



PANOLA COUNTY
groundwater conservation district

2015 ANNUAL REPORT

Balancing Usage and Rights



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Creation

In 2007, the 80th Legislature, through the approval of House Bill 1498, authorized the creation of the Panola County Groundwater Conservation District, or the District. The voters of Panola County then confirmed the creation of the District on November 6, 2007 by 87%, along with a tax to fund the District with an 83% approval rate.



The purpose of the District is to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater, and the groundwater reservoirs or their subdivisions, consistent with the objectives of Section 59, Article XVI, Texas Constitution, Chapter 36 of the Texas Water Code, and the District's enabling act. The District was created to serve a public use and benefit in preserving the groundwater resources of the area.

Mission

Since its creation, the Panola County Groundwater Conservation District has worked hard to develop rules to provide protection to existing water wells, prevent waste, promote conservation, and to preserve and protect the groundwater resources of Panola County.

The District is committed to managing and protecting the groundwater resources within its jurisdiction, and to work with other stakeholders to ensure a sustainable, high quality, and cost effective supply of water for future generations.

The District will strive to develop, promote, and implement water conservation and management strategies to protect the water resources for the benefit of the citizens, the economy, and the environment within the District.

Authority

The District is a political subdivision of the State of Texas organized and existing under Section 59, Article XVI, Texas Constitution, the Texas Water Code Chapter 36, Title 31 of the Texas Administrative Code (TAC) Chapter 256, and the District's enabling act. The District is a governmental agency and a body politic and corporate of the State of Texas. The District exercises the authority it has been granted to preserve and protect the groundwater resources of Panola County through the adoption and implementation of rules for the District.

strict Information Cont.

Location and Extent

The boundaries of the District are the same as Panola County. The area encompasses 821 square miles (approximately 525,438 acres). The District is bounded by Harrison County to the north, Rusk County to the west, Shelby County to the south, and the State of Louisiana to the east.



District Office

Physical/Mailing Address:

419 West Sabine, Carthage, TX 75633

Phone: 903-690-0143

Fax: 903-690-0135

Email: district@pcgcd.org

ff and Directors

Directors

The Board of Directors consists of nine (9) members who are elected by the voters of Panola County. The District utilizes the same four (4) precinct boundaries which are used for the Panola County Commissioners when filling eight (8) of the District’s director positions. One director position for the District is elected at-large from Panola County. Elections are held in November of each even numbered year. The directors of the District each are elected to a four (4) year term, and a director may serve consecutive terms.

Larry Dorman, President	Precinct Two
James Browning, Vice-President	Precinct Two
Danny Reed, Secretary	Precinct One
Jim Payne, Treasurer	Precinct Three
Mike Pennington, Director	Precinct One
Al Clay, Director	Precinct Three
Larry McMillan, Director	Precinct Four
Ray Davis, Director	Precinct Four
Bobby Langford, Director	At-Large

Staff

Leah Adams	General Manager
Teresa Griffin.....	Office Manager
Jess Landreneau	Field Technician I
David Waldrop.....	Field Technician II

Letter from the General Manager

The Panola County Groundwater Conservation District (District) works each year to collect data and technical information to help protect the groundwater resources within the County. In 2015, the District saw changes in legislation, a downturn in water use, and discovered new scientific information about the aquifer.

The year started off by preparing for the 84th legislative session. By the deadline to file bills on March 13, 2015, approximately 6,200 bills and joint resolutions had been filed. The two bills which hit closest to home were SB 1101 and HB 2647. SB 1101 allows regional planning groups (RWPG) without a groundwater conservation district in its boundaries to set its own desired future condition (DFC) of the aquifer. Panola County was directly affected by this bill because the only RWPG that fits this criterion is north of Panola County. However, through working with local legislators, a compromise was reached to lessen the impact to Panola County. HB 2647 was proposed to prevent curtailments of water to power generation by GCDs during periods of drought. Regardless of the concerns of local GCDs, power generation pushed this bill through both the House and the Senate. The bill was eventually vetoed by Governor Gregg Abbott.

With the downturn in oil and gas prices, fracking has slowed down tremendously. By the end of the year, the District only had two active frack ponds. Even though the total number of water wells registered with the District was higher this year than last year, the total number of oil and gas water wells drilled in 2015 was down 10%. The difference was a reduction of approximately 1,014 acre feet or 330,412,914 gallons of water from 2014 to 2015. We are expecting the oil and gas industry to continue the downturn in water usage and water well drilling into 2017.

Through hydrogeological studies and the work performed by INTERA, the District realized that even though the Texas Water Development Board has the District classified as an unconfined aquifer, which means the water table is open to the atmosphere through porous material, the aquifer in reality acts more as a confined aquifer due to intermittent clay and shale layers found throughout the subsurface. The results of this finding will affect the way the District looks at its desired future conditions and aquifer models to determine sustainability of the water supply.

The District will continue to build on the information discovered in 2015 by collecting data and learning more about the aquifer. Gathering scientific knowledge about the aquifer will help the District further refine the rules and policies that will help balance water for the future and protect private property rights, which are two main goals of the District.

Management Plan Goals

The District Management Plan identifies the goals and objectives of the District and provides performance standards and tracking methods to measure the District's effectiveness in meeting these goals. The District goals are mandated by the Texas Water Code Chapter 36 in Section 36.1071. Although all groundwater conservation districts are subject to these goals, each district chooses how to best implement the goals within their district by establishing their own objectives and performance standards. The District goals are as follows:

- A. Providing the most efficient use of groundwater
- B. Controlling and preventing waste of groundwater
- C. Addressing conjunctive surface water management issues
- D. Addressing natural resource issues which impact the use and availability of groundwater, and which are impacted by the use of groundwater
- E. Addressing drought conditions
- F. Addressing conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control, where appropriate and cost-effective

The following is a summary of the District's activities related to these goals.

al A.1.

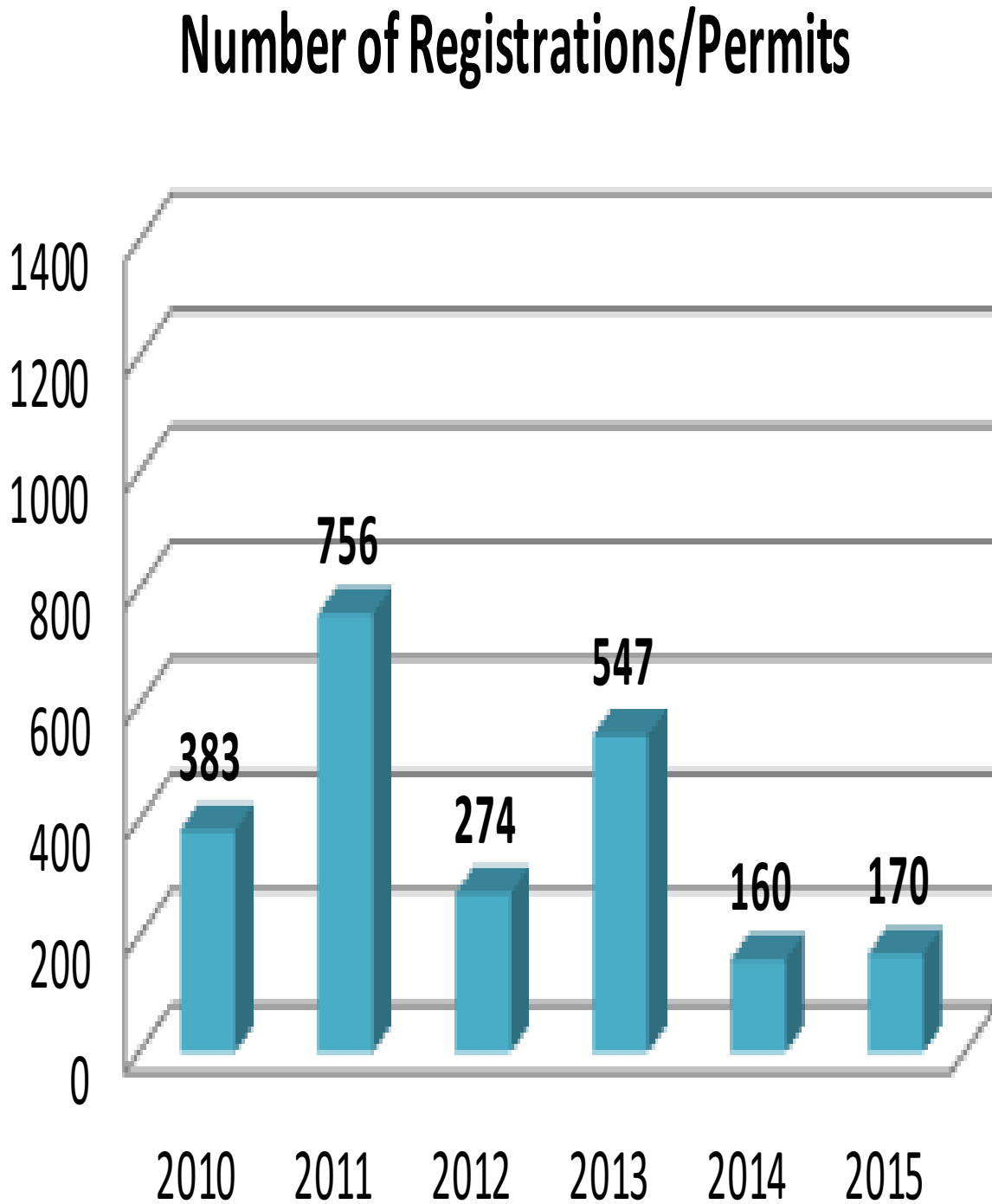
A.1. Objective: The District will require the registration of all wells, exempt and non-exempt, within the District's boundaries each year in accordance with the District Rules.

A.1. Standard: The number of new and existing water wells registered with the District will be provided in the Annual Report for each fiscal year.

Summary of Actions

In 2015, the District reviewed and accepted 170 applications for water wells. The total is 10 more than in 2014 and 377 less than in 2013. **Table 1** shows a graph that compares the total number of applications for each year. Currently, we have a cumulative total of 3,645 water wells plotted in our ARC GIS mapping system. The District launched a water well registration initiative to try to get water wells registered that field technicians found in the field that are not registered or well reports that have been found for water wells not registered. The process is slow, but is building momentum as people learn that the District cannot protect a water well if we do not know that the well exists.

Table 1 - Total Number of Water Well Registrations



al A.2

A.2. Objective: The District will require permits for all non-exempt groundwater use water wells within the District's boundaries pursuant to the District Rules each year.

A.2. Standard: The District will accept and process applications for permits for all non-exempt groundwater use pursuant to the permitting process described in the District Rules each year. The Annual Report for each fiscal year will contain a summary of the number of applications for the permitted use of groundwater and the number and type of permits issued.

Summary of Actions

Of the 170 applications received in 2015 a total of 69 were exempt Oil and Gas applications (20 were plugged), 69 Domestic use applications, 13 exempt Monitor wells, and 19 Non-Exempt applications. The three following pages provide **Tables 2—5** respectively which show the number of and types of water wells. By the end of 2015, the District had permitted 87 grandfathered use wells and 125 operating permits for a total of 2,409,678,590 gallons or 7,395 acre feet. The grandfathered use permits total 852,774,230 gallons or 2,617 acre feet. The remaining 1,556,904,360 gallons or 4,778 acre feet are the operating permits.

