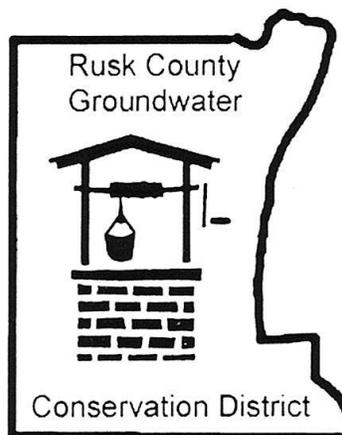


**Rusk County Groundwater
Conservation District**

**District
Annual Report
2015**

September 2014 to August 2015



Approved November 9, 2015

Amanda Maloukis – General Manager

RUSK COUNTY GROUNDWATER CONSERVATION DISTRICT CHARTER:

The District staff will prepare and present an annual report to the Board of Directors on District performance in regards to achieving management goals and objectives. The presentation of the report will occur during the first monthly Board meeting each fiscal year. The report will include the number of instances in which each of the activities specified in the District's management objectives was engaged in during the fiscal year describing the activity, so that the effectiveness and efficiency of the District's operations may be evaluated. The Board will maintain the report on file, for public inspection at the District's offices upon adoption. This methodology will apply to all management goals contained within this plan. (Page 17 MP)

GENERAL REQUIREMENTS:

- A) The District will manage the supply of groundwater within the District in order to conserve the resource while seeking to maintain the economic viability of all resource user groups, public and private. In consideration of the economic and cultural activities occurring within the District, the District will identify and engage in such activities and practices that, if implemented, would result in sustaining the level of groundwater use, while increasing the use of surface water. The existing observation network will be used to monitor changing storage conditions of groundwater supplies within the District. This network is being expanded, utilizing idle oil and gas exploration water wells. Our plan is to add over 100 monitor wells to the existing 15 that have been monitored monthly since 2006. As these added wells are idle and should not show use fluctuation they will be monitored quarterly. The District will make a regular assessment of water supply and groundwater conditions and will report those conditions to the Board and to the public via our District website (www.rcgcd.org). The District will cooperate with investigations of the groundwater resources within the District and will make the results of investigations available to the public upon adoption by the Board. (Page 16 MP)

ACTIVITY AND ACCOMPLISHMENTS:

The District continues to monitor and record monthly surface to water levels including Mean Sea Level altitude (MSL). The monthly monitor well locations were increased from fifteen (15) to sixteen (16) wells and the locations were adjusted to represent static aquifer levels. This information is shared with the public through the District's website.

Amanda Maloukis the District's General Manager directs and manages all field operations including the gathering of monthly and quarterly monitor well readings, precipitation monitoring, oil and gas water well inspections through down hole camera recording and electric logs (e-log), surface well inspections of recent well drillings, and healthy well inspections of existing wells. The District's Field Staff and General Manager have continued and advanced efforts to collect accurate field data to continue in house mapping efforts, for accurate study efforts, and to effectively manage the groundwater resources.

The District maintains a quarterly static monitoring well program comprised of 100 water wells designated for oil and gas production and exploration that were inspected and e-logged through District Rule 9.2.5 which provides the most accurate static water level readings by confirming and eliminating any well that may contribute to commingling of aquifers or other well completion errors that threaten the groundwater resources and could provide erroneous aquifer level readings. For additional accuracy all inspected wells are documented with the District's survey grade GPS unit providing MSL altitude.

The accurate MSL altitude and GPS locations documented during inspections allows the District to continue quarterly mapping of the aquifer levels in ArcGIS. The e-log data provided during inspection also allows for improved subsurface mapping of the lithology and water sands in Rusk County which Hydrex Environmental, Inc. assists the District with. Collecting this information provides the District with improved scientific knowledge of the aquifers for improved management of the District's resources.

