshop in April. The workshop featured Billy Kniffen who gave a presentation on rainwater harvesting. Kay Thompson, Master Gardener, also gave a presentation on water wise landscaping. Approximately 25 people attended the workshop. Eleven local businesses sponsored refreshments, door prizes and exhibits. The District also gave rain gauges and lawn sprinkler gauges to each person at the workshop. The attendees were also given a booklet entitled "*Water Wise Plants for West Texas*" which was developed by the Education Coordinator.

The Education Coordinator participated in Water Conservation Day at the Capitol in Austin. A display board highlighting the Education Cooperative and brochures were displayed for legislators and visitors to view. Also, the Education Coordinator attended the Texas State Water Camp and the Nebraska Children's Water Festival. These events were opportunities to gather new resources for presenting the water conservation message locally.

WATER LEVEL RECORDERS

In 2008, two water level recorders were installed in the District with the cooperation of the landowners. One of the wells is Ogallala, and the other is Edwards-Trinity (High Plains). During 2009, six additional recorders were installed. Readings are downloaded monthly. The readings are converted to chart form and presented to the Directors at their monthly meetings, and also mailed to the well owners/operators.

OGALLALA AQUIFER DISPLAY

The District developed an Aquifer Display to create awareness of the District's aquifers. The display includes illustrations of the extent of the aquifers, descriptions of the formations, and cuttings samples from a water well within the District. The display was shown at the following locations: Lone Star State Bank, Sundown State Bank, American State Bank, Terry County Farm Bureau, and the Terry County USDA Farm Service Center. 42 educational brochures and 44 conservation brochures were distributed while on display.

LAWN SPRINKLER GAGES

During the summer of 2009, the District placed 500 lawn sprinkler gages at various locations throughout the county. A municipal water conservation brochure was attached to each of the sprinkler gages. The gages were distributed at: Brownfield City Hall, Brownfield Chamber of Commerce, Meadow City Hall, Wellman City Hall, Lone Star State Bank, American State Bank, and Sundown State Bank.

OTHER ACTIVITIES

The District, as requested by TAGD, continues to serve as a representative on the USDA-NRCS State Technical Committee. The use of Farm Bill funds for conservation programs is helpful for groundwater conservation, and having representation at this level should benefit groundwater conservation districts throughout the State. In 2009, Jason Coleman attended the annual NRCS State Technical Committee meeting and gave a report to the membership of TAGD.

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. That is not to say, however, that there is no room for improvement.

The following are recommendations where the District could improve its service:

| Management Objective | Recommendation |
|--|--|
| 1.01—Water Level Monitoring | N/A |
| 1.02—Technical Field Services | N/A |
| 1.03—Laboratory Services | Purchase new lab equipment |
| 1.04—Research and Demonstration | Investigate the feasibility of installing/cost sharing a rainwater harvesting system for a cooperater in the District. |
| 1.05—Center Pivot Inventories | N/A |
| 2.01—Well Permitting and Completion | N/A |
| 2.02—Open or Uncovered Wells | N/A |
| 2.03—Maximum Allowable Production | N/A |
| 2.04—Water Quality Monitoring | N/A |
| 3.01—Classroom Education | N/A |
| 3.02—Newsletter | N/A |
| 3.03—News Releases | N/A |
| 3.04—Public Speaking Engagements | N/A |
| 3.05—Resource Center/Technical File | N/A |
| 4.01—Rain Gages | Evaluate the possibility of including a rain gage recorder at sites where a water level recorder or flow meter is installed. |
| 5.01—Saturated thickness Maps | N/A |

5.02—Conservation Literature

Work with the communities in the District and consider placing conservation literature at city offices.

Appendix A

Water Level Recorder Data