Table 2 - Exempt: Oil and Gas Water Wells

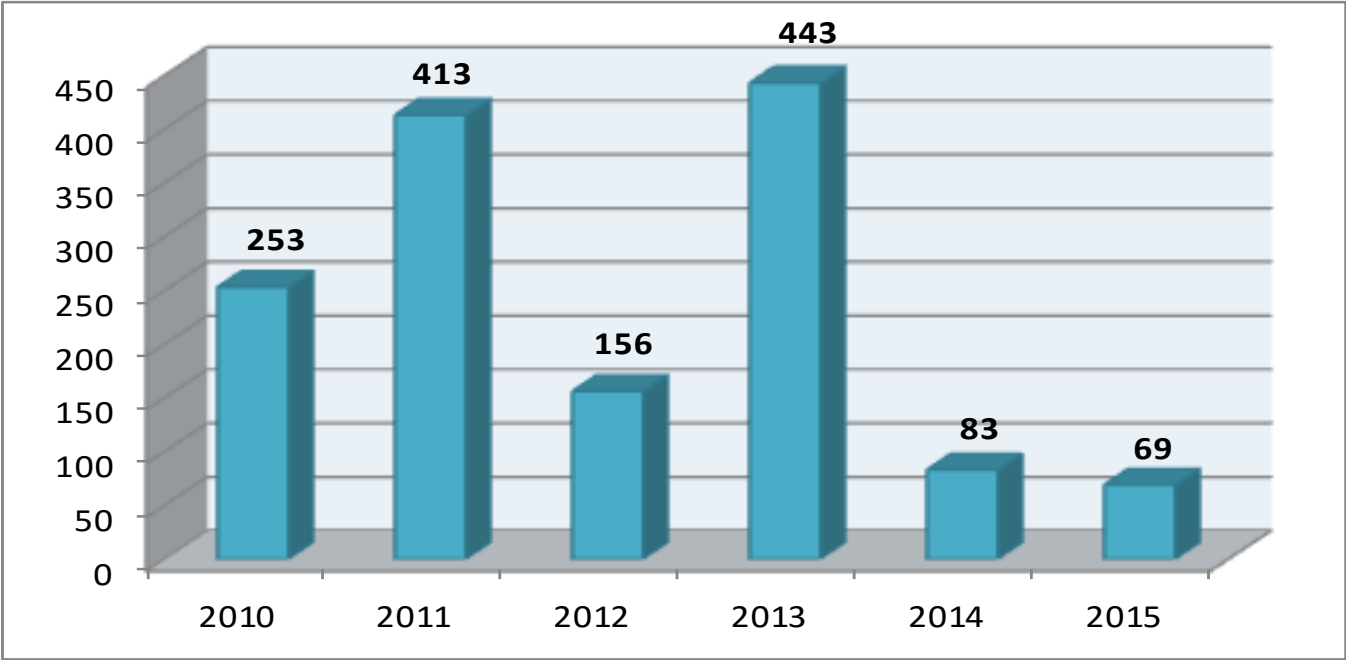


Table 3 - Exempt: Domestic

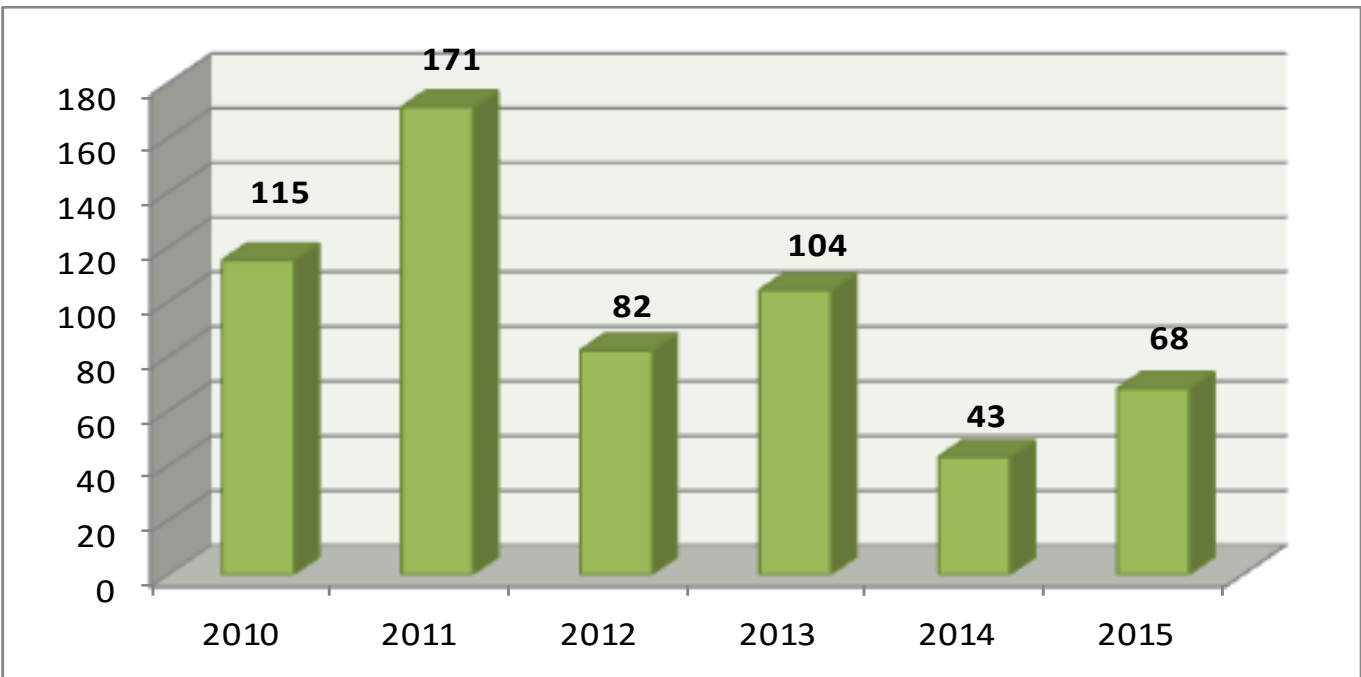


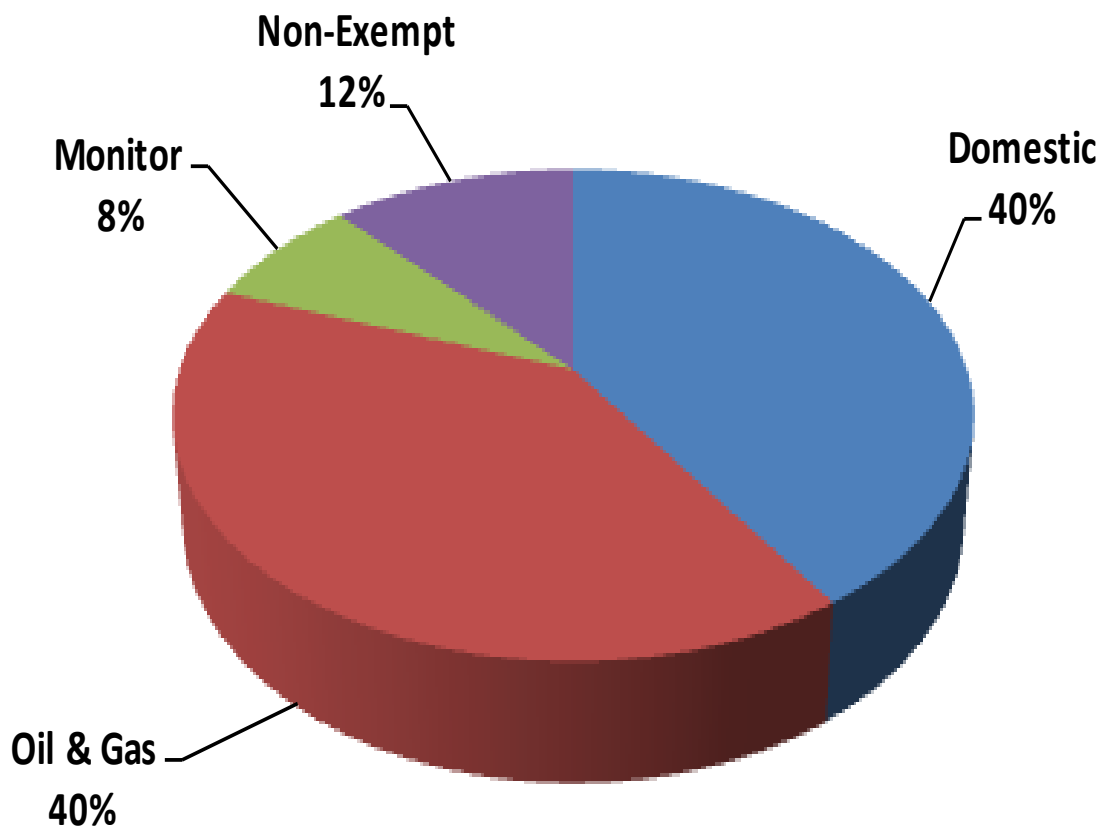
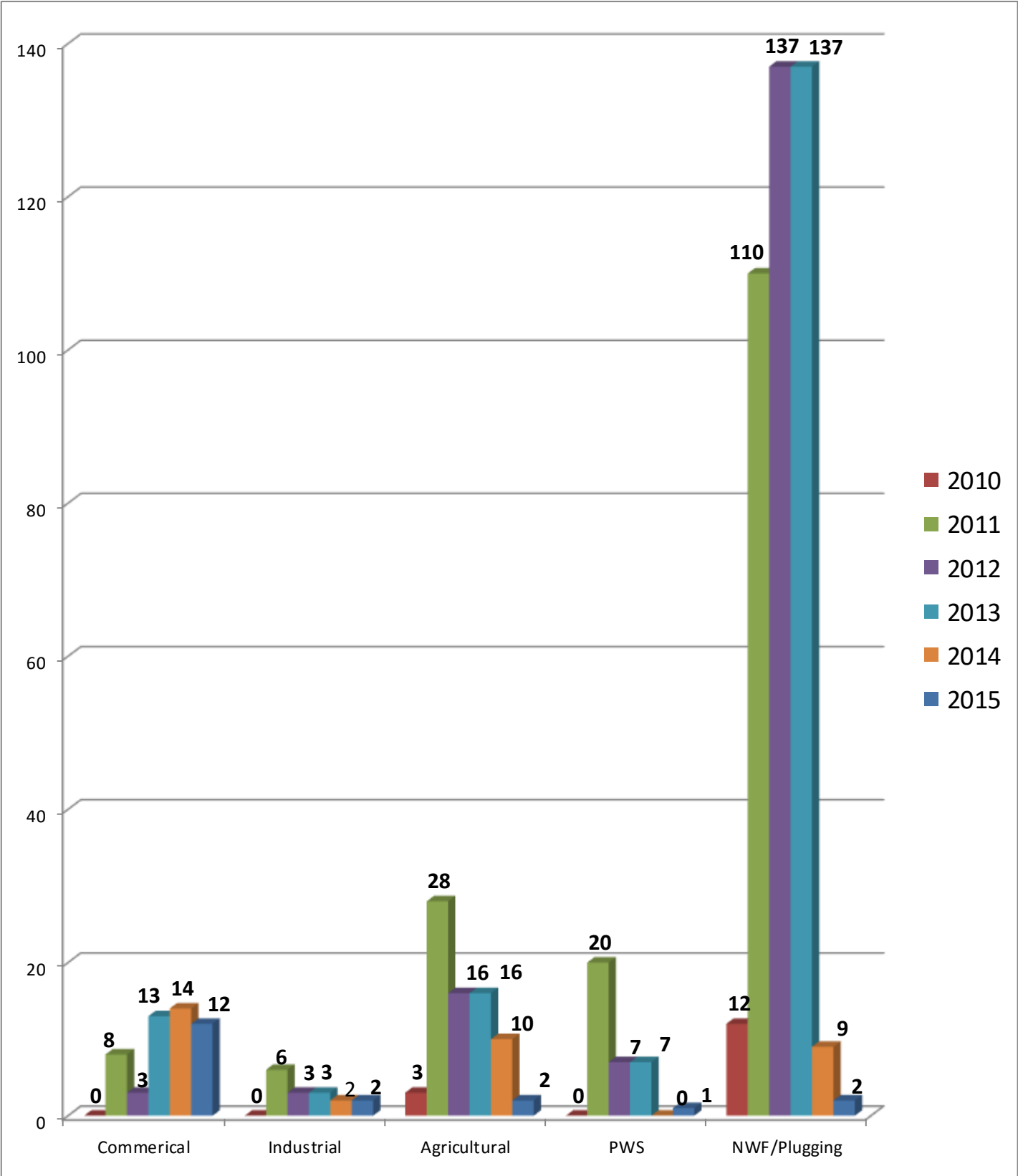
Table 4 - 2015 Other Wells By Type

Table 5: Non - Exempt Water Wells by Type



al A.3.

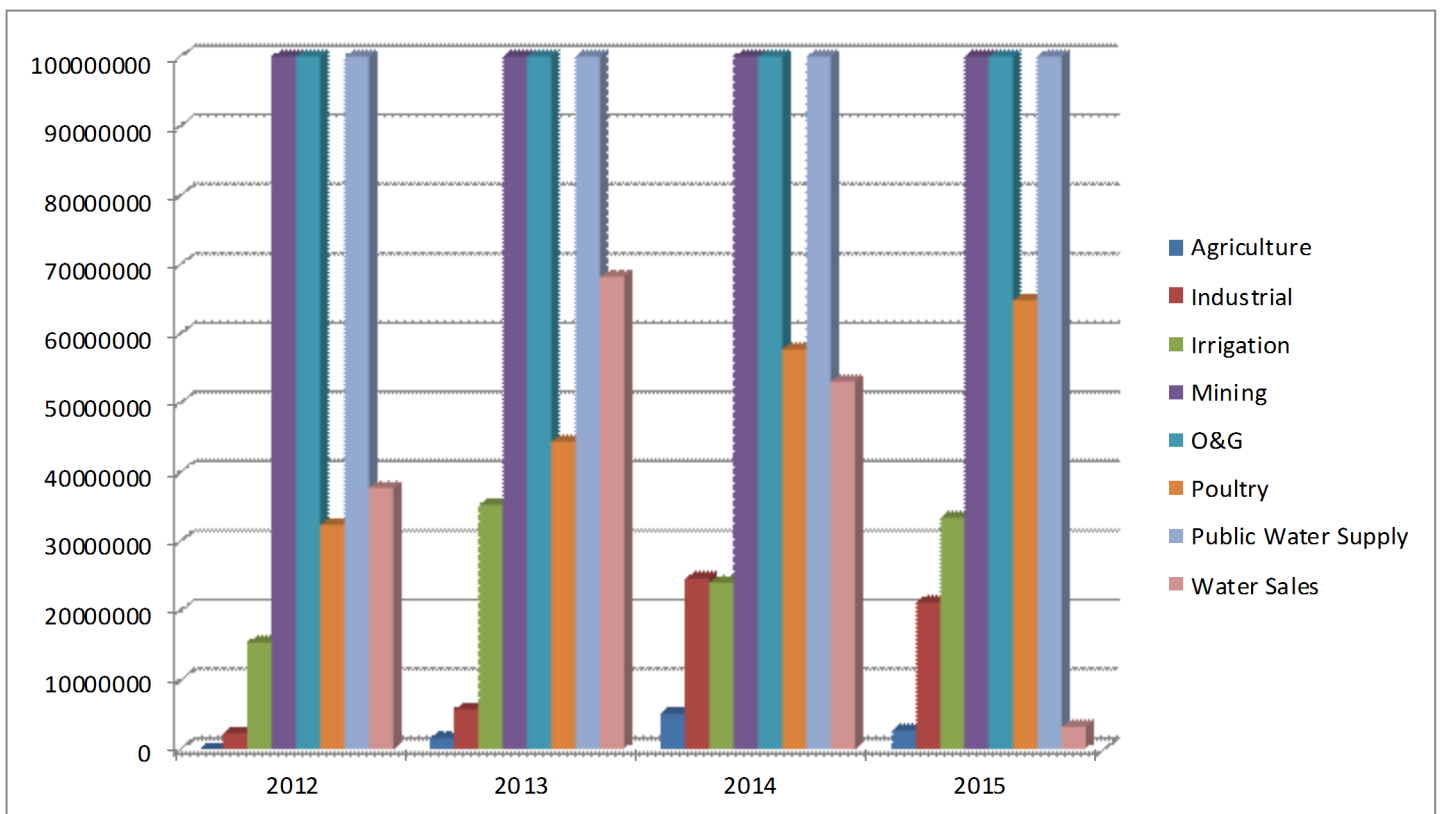
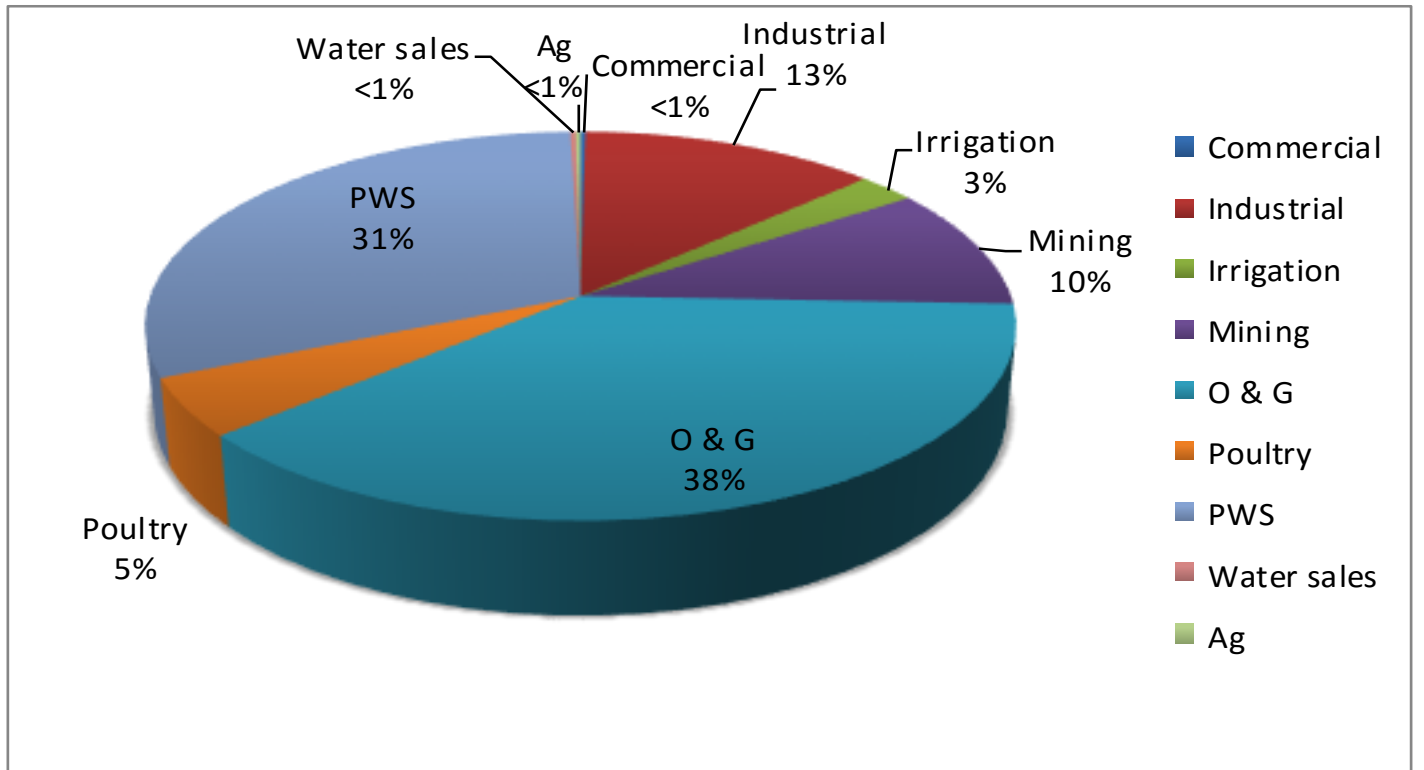
A.3. Objective: The District will regulate the production of groundwater by maintaining a database of groundwater usage through the production volume reports each year according to the District rules.