There are four (4) "real-time" transducer monitor well sites in Rusk County that the Texas Water Development Board (TWDB) maintains for the District. The "real-time" water levels are available for view on the TWDB website and accessible through the District's website.

- B) In pursuit of the District's mission of protecting the resource, the District may require reduction of groundwater withdrawals to amounts that will not cause harm to the aquifer. To achieve this purpose, the District may, at the Board's discretion, amend or revoke any permits after notice and hearing. The determination to seek the amendment or revocation of a permit by the District will be based on aquifer conditions observed by the District and District rules. The District will enforce the terms and conditions of permits and the rules of the District by injunction or other appropriate relief in a court of competent jurisdiction as provided for in the Texas Water Code (TWC) Section 36.102. (Page 16 MP)

ACTIVITY AND ACCOMPLISHMENTS:

The District adopted rules to manage its groundwater resources. The District may deny a water well drilling permit or limit groundwater withdrawals in accordance with the guidelines stated in the rules of the District. In making a determination to deny a permit or limit groundwater withdrawals, the District will consider the public benefit against individual hardship after considering all appropriate testimony. The relevant factors to be considered in making a determination to deny a permit or limit groundwater withdrawals will be consistent with Chapter 36 of the Texas Water Code and the District's Rules.

No drilling permits were denied or revoked in 2014 or 2015.

In July 2014, the District amended and adopted the District Rules regarding the definition of an exempt well. This rule recognizes any well drilled, completed, and equipped to produce no more than 25,000 gallons per day (gpd). An applicant can apply for a registration of an exempt well strictly based on groundwater production being less than

25,000gpd regardless of use or acreage size as long as the well completion meets the Texas Department of Licensing and Regulation (TDLR) requirements. This is a relief for the property owners applying for an exempt well.

The District also adopted measuring and reporting requirements applied to groundwater wells used in mining, oil and gas production, and hydraulic fracturing. This allows the District to better manage the groundwater resources and determine any influences on the aquifer. The District began collecting this data in November 2014.

In August 2008, District Rule 9.2.5 was implemented to address the proliferation of water wells left standing after their use for oil and gas exploration and production. Wells used for oil and gas exploration and production must be either plugged or inspected for transfer within 180 days of the well completion. The District's well transfer inspection includes a "down hole" camera recording, a geophysical electric log, and surface completion evaluation. The transfer inspections provide sound scientific data of the sub-surface strata and assist in eliminating wells that contribute to commingling of multiple aquifers or identify other well completion errors allowing the District to protect and best manage its groundwater resources.

As of August 31, 2015 the District has inspected 494 wells. Over 669 wells have been plugged.

Average well inspections take between two and five hours not including travel time.

- C) A contingency plan to cope with the effects of water supply deficits due to climatic or other condition has been developed and adopted by the Board. In developing the contingency plan, the District considered the economic effect of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro geologic conditions of the aquifers within the District, and the appropriate conditions under which to implement the contingency plan. The District will evaluate the resources available within the District and determine the effectiveness of regulatory or conservation measures. A public or private user may appeal to the Board for discretion in enforcement of the provisions of the water supply deficit contingency plan on grounds of adverse economic hardship or unique local conditions. The exercise of said discretion by the Board, shall not be construed as limiting the power of the Board. (Page 16 MP)

ACTIVITY AND ACCOMPLISHMENTS:

The District's Drought Contingency Plan developed in 2005 and revised in 2011 was not altered in 2014 or 2015. It continues to be posted on the District's website.

From September 2014 through August 2015 the levels required to initiate the Drought Contingency Plan were not met. According to the U.S. Drought Monitor for Texas, Rusk County at the beginning of the year was "Abnormally Dry", the middle of the year there

was no drought due to an unusually wet winter, and returned to “Abnormally Dry” by the end of the year.

The aquifer level average increased in Mean Sea Level altitude to 261.7’ from fiscal year 2013/2014 of 260.3’. The average difference in aquifer fluctuations increased by 1.4 feet where the year before we saw a decrease of -0.2 feet.

MANAGEMENT PLAN GOALS:

Rusk County Groundwater Conservation District has seven management objectives with eleven goals detailed in the Management Plan adopted November 8, 2010. These objectives and goals cover the following areas of action:

- A) Efficient Use of Groundwater
- B) Control and Prevent the Waste of Groundwater
- C) Conjunctive Surface Water Management Issues
- D) Addressing Drought Conditions
- E) Addressing Conservation
- F) Addressing in a Quantitative Manner the Desired Future Conditions
- G) Enhancement of Sound Groundwater Science

A.1 Objective: The District will require all new exempt or non-exempt wells that are constructed within the boundaries of the District to be registered with the District in accordance with District rules.

Performance Standard: Issue Permits or register within 60 days of administratively complete application, if uncontested.

Tracking Method: Each year the number of exempt and non-exempt wells registered by the District for the year and a list of permits not issued within 60 days with the cause and corrective action taken, will be incorporated into the Annual Report submitted to the Board of Directors of the District.

ACTIVITY AND ACCOMPLISHMENTS:

September 1, 2014 through August 31, 2015

Authorizations to Drill and Produce Water: 118

Authorizations to Drill and Produce Water Denied: None

Total Authorizations to Drill and Produce Water Overall: 1,452

Amended Applications: 1

Amended Applications Denied: None

Total Amended Application to August 31, 2015: 1

Rush Applications: 9

Total Rush Applications to August 31, 2015: 9

Total Registrations (exempt) issued: 100

Total Registrations for existing wells issued: 37
Total Registrations new and existing Overall: 3,702
Total Permits (non-exempt) issued: 17
Total Permits issued overall: 18
Total non-exempts on file: 38

Transfer Inspections to August 31, 2015: 23
Transfer Inspections Overall: 498
Surface Inspections Overall: 63

District staff are in the process of reviewing existing non-exempt wells for accurate data.

In August 2015 the Board adopted the past years Fee Schedule with no alterations.

Each application to Drill and Produce Water and amended application results in either a registration or operating permit and requires approximately 2.0 hours of office staff time and approximately 2.0 hours field staff time.

Each Transfer Application requires approximately 1.0 hours of staff time.

- A.2 Objective: Maintain the District' Groundwater Database for all water wells in the District. The database shall include information relating to well location, production volume, and other information deemed necessary by the District to enable effective monitoring of the groundwater in Rusk County.
Performance Standard: Post all new and existing wells in the District's database.
Tracking Method: Each year the number of new and existing groundwater wells added to the database will be presented in the Annual Report submitted to the Board of Directors of the District.

ACTIVITY AND ACCOMPLISHMENTS:

See Objective A.1 for registration numbers.

All applications and forms are submitted hard copies, the information is then transferred to the District's Well Management Database in Microsoft Access. The Well Management Database is linked to ArcView with Pictometry aerial views for GPS well location verification which assists in achieving spacing requirements of District Rules and the Texas Department of Licensing and Regulation Rules. It is also linked to the electronically scanned well packets and e-logs for immediate view.

The Well Management Database includes input tables for Well Location, Monitor Wells, Inspections, Geology, Owners Information, Production Tests, Construction, Drillers, Geophysical, Permits, and Water Quality. The appropriate information is populated for each groundwater well.

Staff time in Objective A.1 applies to this activity.

- A.3 Objective: Provide public education opportunities.
Performance Standard: Disseminate educational information regarding the hydro-geologic cycle and status of aquifers through posting on the District internet website, and as needed responses to public inquiries. The Board will also provide to schools in the District educational programs such as the “Major Rivers” program, developed by the TWDB.
Tracking Method: The Annual Report to the Board of Directors of the District will reflect educational achievements through the number of hits on the District’s website, the number of responses to public inquiries annually, and a listing of the schools that accepted educational programs.