A.3. Standard: The District will include a summary of the reported volume of groundwater produced in the County each year in the annual report.

Summary of Actions

The District approved by all permit types the use of 2,409,678,590 gallons (7,395 acre feet) of water annually by the people and businesses in Panola County. The total actual reported use was 1,334,799,468 gallons (4,096 feet) for 2015. **Table 6** shows the breakdown of permitted water use by user group along with the totals of production since 2012 by category. Even though oil and gas production and mining are considered Exempt, production is still required to be reported to the District. Mining reported the use of 134,812,200 gallons (414 acre feet) annually and oil and gas reported 505,664,789 gallons (1,552 acre feet) annually. Permitted amounts (minus mining and oil and gas) are 694,332,479 gallons or 2,131 acre feet. (At the time this report was published, the District was still waiting on production from several users that had not reported all of their usage for 2015.)

Table 6: 2015 Reported Production by Well Type



al B.1.

B.1. Objective: The District will provide information on an annual basis to the public on the elimination, reduction, and prevention of waste of groundwater, and information focused on water quality protection each year.

B.1. Standard: The District's Annual Report will include a summary of the District's efforts during the fiscal year to provide educational information to the public on the elimination, reduction, and prevention of waste of groundwater.

Summary of Actions

The District's web site, www.pcgcd.org, contains links to a number of useful web sites pertaining to the elimination, reduction, and prevention of waste of groundwater. **Exhibit 1** on the following page shows a snapshot of the links on our website. In 2015 the District began water well inspection and water well quality programs. By the end of 2015, District employees inspected the plugging by water well drillers of over 20 water wells. The new inspection program will ensure that all water well drillings and plugging's are completed following TDLR and District rules. For water quality, the District offers the collection and transportation of water samples to the nearest lab for analysis. The only cost for this service is the cost of the tests from the lab. By the end of 2015, the District had completed 7 water quality tests. The District also provides remediation efforts for land owners with water quality concerns (**Exhibit 2**). We facilitated water testing for water wells with evident natural gas to determine if it was harmful. We answered complaints of water wells that were not properly plugged or were just covered over. We require water wells be completed properly or plugged and when we can't do anything to help, we report it to other State agencies that can help, like the Rail Road Commission (RRC).

Exhibit 1 : Links to Educational Material



PANOLA COUNTY
groundwater conservation district

HOME

ABOUT US

OUR WATER

FAQ'S

LINKS

CONTACT

Links

Texas Groundwater Protection Committee <http://www.tgpc.state.tx.us/index.php>

Fun For Kids www.twdb.texas.gov/kids

Texas Water Development Board www.twdb.state.tx.us

Know Your Water, Water IQ www.wateriq.org

Environment and Natural Resources portal www.texasonline.com/portal/tol/en/nat/home

Railroad Commission of Texas www.rrc.state.tx.us/pressreleases/index.php

Palmer Drought Indices www.ncdc.noaa.gov/oa/climate/research/prelim/drought/palmer.html

Homeland Security www.dhs.gov

Texas OneCall www.call811.com

Texas Department of Licensing and Regulation for Water Well and Pump Installers www.license.state.tx.us/wwwd/wwwd.htm

Licensed Water Well and Pump Installer Search www.license.state.tx.us/LicenseSearch/

TWDB Submitted Drillers Reports www.wiid.twdb.texas.gov

USGS Groundwater and Drought <http://water.usgs.gov/ogw/drought/>

El Nino Weather Effects <http://www.elnino.noaa.gov/>

Exhibit 2 - Preventing Waste and Studying Water Quality



(Left top) Water well venting natural gas.

(Right top) Plugging of a covered water well.

(Left bottom) Improperly constructed water well.

(Right bottom) Surface contamination reported to RRC.



al B.2.

B.2. Objective: The District will make an annual evaluation of its Rules to determine whether any amendments are necessary to facilitate the prevention of waste of the groundwater within the District boundaries.

B.2. Standard: The District's Annual Report will include a summary of the evaluation of the District Rules and will provide a recommendation as to whether any amendments to the Rules are needed to facilitate the prevention of waste.

Summary of Actions

From September through November of 2015, the Board reviewed and discussed the District Rules for any necessary changes. The Board identified several areas in the rules that need revision which include (but are not limited to) applying deposits to applications for plugging water wells, updating the fee schedule, notifying landowners for public hearings by newspaper, and updates from legislative changes. A copy of the agenda and the minutes showing the rule review can be found in **Appendix A**. The District expects the change of additional rules in 2016 once review of permitting water wells used for fracking and exempting domestic water wells from spacing has been completed.

al C.1.

C.1. Objective: The District will participate in the regional planning process by sending a representative to attend at least one meeting of the East Texas Regional Water Planning Group (Region I) each fiscal year.

C.1. Standard: The attendance at any Region I meeting by a representative of the District will be included in the District's Annual Report and will indicate the dates of attendance.

Summary of Actions

The District participates in the regional planning process by attending Region I Planning Group (RWPG) meetings. The attendance of District staff at these meetings provides valuable input to the Planning Group relative to groundwater's role in overall regional planning and helps to coordinate information between the Regional Planning Group and GMA-11. Of the three meetings, all three were attended by a representative of the District. **Appendix B** shows the attendance of a representative at the January 28, 2015; March 11, 2015; April 8, 2015. and September 30, 2015 meetings. A representative attended the November 5, 2015 meeting, but the signed minutes will not be available until May 2016.

al D.1.

D.1. Objective: The District will monitor water levels within District boundaries on an annual basis by measuring the water level of at least 5 water wells.

D.1. Standard: The District's Annual Report will include a description of the number of water levels measured and the monitoring results of the measured water levels for each year.

Summary of Actions

The District continues to check 26 water wells for water levels. Twelve (12) of the water wells are annual State wells for TWDB and the remaining fourteen (14) are checked monthly for the District (**Exhibit 3**). Based on the 2015 measurements, we saw a net rise of 2.75 feet in water levels over the course of the year. Since starting the program mid-year in 2011, we have seen a net change in water levels as follows: 2012 = 1.25 feet, 2013 = 0.02



feet, and 2014 = 0.65 feet (**Table 7 and 8**). The District also had on average 85 water wells used specifically to monitor changes due to hydraulic fracturing (**Exhibit 4 and Exhibit 5**). The frac pond monitor water wells help us learn about the drawdown and recovery of the aquifer. The District also purchased a data logger that measures pressure, temperature, and specific conductivity.

hibit 3 - Map of Monthly Monitor Wells

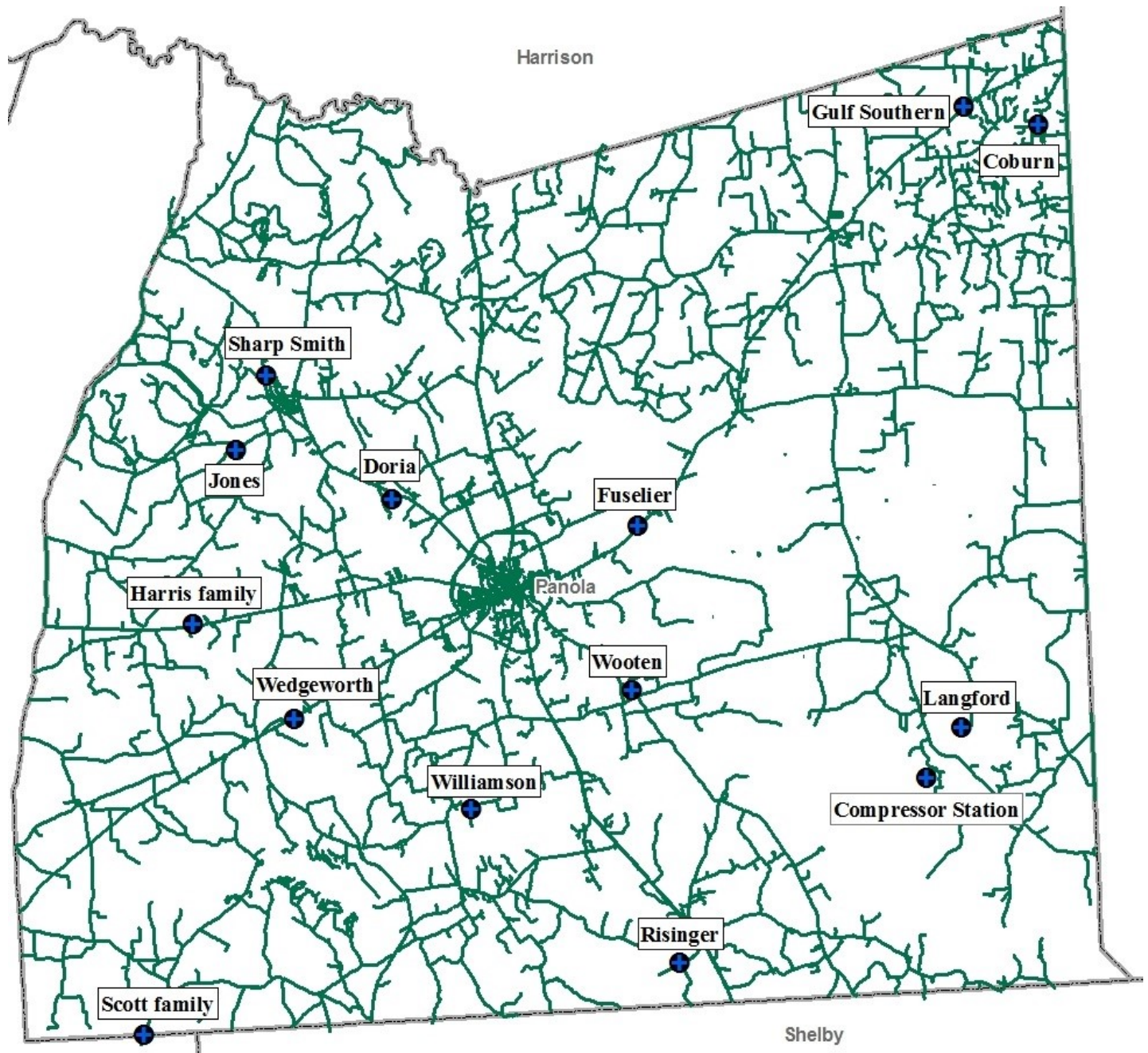


Table 7 and 8 - Monitor Well Water Level Data

PCGCD Well ID	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
3548207	38.1	37.7	37.1	36.6	36.2	36.3	37.3	41.9	43.8	44.2	42.9	41.8
3553658	72.3	70.5	69.6	68.6	68.0	70.5	71.1	70.3	68.4	68.0	67.4	66.7
3554612	16.0	15.0	14.6	13.9	13.9	13.4	13.8	14.7	15.4	16.0	16.1	15.8
3552906	37.1	36.0	35.4	36.0	35.8	35.0	34.9	34.6	34.6	34.5	33.9	34.1
3553105	27.7	26.5	25.6	23.3	23.1	21.3	22.1	23.9	24.9	25.9	26.1	24.7
3564115	27.1	26.3	25.5	24.6	24.1	23.4	23.3	25.2	26.7	29.0	27.7	25.9
3706304	21.4	20.6	20.0	18.5	19.1	17.7	19.0	20.4	21.0	21.5	21.3	20.7
3561208	7.1	7.3	5.0	5.3	4.2	3.0	6.3	10.1	11.2	12.1	11.7	6.5
3562402	71.6	71.9	71.4	71.5	70.8	71.0	70.7	71.2	72.0	72.4	71.9	71.0
3562337	59.8	58.6	57.5	57.2	56.9	56.0	56.0	57.9	58.0	58.4	57.2	55.9
3563614	40.4	40.2	40.1	39.4	38.9	38.2	38.0	38.3	38.8	39.3	39.1	38.9
Gulf Southern	29.7	28.2	27.3	26.1	25.5	25.0	25.5	27.6	29.5	31.0	31.0	30.0
3545721	60.7	60.5	59.6	59.4	58.8	58.4	57.9	58.4	59.3	63.0	58.6	58.2
Scott family	68.9	67.8	67.3	66.2	66.0	65.4	65.8	67.3	68.9	70.0	69.8	68.3