ACTIVITY AND ACCOMPLISHMENTS:

Public Inquiries

The District received approximately 14 public inquires related to water quality, quantity and other public education opportunities within the District.

Educational Programs

The “Major Rivers” program developed by TWDB was distributed to each elementary school in Rusk County courtesy of the District.

District Website

The District website recorded 8,513 actions averaging 709 actions per month. These actions were made by over 4,474 visitors to our website.

The District website is updated with educational data monthly.

The District’s Website includes the following pages:

Aquifer Monitoring Data, Board, Board Activities, Board in Action, Board Calendar, Contacts, FAQ, Groundwater Geology, GMA 11, Documents, Home, 2015 Legislative Updates, Links, Listing of Rusk County Water Utilities, Precipitation Data, Water Conservation Tips.

The District’s Website includes the following documents and other:

District Rules, Drought Contingency Plan, District Annual Report, Enabling Legislation, Mission Statement, Water Code Ch. 36, Management Plan-2010, Management Plan-2015.

The District’s Website includes applications and forms: Existing Well Registrations or Transfer, Application to Drill and Produce Water, Applications for Operating Permit Renewal or Amendment, Transfer of Water Wells for Oil and Gas Operations, Groundwater Production Report Forms for non-exempt wells and metered wells, Fee Schedule.

The District’s Website provides links to: TWDB, TCEQ, Texas Groundwater Protection Committee, TDLR, RRC, ETRWPG, NGWA, Palmer Drought Index, TWDB Kids Web Page, Regional Labs, Rusk County Weather, Texas U.S. Drought Monitor Map, NOAA

Drought Severity Index, NOAA Precipitation Map, Texas Water Smart Site, Texas Rainwater Catchment Association, Texas Living Waters Project, Rainwater Harvesting, EPA Water Sense, Texas Well Owners Network, Water IQ.

- A.4 Objective: Plug or cover all large diameter water wells in the District that are not being used. These wells provide a conduit for contamination of the groundwater and create a safety hazard.
Performance Standard: As these large diameter (hand dug) wells are registered, the District will recommend to the well owner to have the well plugged. If not plugged, the owner will be required to cover the well with a child proof cover. In joint cooperation with the Rusk County Commissioners, the County will fill the well at no cost to the well owner if the well is accessible to equipment needed. Once plugged the landowner will report the well as being plugged and the District will record this information on their database.
Tracking Method: The Annual Report to the Board of Directors of the District will reflect the number of these wells registered and the number plugged.

ACTIVITY AND ACCOMPLISHMENTS:

Large Diameter Wells Registered

Total Registrations for year: 9

Total Registrations overall: 375

Large Diameter Wells Plugged

Total plugged for year: 1

Total plugged overall: 1

Total Wells Plugged: 669

- B.1 Objective: Public Education (minimize waste)
Performance Standard: The District will provide educational leadership to the citizens of the District concerning this subject through at least one printed publication per year, public speaking at least once per year at service organizations or public schools, and provide “Major Rivers” program from TWDB at no charge to all schools in the District.
Tracking Method: Each Year the number of publications, speaking appearances, and a listing of the schools that accepted educational programs will be presented in the Annual Report submitted to the Board of Directors of the District

Publications

From September 1, 2014 through August 31, 2015 (21) articles were written in local newspapers concerning water issues of Rusk County. The District was covered in (8) of these articles. The articles are kept in scrap books located at the District office.

Presentations

A presentation on groundwater and objectives of the District was given to community members of the city of Reklaw and the Fairview Community.

The District hosted a Water Well Inspections and Rules training presented by the Texas Department of Licensing and Regulation for the surrounding Groundwater Conservation Districts.

The District was unable to present a scheduled presentation to Wylie Elementary due to the severe Memorial Day storm.

The District was unable to present a scheduled presentation in conjunction with the surrounding Groundwater Conservation Districts on the joint planning DFC process to the Cass County Commissioners Court due to the 84th legislative session.

Presentations were approximately 2.0 hours of staff time.

Educational Programs

The “Major Rivers” program, a Texas Approved Curriculum Course developed by TWDB was distributed to each elementary school in Rusk County courtesy of the District.

Other Education

The District maintains a native, drought tolerant landscape around the District office to serve as an example to the public of plants that can be utilized in their own lawns and gardens to help reduce groundwater pumpage. It is also the District’s own way of contributing to conserving our local groundwater. The plants include Indian Hawthorn, Tree Holly, Yaupon Holly, Texas Sage, Texas Lantana, and the Knockout Rose.

The District maintains the Water Education Center. No group presentations were given in the Water Center but individual one-on-one walk troughs were made available to interested public.

To maintain the gardens takes approximately 2.0 hours of staff time a week.

To maintain the Water Education Center takes approximately 2.0 hours of staff time a week.

B.2 Objective: Identify wasteful practices

Performance Standard:

- a) Disseminate wasteful practices to the public via the District’s website.
- b) Track Water Quality Issues.
- d) Track and publicize water loss for all water utilities within the District to minimize waste.
- e) Continue to enforce District Rule 9.2.5 requiring inspection and/or plugging of inactive oil/gas support water wells.

Tracking Method:

- a) Report to the Board water conservation suggestions posted to the District's web page in the Annual Report.
- b) Report the results of water quality checks completed by the District and TWDB annually to the residents of Rusk County and in the District's Annual Report.
- c) Publicize the leak rates for Rusk County utility District's annually through the District's web page and the Annual Report.

ACTIVITY AND ACCOMPLISHMENTS:

Water Quality

The TWDB did not conduct water quality checks.

The District did not conduct water quality sampling, but, through Rule 9.2.5 continued efforts to eliminate comingling of aquifers zones of different quality.

The USGS conducted a water quality study at four privately owned well sites in Rusk County on the effects of oil and gas development on groundwater quality. The water quality results have not been made available at this time.

Water Loss of Rusk County Utilities

In 2013 the District staff worked with Rusk County Utility District's to obtain leak rates and pumpage from groundwater and surface water for Rusk County. Twenty-four utility districts provided the requested data with the rest provided by the TWDB. The data collected was compiled yielding the average percent of water loss for the county of 16%. After compilation, letters were sent to each of the utility districts with the average water loss and their water loss for the previous year. This action resulted in a reduction of water loss in the county from the previous year of 19%.

Water Conservation Suggestions on District Webpage

- Take a five minute shower instead of a 10 minute shower. Save 25 gallons
- Adjust Sprinklers so only your lawn is watered and not the house, sidewalk, or street.
- Use broom instead of hose to clean the sidewalk and driveway. Save 25 gallons
- Wait for a full load of clothes before running washing machine. Save 50 gallons
- Water in the morning and evening when temperatures are cooler to minimize evaporation.
- Use soaker hoses to water the shrubs. Save 100 gallons per day
- Turn off the water while brushing your teeth. Save 6 gallons
- Fix leaking toilets. Save 50 gallons per day
- Use bucket and sponge instead of running hose to wash car. Save 100 gallons
- Clean vegetables with brush and stoppered sink. Save 5 gallons
- Install a rain sensor on your irrigation system so it won't run when it's raining.
- Put garbage in trash can instead of garbage disposal. Save 5 gallons
- Put mulch around trees and shrubs. Save 150 gallons per day
- Put plastic water filled bottle in toilet tank. Save 1 gallon per flush
- Keep pitcher of drinking water in refrigerator instead of running water until it is cold. Save 5 gallons

- Wait until dishwasher is full to turn it on. Save 15 gallons
- Collect rain water to water houseplants. Save 1 gallon
- Install a low flow showerhead. Save 20 gallons per shower
- Rain water harvesting: Did you know that in East Texas your roof can provide 4,000-7,000 gallons of water per month!