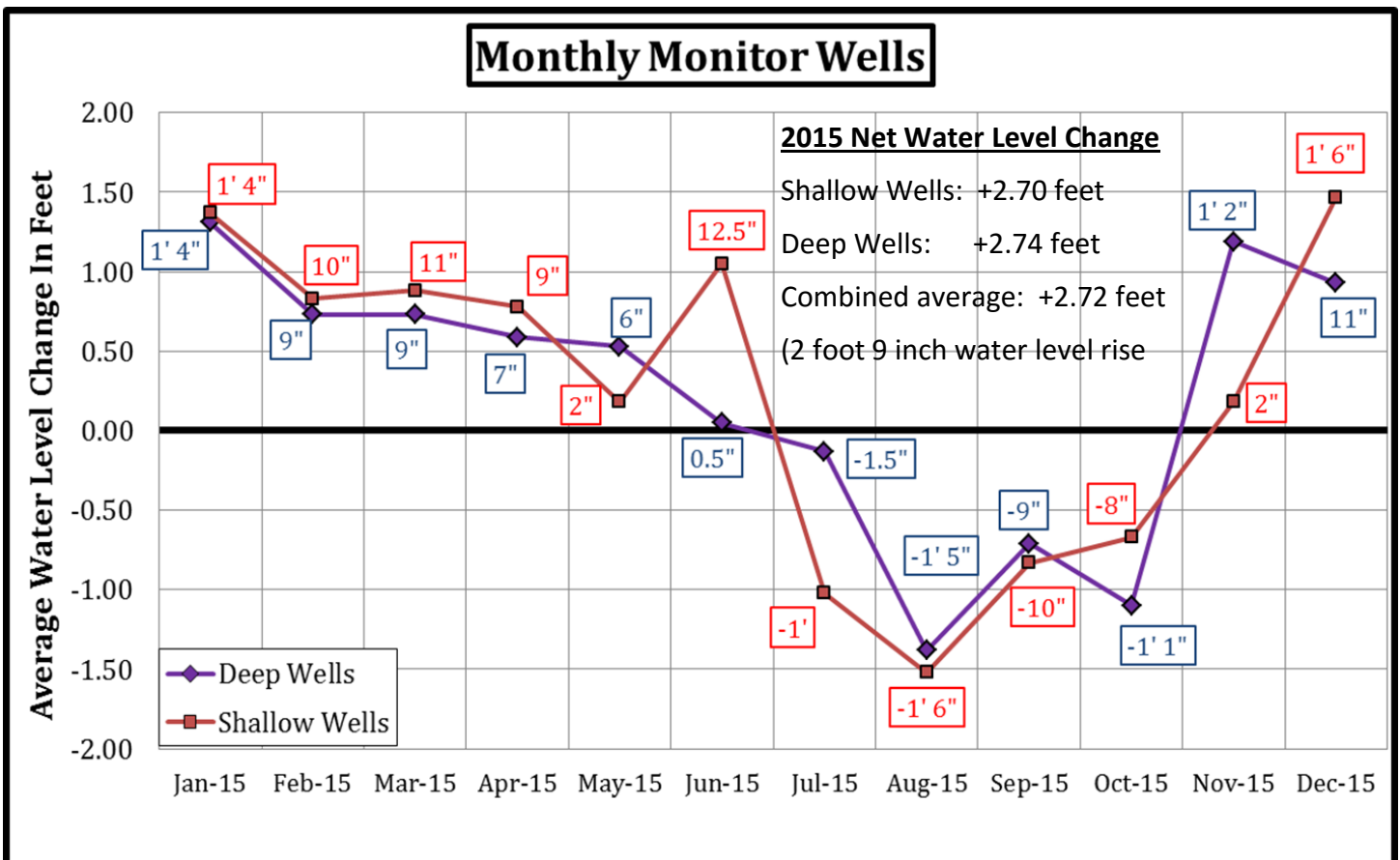


Exhibit 4 - Hydraulic Fracturing Pond Summary and Example Data

In 2015, the District monitored 27 frac pond areas, with 9 of those areas showing full water level recovery in the same year. Another 11 areas had partial recovery in 2015, and 7 frac pond areas did not show full water level recovery due to prolonged pumping. An average of 85 water wells were checked monthly to monitor the effects of concentrated pumping fields that were used for hydraulic fracturing.

The largest drawdown seen in 2015 was about 59 feet, which was measured in a well 420 feet from the nearest pumping well. The pumping field in this scenario (graphed below) consisted of 12 wells, and 55,069,000 gallons were reported as produced in 2015 by those wells.

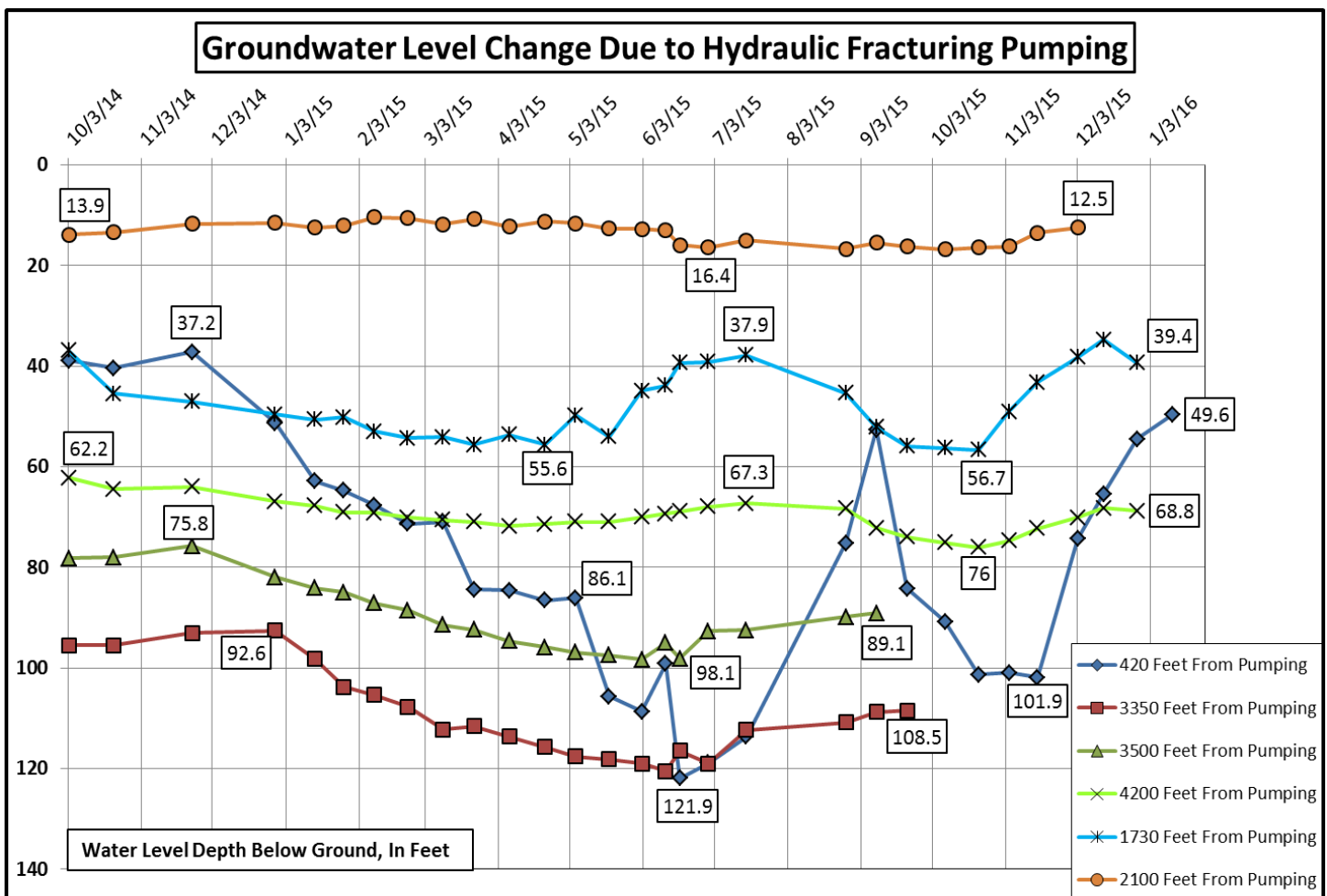
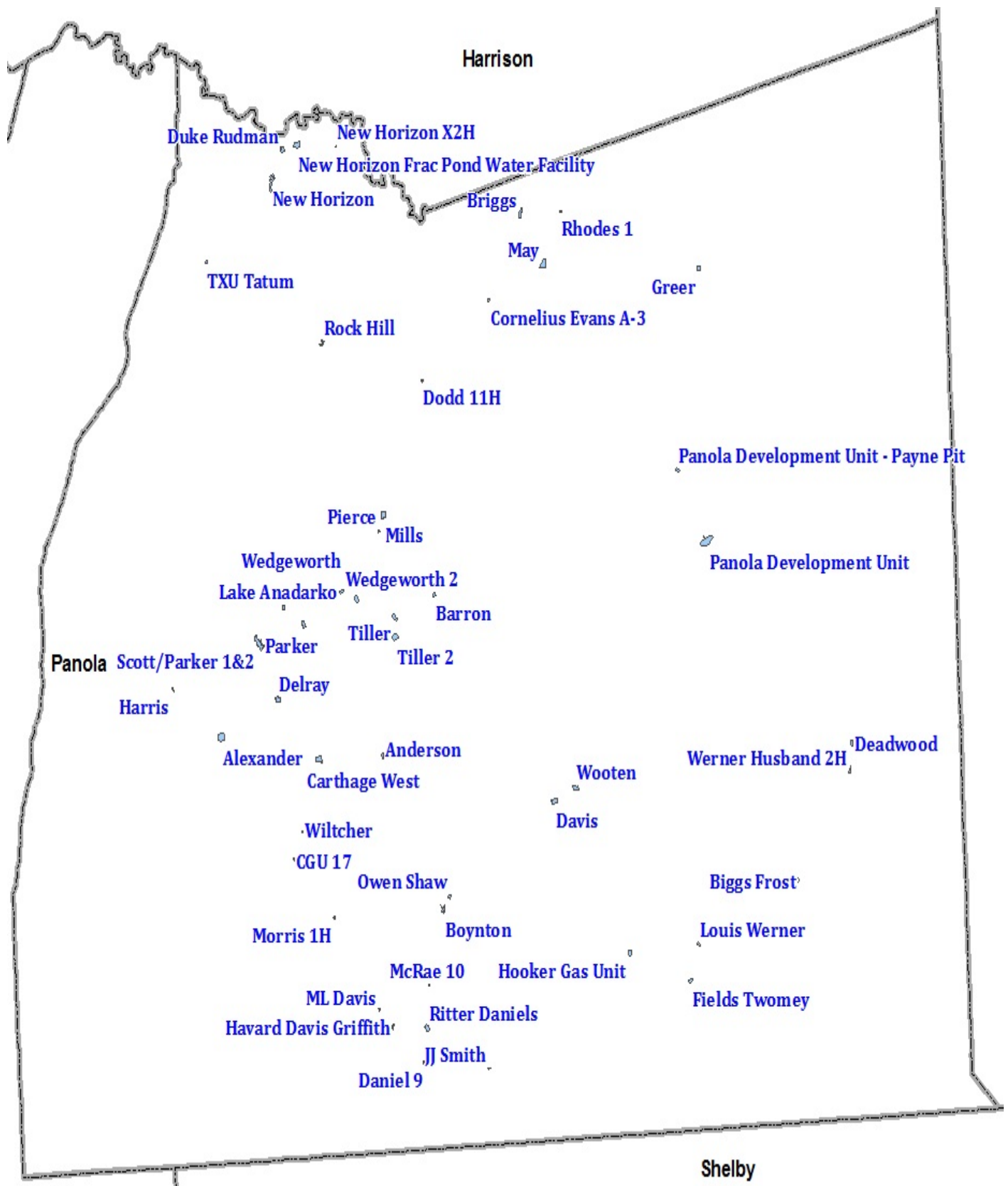


Exhibit 5 - Map of Hydraulic Fracturing Ponds



al E.1.