C.1 Objective: Coordinate conjunctive surface water issues with the East Texas Regional Water Planning Group and the North East Texas Regional Water Planning Group.

Performance Standard: The District will participate in the regional planning process by attending at least 50% of the East Texas and North East Texas Regional Water Planning Group meetings each year.

Tracking Method:

A report will be made by the board's representative at each board meeting of the Rusk County Groundwater Conservation District, updating the Board on conjunctive surface water issues being discussed by the ETRWPG and the NETRWPG.

ACTIVITY AND ACCOMPLISHMENTS:

Board Member Worth Whitehead is First Vice Chairman of Region I ETRWPG and represents Region I at the Region D NETRWPG meetings. Reports are given to the District Board of ETRWPG status and activities each board meeting.

General Manager, Amanda Maloukis is the liaison for Groundwater Management Area 11 at the NETRWPG meetings. Reports are given to the District Board of NETRWPG status and activities each board meeting.

D.1 Objective: The District will implement its Drought Contingency Plan, adopted in 2005, if conditions meet the criteria listed in the plan. If necessary, the District will update its Drought Contingency Plan when changes are deemed necessary.

Performance Standard: The District will monitor the precipitation monthly at several locations within the District. This data along with the monthly data from the District's monitor wells will be used to initiate the District's Drought Contingency Plan for the Rusk County Groundwater Conservation District. The data collected will be posted on the District's web page and updated monthly. The District will consider the economic effects of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydro geologic conditions of the aquifer and the appropriate conditions under which to implement the contingency plan.

Tracking Method:

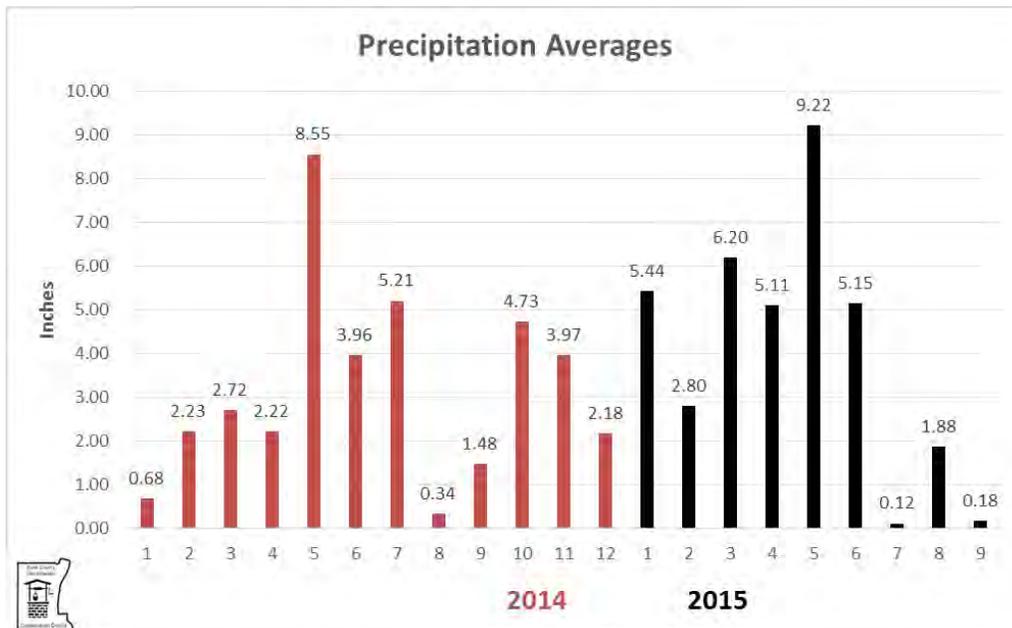
a) If conditions warrant the implementation of the District's Drought Contingency Plan, the District Manager will address the situation with the Board of Directors so they may take appropriate action.

b) The Annual Report to the Board of Directors of the District will reflect any implementations of the Drought Contingency Plan in that year. The report will include an appraisal of the plans effectiveness and suggestions for revisions to the plan.