E.1. Objective: The District's Management Plan requires the District to download at least one updated Palmer Drought Severity Index ("PDSI") map each month and check for regular updates to the Drought Preparedness Council Situation Report ("Situation Report").

E.1. Standard: The District will include the 12 monthly downloaded PDSI maps and Situation Reports in the Annual Report for each fiscal year.

Summary of Actions

The Palmer Drought Severity Index Reports (PDSI Reports) can be found in **Appendix C** of this document. The PDSI maps show that Panola County stayed in midrange levels of moisture to extremely moist throughout the year. May and June were reported as the wettest months for 2015. The Situation Reports normally included in the Annual Report were not available for 2015 on the TDPS website. District Staff attempted to contact the website administrator to find alternate location but never received a response. A copy of the email correspondence can be found in **Appendix D** of this document.

al E.2.

E.2. Objective: The District will create and adopt through the Board of Directors a Drought Contingency Plan and will monitor drought conditions in the Carrizo-Wilcox aquifer as outlined in the Drought Contingency Plan. If necessary, the District will update its Drought Contingency Plan when changes are warranted.

E.2. Standard: The District's Annual Report to the Board of Directors will provide a summary of any implementations of the Drought Contingency Plan for each year and will include an update on any revisions made during the year.

Summary of Actions

In 2014, District staff created a draft drought contingency plan; however, the plan is still under review. The District has been working on the creation of an Executive Committee to review the draft drought contingency plan along with other District policies. Attached in **Appendix E** is a copy of the draft plan. The goal is to have the Executive Committee in place by April and to begin review of the plan for approval prior to the end of 2016.

al F.1.

F.1. Objective: The District will promote conservation at least once during each fiscal year by distributing literature packets or brochures and will sponsor an educational program/curriculum.

F.1. Standard: The District's Annual Report will provide a summary of the District efforts and a copy of any information provided by the District to the public during the previous fiscal year to promote conservation.

Summary of Actions

The District distributed 7,000 book covers for the 2015 school year. **Exhibit 6** on the next page shows a copy of the book cover promoting conservation. The District was able to expand the program this year to include the following schools: Carthage High School , Carthage Junior High, Beckville Junior and Senior High Schools, and Gary Schools. Our website also provides suggestions of ways to conserve water. **Exhibit 7** shows a snapshot of the web site links. The District also participated in the annual summer reading program at the library by distributing 500 cups supporting the superhero theme with coloring books about conservation in each cup and a presentation on conservation. **Exhibit 8 and 9** shows the cup proof and a copy of the coloring book. The presentation covered "WaterSense" for Kids by the EPA. Pictures can be found in **Exhibit 10**.

hibit 6 - Book Covers

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▽▽▽▽▽▽▽▽

This Book Belongs To: _____
Student Name _____

Subject _____

▽▽▽▽▽▽▽▽

215-569-087

▽▽▽▽▽▽▽▽

▽▽▽▽▽▽▽▽

HOW MUCH DO YOU KNOW ABOUT WATER?

AMAZING WATER FACTS...

1 ONLY 1% OF THE EARTH'S WATER IS SUITABLE FOR HUMAN CONSUMPTION.

While water covers nearly 80% of the Earth's surface, only 1% is suitable for human consumption. 2% of the water is frozen in glaciers and 97% is salt water.

HERE'S HOW YOU CAN HELP CONSERVE WATER...

Leaky faucets waste water. When you find a dripping faucet at home or at school, tell someone so that it can be repaired.

Turn off the water while you brush your teeth. It can save about four gallons of water each day.

When you play in the sprinkler, keep it on the grass, not the driveway.

Water your lawn early in the morning or late in the evening.

Take short showers or keep bathtub water shallow.

Don't let the hose run while washing your car or pets. Use buckets, sponges, and a water saving nozzle on the hose.

Do not "sweep" walks and driveways with a water hose... use a broom or rake instead.

3 WE'RE DRINKING THE SAME WATER THAT THE DINOSAURS DRANK!

Water has been on earth for millions of years. Water cycles from the earth to the air and back to the earth again and again. The water that you drink today is the same water that dinosaurs drank.

4 FOR A LITTLE UNDER \$1.98, YOU CAN BUY...

...an ice cream cone, a couple of soft drinks, two candy bars, or about 1,000 gallons of water delivered to your home!

2 A MILK COW DRINKS ABOUT 35 GALLONS OF WATER A DAY!

Water is also used to grow the corn and alfalfa we eat. From this, the cow produces almost 6 gallons of milk each day. That's about 25 glasses!

5 IT TAKES ONE GALLON OF WATER TO PROCE A QUARTER POUND OF HAMBURGER!

PANOLA COUNTY
Groundwater Conservation District
www.panola.org
419 W. Lake Street, Suite 200, Panola, GA 30561
(770) 528-0870 • (770) 528-0871 • (770) 528-0872

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Compliments of

Every living thing needs water. Ranchers need water for their livestock to drink. Farmers need it to grow our food. You and your families need water for cooking, cleaning and even playing. But there is only so much water, and there are more people using it every day. So use water wisely...make every drop count!

▽▽▽▽▽▽▽▽

215-569-087

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Center methods on book cover

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hibit 7 - Website Conservation Tips



PANOLA COUNTY
groundwater conservation district

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Conservation Tips

Milk Jug your toilet

Fill a half-gallon plastic milk jug with water and affix the cap. Flush the toilet and place the jug in the tank, away from the moving parts. This will save a half gallon per flush. Use pebbles or sand in the bottom of the jug if it doesn't stay put. Toilets use more water than anything else in a house, accounting for nearly 30% of indoor water use, according to the U.S. Environmental Protection Agency.

Think 'on and off'

Continuous flow uses more water than intermittent use. Turn the faucet on and off while brushing teeth, shaving, scrubbing kitchen pans and soaping the car.

Use less

It's obvious, but shorter showers and running the dishwasher and clothes washer only when full help.

Let your grass grow

Use a higher wheel setting on your lawn mower- 3 inches or more. Taller grass retains moisture better, requiring less watering. And it inhibits weed growth, saving money on weed-killer.

Fix leaks

It's a no-brainer to fix leaky faucets, but your toilet might be leaking without you knowing and wasting 200 gallons a day, or about 50 flushes' worth. Place a drop of dark food coloring in the tank. If it reaches the bowl within 15 minutes, you have a leak worth fixing.

Get WaterSense

The EPA has a relatively new program called WaterSense for labeling plumbing fixtures certified to save water, about 20% on average. It's similar to the EnergyStar label for products that use electricity efficiently. The label goes on water-efficient models of such fixtures as toilets, sink faucets and showerheads. Learn more at www.epa.gov/watersense.

Don't rinse the dishes

You don't need to rinse dishes before loading them in the dishwasher. Not rinsing could save 6,500 gallons of water per year.

Use sink disposal sparingly

Using the garbage disposal requires a lot of water. Instead, put food waste in a compost pile, which reduces the need for fertilizer.

Water smart outdoors

Water in the cool morning to reduce evaporation and aim sprinklers at plants. Use drip hoses where appropriate.

Exhibit 8 - Conservation Education

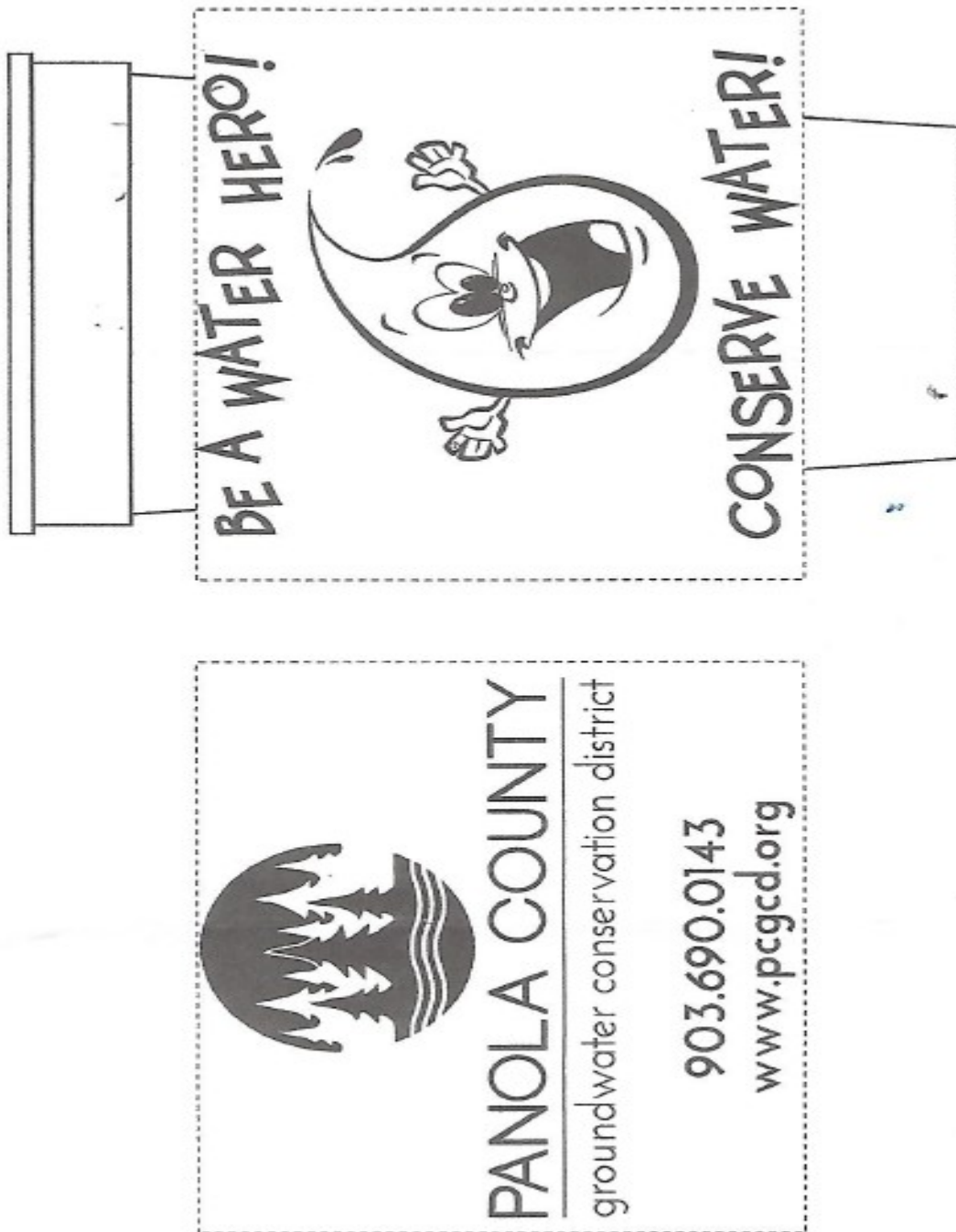
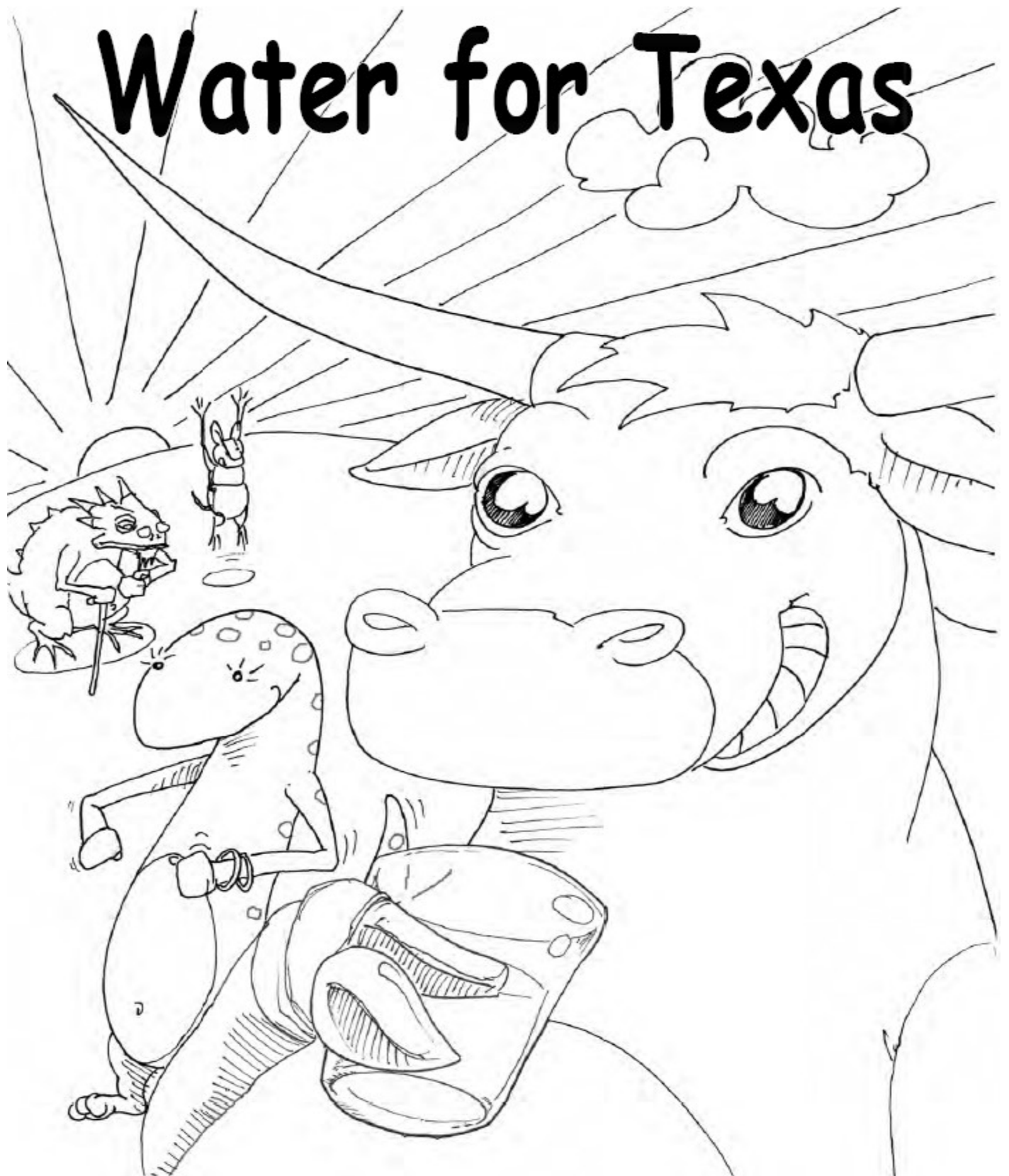
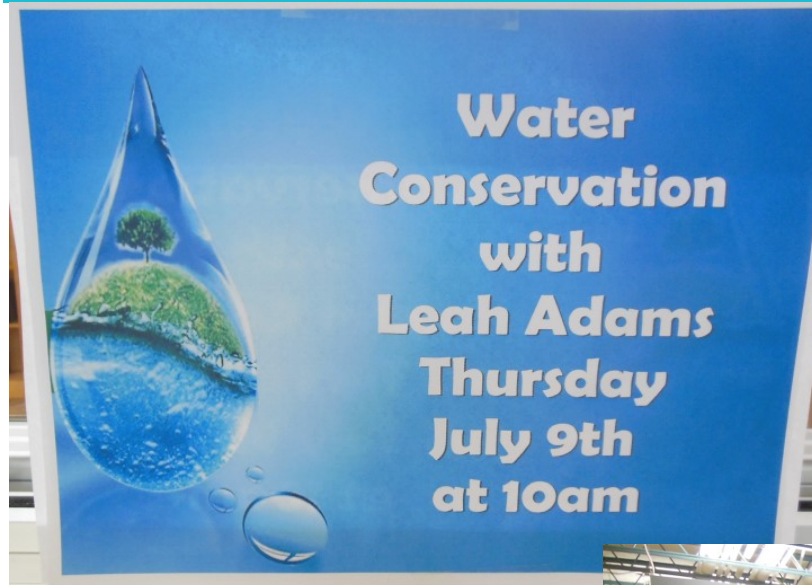