ACTIVITY AND ACCOMPLISHMENTS:

Although Rusk County entered into abnormally dry conditions in 2014, criteria to implement the Drought Contingency Plan (DCP) was not met. Increased precipitation during spring of 2015 reduced the possibility of implementation. The last implementation of the DCP was in October 2011 and was lifted in December two months later.

Information on precipitation is gathered in the county at 8 locations and posted on the District web site along with cumulative precipitation history. The aquifer level average increased in Mean Sea Level altitude to 261.7 feet from fiscal year 2013/2014 of 260.3 feet. The average difference in aquifer fluctuations increased by 1.4 feet where the year before the aquifer decreased by -0.2’.



- E.1 Objective: Public education on groundwater conservation.
Performance Standard: The District will address conservation issues of importance to Rusk County residents on the District internet website.
Tracking Method: Copies of the postings on the District website regarding groundwater conservation will be included in the Annual Report to the Board of Directors.

ACTIVITY AND ACCOMPLISHMENTS:

See Objectives A.3 and B.1

The following subjects are posted on the District web page.

“Can we harvest rainwater?”

“Where does our water come from and where is it used?”

“Why do water wells not in use and abandoned need to be plugged?”

“What is an Aquifer and what aquifers are located under Rusk County?”

“What is meant by a water cycle?”

“20 ways to conserve water”

“TWDB Kids web site link”

E.1 Objective: The Desired Future Conditions of the groundwater resources in Rusk County shall be “Near Sustainability,” which is a reasonable and attainable goal for the residents of Rusk and the surrounding counties. Near Sustainability is defined as allowing up to an average drawdown of the aquifer between 2010 and 2060 not to exceed an average of all aquifers of 17 feet and applies throughout GMA 11. This objective is based on the Texas Water Development Board’s (TWDB) Groundwater Availability Models (GAM’s) and the Desired Future Conditions as adopted by GMA-11. The District reserves the right to adjust its Desired Future Conditions of groundwater based on new data, as it is available and addressed by GMA 11. The District’s groundwater pumping associated with the adopted Desired Future Conditions are as follows:

County	Queen City	Carrizo-Wilcox
Rusk	58 ac-ft/yr	20,814 ac-ft/yr

By allowing up to an average drawdown of up to 12 feet, the aquifer will sustain groundwater withdrawal of up to 20,872 af/yr.

Performance Standard: The RCGCD has increased the number of sites in the aquifer-monitoring program from 15 sites within the county to approximately 115 sites. Aquifer levels will be monitored at least quarterly for all additional sites. Aquifer levels will be evaluated against recorded precipitation within the county. If the average drawdown of the aquifer in Rusk County exceeds 10 feet for more than two consecutive quarters the District will implement the Drought Contingency Plan (DCP). The DCP will be lifted after the average aquifer level drawdown is less than 10 feet for two consecutive quarters. If the average drawdown of the aquifer in Rusk County exceeds 12 feet for more than two consecutive quarters, issuance of non exempt permits may be halted until the average aquifer drawdown is less than 10 feet for two consecutive quarters.

Tracking Method:

- a) Maintain aquifer monitoring database for monitor wells checked both monthly and quarterly.
- b) Publish the monitor well data on the District’s web site.
- c) Report condition of the aquifer levels in the annual report to the Board of Directors.

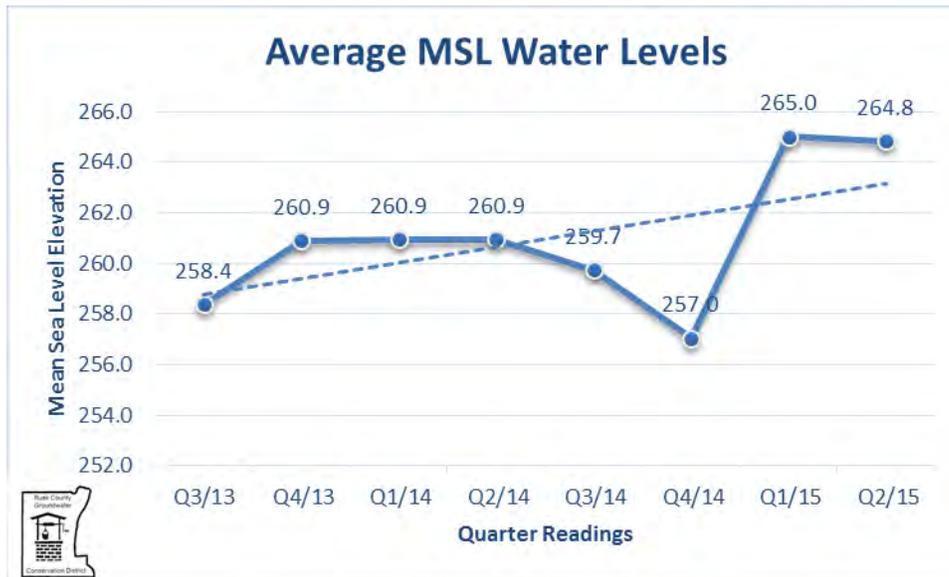
d) Report condition of the aquifer levels to the Groundwater Management Area 11 group at each meeting.

ACTIVITY AND ACCOMPLISHMENTS:

Aquifer Monitoring

The District takes static water level readings at 16 monitor wells monthly and 100 monitor wells quarterly. This data is posted to the District’s website and is maintained in the District’s database. Also, graphing and mapping of the aquifer levels is updated monthly and quarterly on the District’s website.

In addition to the monitor wells, real-time data on aquifer levels is collected and monitored at four “Real-Time” stations. Data from these monitor wells is uploaded daily via satellite to the Texas Water Development Board site and is linked to the District website. The District’s quarterly average aquifer levels in Mean Sea Level are recorded in the following graph:



E.1 Objective: Map the water sands under Rusk County by utilizing the District’s “Down Hole” camera, E-Log equipment, and Trimble survey grade GPS.
Performance Standard: The District will gather data on each well inspected in accordance with District Rule 9.2.5. This data will be utilized by our geology consultants to map the elevation and location of the water sands by aquifer. This project, started in early 2010, will take several years to collect the needed data. Initial results are hoped to be available by the end of 2012.

Tracking Method:

- a) The number of wells inspected under District Rule 9.2.5 will be reported to the Board of Directors monthly.
- b) Progress on the mapping project by the District’s geology consultants will be presented to the board monthly.

- c) Once enough data is collected to create a map of the water sands (2013), the mapping will be posted on the District’s website and shared with TWDB.

ACTIVITY AND ACCOMPLISHMENTS:

The District has inspected 494 and e-logged 320 water wells in Rusk County. These inspections along with the 200 logs obtained by Hydrex Environmental, Inc. provide the geology of the subsurface and accurate elevation in Mean Sea Level (MSL). In addition, Hydrex is providing interpretation of the logs identifying the various water sands, lithology, and elevations on a monthly basis. Hydrex continues to add well data as it is available, expanding our data with that gathered by other sources.

Water sands maps and graphs calculating the estimated volume of water each aquifer boundary has the potential of holding were developed in 2013 and available to the public on the District’s website.

Aquifer Zone	Volume (cubic meters)	% Major Sand	Volume Major Sand (cubic meters)	Porosity	Volume of Water Capacity (cubic meters)	Volume of Water Capacity (acre feet)
Upper Wilcox	563,664,689,595	0.20	112,732,937,919	0.30	33,819,881,376	27,418,222
Lower Wilcox	229,800,692,583	0.03	6,894,020,777	0.25	1,723,505,194	1,397,268