Exhibit 9 - Conservation Education

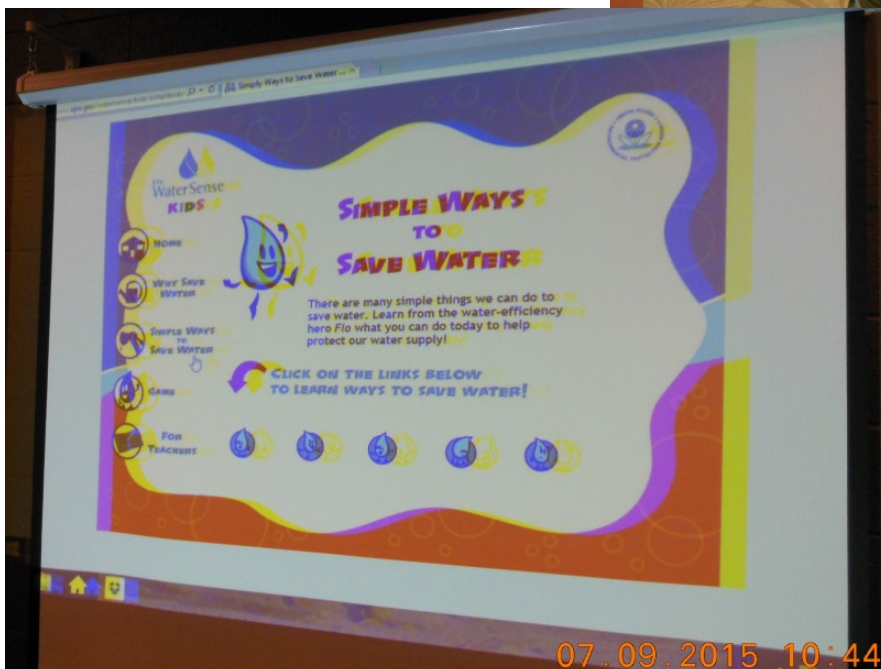


hibit 10 - Conservation Education



Sammy

Brown



Library

al F.2.

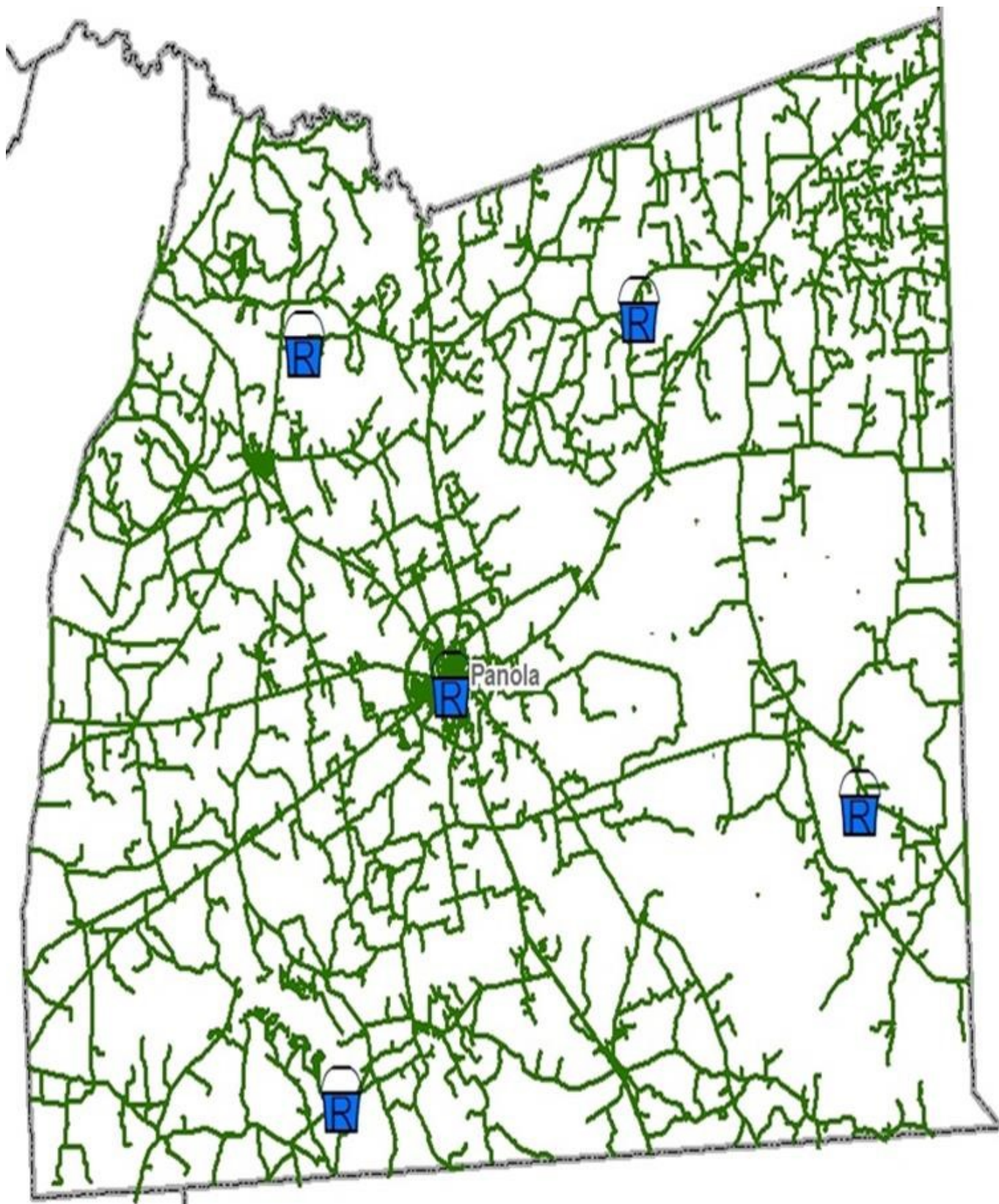
F.2. Objective: The District will provide information relating to recharge enhancement on the District website at least one time each fiscal year.

F.2. Standard: Each year, the District's Annual Report will include a copy of the information that has been provided on the District website at least once each fiscal year.

Summary of Actions

To help us better understand the recharge of the aquifer, the District uses rain gauges throughout the County to measure and track the amount of rainfall each year. The District currently has five (5) rain gauges. The Map in **Exhibit 11** shows the placement of the gauges and the amount of rainfall collected at different areas around the County. In 2015, the District measured an average of 61 inches for the entire County (**Table 9 and 10**). We also track the NOAA totals for precipitation in the County. The website records all recharge information including other information which affects recharge. An example of the website posting is found in **Exhibit 12**.

Exhibit 11 - Map of Rain Gauges



bles 9 and 10 - Rainfall in Panola County

Identifier	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2015 Total
Carthage	16.84	18.03	3.87	23.13	61.87
Deadwood	19.09	17.89	2.66	20.14	59.78
Gary	17.61	18.61	3.69	21.77	61.68
Rock Hill	15.89	18.85	4.85	20.44	60.03
DeBerry	16.75	19.75	2.61	22.3	61.41
NOAA Data	18.88	18.32	4.27	24.11	65.58

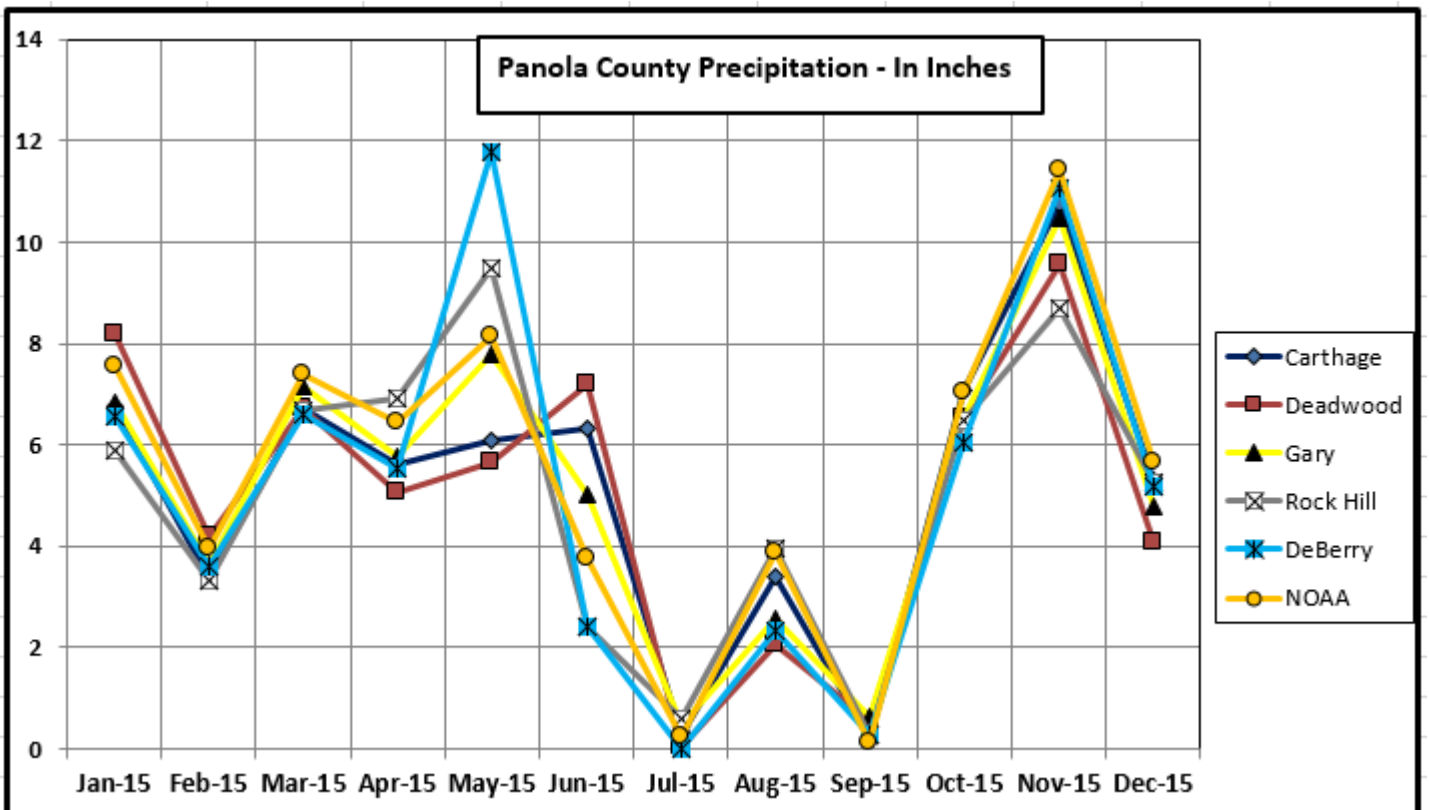


Exhibit 12 - Website Recharge Enhancement



PANOLA COUNTY
groundwater conservation district

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Recharge Enhancement

Credit to the Illinois State Water Survey for the following graphics:

The Hydrologic Cycle

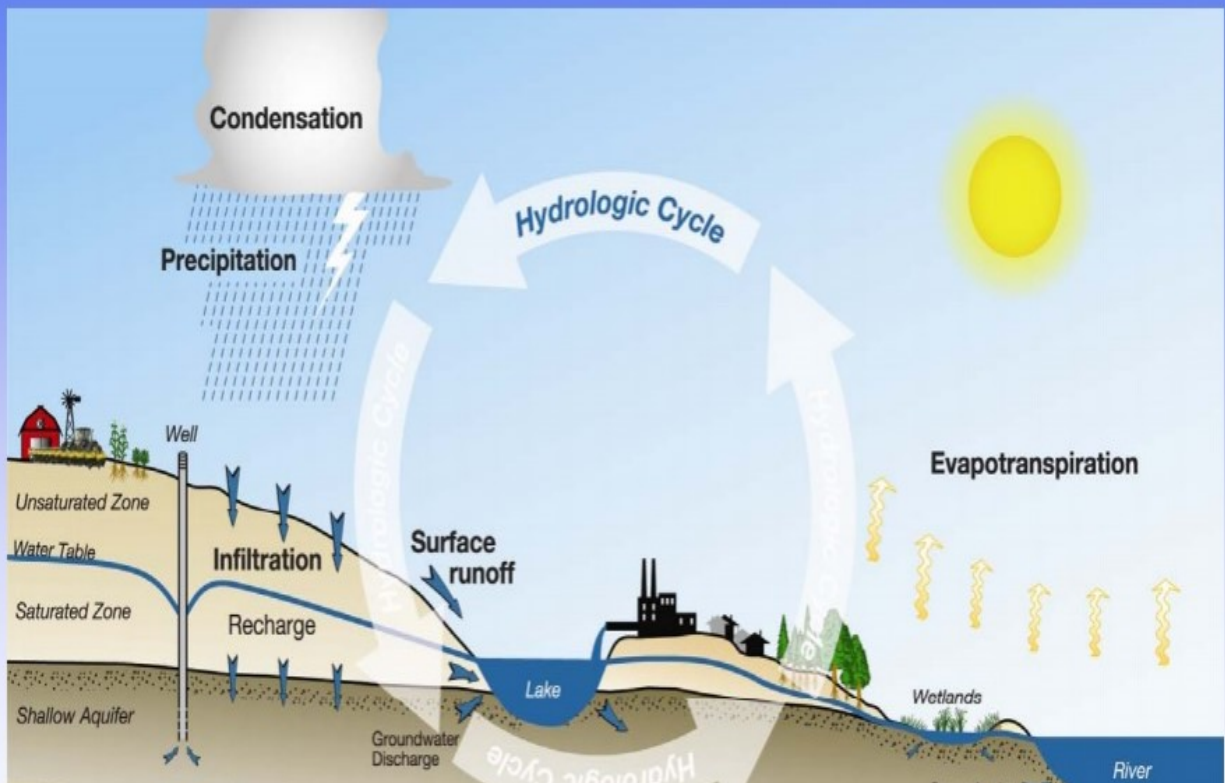
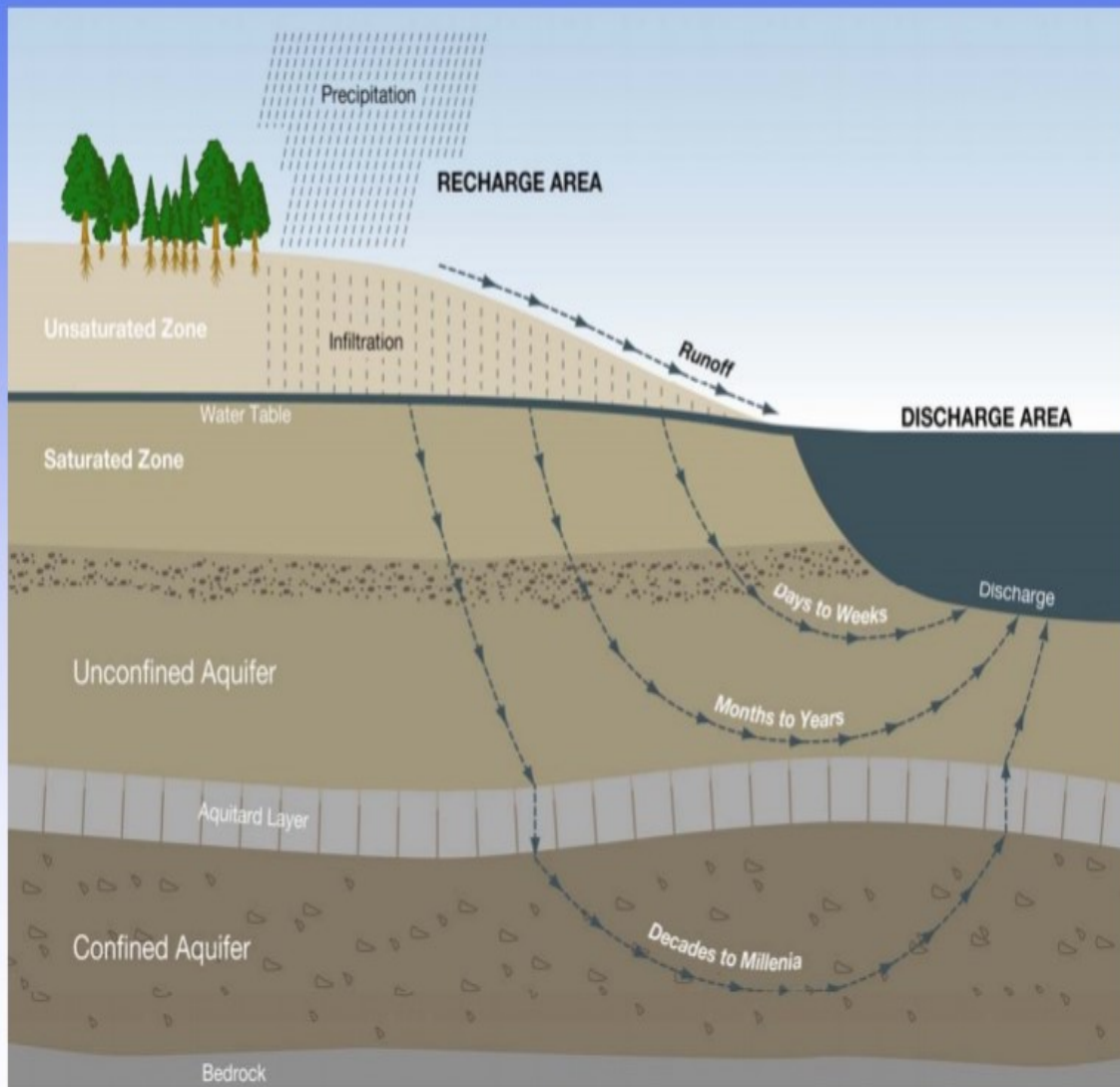


Exhibit 12 cont. - Website Recharge Enhancement

Local/Regional Groundwater Flow Systems



Recharge is the term used to describe how an aquifer gains water from the surface (precipitation, rivers, etc.) or the subsurface (other aquifers). When an aquifer is recharging, water levels rise to be closer to the ground surface, and artesian pressure generally increases. The PCGCD is tracking factors related to recharge such as precipitation (rainfall, snow, etc.) and water levels in water wells.

Panola County is in the outcrop of the Carrizo-Wilcox aquifer, also referred to as the recharge zone of the Carrizo-Wilcox. This means that some of the geologic formations which store groundwater are oriented so that they intersect the ground surface in such a way that they are “open ended” and can receive water from the surface. This is good news for us in that the aquifer will recharge faster than in non-outcrop areas, but it is bad news in that there is a higher risk of groundwater contamination from surface sources.

Exhibit 12 cont. - Website Recharge Enhancement

The PCGCD has 5 rain gauges in Panola County, located in Deadwood, DeBerry, Rock Hill, Gary, and Carthage. At the end of each month, the precipitation recorded by each gauge is averaged to give an approximate rainfall amount for the county. In the graphs below, the data recorded by the PCGCD is compared to what is reported by the National Oceanic and Atmospheric Administration (NOAA) for our area.

Graph of 2011 Cumulative Precipitation

Graph of 2012 Cumulative Precipitation

Graph of 2013 Cumulative Precipitation

Graph of 2014 Cumulative Precipitation

Graph of 2015 Cumulative Precipitation

Graph of Monthly Precipitation

NOAA Website

Below are graphs of the cumulative precipitation amounts for the State of Texas (statewide average, courtesy of John Nielsen-Gammon and the Houston Chronicle) and for Panola County in recent years. The Texas water year runs from October to September, so these graphs reflect that time frame. Also included is a graph of the annual cumulative precipitation totals for the Carthage weather station, dating back to the 1950s, courtesy of the Southern Regional Climate Center. This graph provides interesting insight into our local wettest years, driest years, and long-term patterns.

Cumulative – Panola

Cumulative – Texas and Panola

Historic Annual Precipitation – Carthage

Drought is a major influence on all water sources. When precipitation becomes sparse, surface water and groundwater conservation remains crucial in meeting water demands. Provided below is a link to the U.S. Drought Monitor for Texas, a useful tool for tracking state and local drought conditions week-to-week.

Exhibit 12 cont. - Website Recharge Enhancement

U.S. Drought Monitor

Texas

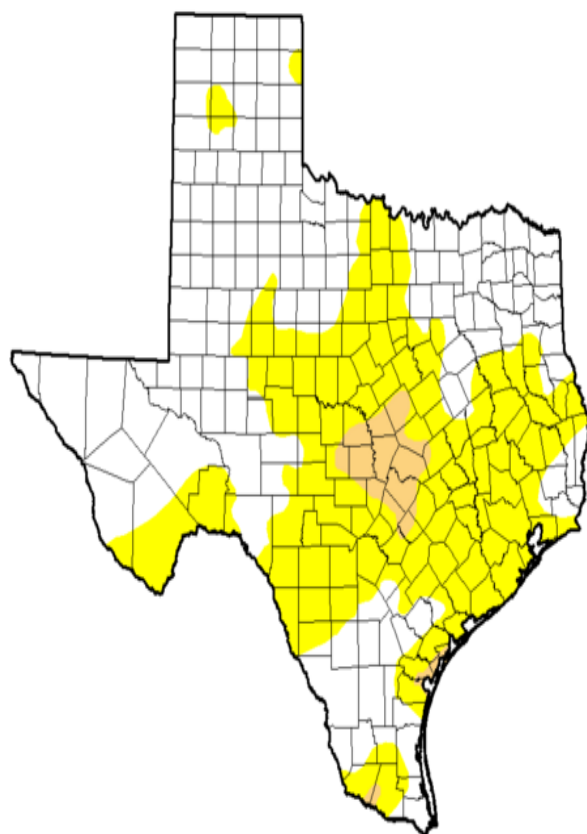
February 16, 2016

(Released Thursday February 18, 2016)

Valid 7 a.m. EST

Statistics type: Traditional Percent Area

Export table:



Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current 2016-02-16	55.16	44.84	3.57	0.00	0.00	0.00
Last Week 2016-02-09	88.01	11.99	0.00	0.00	0.00	0.00
3 Months Ago 2015-11-17	90.41	9.59	0.61	0.00	0.00	0.00
Start of Calendar Year 2015-12-29	95.48	4.52	0.00	0.00	0.00	0.00
Start of Water Year 2015-09-29	34.51	65.49	38.32	17.55	6.27	0.00
One Year Ago 2015-02-17	39.21	60.79	43.39	27.81	13.92	4.46

Estimated Population in Drought Areas: **1,970,980**

[View More Statistics](#)

Intensity:

■ D0 (Abnormally Dry)
 ■ D2 (Severe Drought)
 ■ D4 (Exceptional Drought)
 ■ D1 (Moderate Drought)
 ■ D3 (Extreme Drought)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.

Author(s):

Eric Luebehusen, U.S. Department of Agriculture

Download: [PNG](#) [PDF](#) [JPG](#)

[View drought planning resources](#)

The National Drought Mitigation Center | 3310 Holdrege Street | P.O. Box 830988 | Lincoln, NE 68583-0988
phone: (402) 472-6707 | fax: (402) 472-2946 | [Contact Us](#) | [Web Policy](#)



Exhibit 12 cont. - Website Recharge Enhancement

The PCGCD currently has 14 monitor wells spaced throughout the county which are used to measure water levels once each month. The Texas Water Development Board has 16 monitor wells in Panola County, all of which have been absorbed by the District in order to supplement our database. Below are links to graphs showing the average change in water level county-wide each month and each year.

[PCGCD Monthly Monitor Wells, 2011](#)

[PCGCD Monthly Monitor Wells, 2012](#)

[PCGCD 2013 Monthly Monitor Wells](#)

[PCGCD 2014 Monthly Monitor Wells](#)

[PCGCD 2015 Monthly Monitor Wells](#)

Pages 7-9 of the District Management Plan include information from the Texas Water Development Board pertaining to recharge.

Total recharge from precipitation for the Carrizo-Wilcox is 38,005 acre-feet per year.

Total discharge from the aquifer to the surface (springs, lakes, river, etc.) is 29,888 acre-feet per year.

Total flow into the District via the subsurface: 5,655 acre-feet per year.

Total flow out of the District via the subsurface: 3,123 acre-feet per year.

Net hydrologic gain (not accounting for pumping): 10,649 acre-feet per year.

Additional links:

[The Water Cycle: Infiltration](#)

[Aquifer recharge: Functions and Uses](#)

[Underground Injection Control; AR & ASR](#)

[Enhancing Groundwater Recharge](#)

[Rainwater Harvesting: Soil Storage and Infiltration](#)

[Enhanced Aquifer Recharge](#)

al F.3.

F.3. Objective: The District will advocate for rainwater harvesting each year by providing updated information about rainwater harvesting on the District website at least once each fiscal year.

F.3. Standard: The District's Annual Report will include a copy of the information on rainwater harvesting which has been provided on the District website within the previous fiscal year.

Summary of Actions

The District has added to the District website the information on rainwater harvesting. **Exhibit 13** is a snapshot showing the links on our website. The plans began in November 2015 for a coordinated project with the Texas Agrilife Extension Service on how to create a rainwater harvesting system for gardening. Additional plans are in the works for implementation of a rainwater harvesting system to be installed at Baker Koonce Intermediate School at their new fruit and vegetable garden to begin later in 2016 and continue over the next few years.

Exhibit 13 - Website Rainwater Harvesting

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Rainwater Harvesting

Click the links below for more information about Rainwater Harvesting.

[TWDB – Rainwater Harvesting](#)

[The New Landscape of Rainwater Harvesting in Texas – \(article by Kristen Fancher, Attorney\)](#)

[AgriLife Extension, Texas A&M – Rainwater Harvesting](#)

NEWS

[Water Is The Future](#)

OCTOBER 16, 2013

ANNOUNCEMENTS

[February Board Meeting](#)

FEBRUARY 23, 2016

CONTACT US

419 W. Sabine St., Carthage, TX 75633

903-690-0143

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Developed by Arnold Graphic Design

al G.1.

G.1. Objective: The District will monitor water levels within the District boundaries on an annual basis by measuring the water level of at least ten (10) wells.

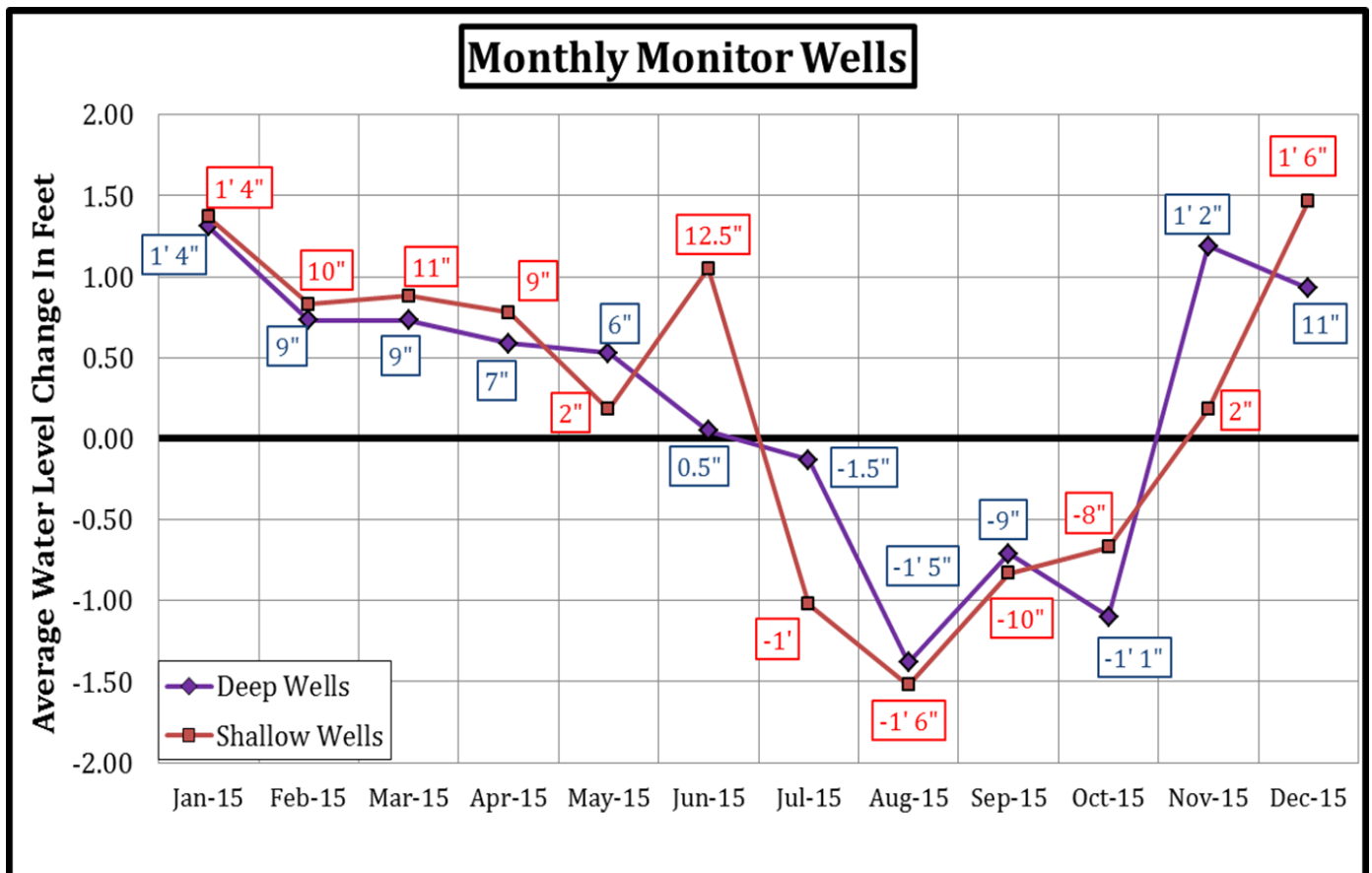
G.1. Standard: The District's Annual Report will include a description of the number of wells checked and the monitoring results of the measured water levels for each year.

Summary of Actions

For the year 2015, the District used 14 water wells to monitor the water levels within the county. The purpose was to monitor the water table throughout the County in an attempt to quantify the established Desired Future Conditions of the aquifer. **Table 11 and 12** show the numbers for drawdown in the monitor wells. The District has also attempted to learn more about aquifer drawdown, well interference, and well recovery through consulting work completed by INTERA, Inc. Geoscience and Engineering Solutions. Copies of the reports can be found at the following link: <http://pcgcd.org/aquifer-research-and-reports/>. The District will continue these studies into 2016 to assist with setting the desired future conditions by May 1, 2016.

Table 11 and 12 - Monitor Wells and Water Level Results

PCGCD Well ID	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
3548207	38.1	37.7	37.1	36.6	36.2	36.3	37.3	41.9	43.8	44.2	42.9	41.8
3553658	72.3	70.5	69.6	68.6	68.0	70.5	71.1	70.3	68.4	68.0	67.4	66.7
3554612	16.0	15.0	14.6	13.9	13.9	13.4	13.8	14.7	15.4	16.0	16.1	15.8
3552906	37.1	36.0	35.4	36.0	35.8	35.0	34.9	34.6	34.6	34.5	33.9	34.1
3553105	27.7	26.5	25.6	23.3	23.1	21.3	22.1	23.9	24.9	25.9	26.1	24.7
3564115	27.1	26.3	25.5	24.6	24.1	23.4	23.3	25.2	26.7	29.0	27.7	25.9
3706304	21.4	20.6	20.0	18.5	19.1	17.7	19.0	20.4	21.0	21.5	21.3	20.7
3561208	7.1	7.3	5.0	5.3	4.2	3.0	6.3	10.1	11.2	12.1	11.7	6.5
3562402	71.6	71.9	71.4	71.5	70.8	71.0	70.7	71.2	72.0	72.4	71.9	71.0
3562337	59.8	58.6	57.5	57.2	56.9	56.0	56.0	57.9	58.0	58.4	57.2	55.9
3563614	40.4	40.2	40.1	39.4	38.9	38.2	38.0	38.3	38.8	39.3	39.1	38.9
Gulf Southern	29.7	28.2	27.3	26.1	25.5	25.0	25.5	27.6	29.5	31.0	31.0	30.0
3545721	60.7	60.5	59.6	59.4	58.8	58.4	57.9	58.4	59.3	63.0	58.6	58.2
Scott family	68.9	67.8	67.3	66.2	66.0	65.4	65.8	67.3	68.9	70.0	69.8	68.3



al G.2.

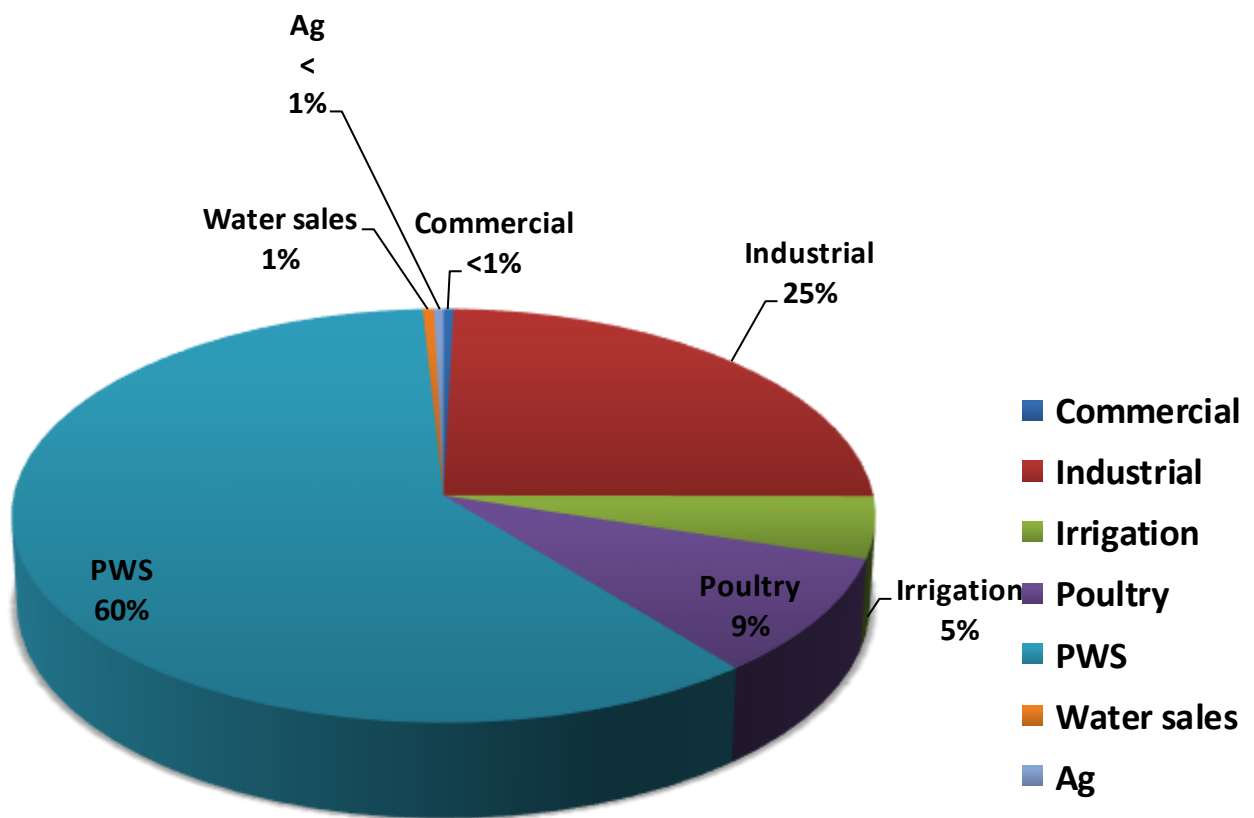
G.2. Objective: The District will consider a reasonable estimated amount of actual groundwater production under existing permits through tracking of production for all permitted water wells.

G.2. Standard: The District's Annual Report will include the amount of reported production for each permitted water well within the boundaries of each District each year.

Summary of Actions

In 2015, the District accepted 63 operating permit applications. Of the 63 permits issued, 42 were operating permit renewals and 21 were new operating permits. The addition created a total of 125 operating permits and 87 grandfathered use permits for the District. The District has permitted out 1,556,904,360 gallons or 4,778 acre feet of water for operating permits and 852,774,230 gallons or 2,617 acre feet for grandfathered use permits. The reported total production for all permitted water wells in 2015 was 694,332,479 gallons or 2,131 acre feet. The total amount of water permitted by well type is represented in Exhibit 14.

Exhibit 14 - Permit Amounts Issued by Well Type



Management Goals Determined Not Applicable to the District

The following goals have been determined by the District to not be applicable.

- ♦ Controlling and Preventing Subsidence
- ♦ Addressing Precipitation Enhancement
- ♦ Addressing Brush Control

pendix A - Rule Review

PUBLIC HEARING – RULE CHANGES

Panola County Groundwater Conservation District
419 W Sabine St., Carthage, Texas 75633
Phone: 903.690.0143 Fax: 903.690.0135

Public Hearing on District Rule Amendments
Tuesday, September 22, 2015 immediately following the
Permit Public Hearing that starts at 5:30 pm

County Clerks Office Use Only:	
FILED FOR RECORD IN MY OFFICE	
AT <u>1:45</u> O'CLOCK	<u>P</u> M
SEP 01 2015	
BOBBIE DAVIS COUNTY CLERK, PANOLA COUNTY, TEXAS	
BY <u>B. Davis</u>	DEPUTY

PUBLIC HEARING AGENDA – RULE CHANGES

1. Call to order.
2. Public Hearing for District Rule Amendments:

District Rule amendments

- a. Add definitions to Rule 1.1, (f) Aquifer storage and recovery project, (g) ASR injection well, (h) ASR recovery well, (i) Best available science, (p) Development Board, (vv) Office, (ggg) Project operator, and (nnn) Remediation well.
- b. Change Rule 3.3(c), the addition of a non-refundable accelerated processing fee of \$200.
- c. Change Rule 3.4 (b), clarification of the requirement of the driller to submit well report deposit.
- d. Change Rule 3.5(a)(6) and (7), the addition of exemptions of the permitting requirements for remediation and aquifer storage and recovery wells.
- e. Change Rule 3.9(c), allows for the use of a certificate of mailing or notification in local paper for permit notifications.
- f. Change to Rule 3.16(c)-(h), allows for the renewal of a permit application without a hearing if applied for timely with no changes to original permit and if applicant is in good standing with the District.
- g. Changes to Rule 3.17, clarification of notifications published in the newspaper and what should be included in notification.
- h. Add Rule 3.18, Aquifer Storage and Recovery Projects, deals with the registration, operating, and fees required by the District for all ASR projects.
- i. Add Rule 4.2(a)(5), adds monitor and remediation wells to the list of wells required to submit production.
- j. Change to Rule 6.1(a)(3), adds exempt wells used for monitoring and remediation to list of wells required to be metered.
- k. Change to Rule 9.2(d) and (e), established a plugging report deposit and deadlines for all applications to plug similar to well reports for newly drilled wells.
- l. Change Rule 10.3(h) and (i), defines action for the Board on uncontested and contested case hearings.
- m. Add Rule 10.4(g)(5), Contested Case Permit Hearing and Designation of Parties, authorizes Board to take action in a contested case hearing when no party has standing or where no justiciable issue is raised.

pendix A cont. - Rule Review

- n. Add Rule 10.5(d)-(g), Contested Case Hearings Conducted by the State Office of Administrative Hearings (SOAH), adds rules for contested case hearings conducted by the SOAH and what role the District plays in the hearing.
- o. Change to Rule 10.8, changing the term "Report" to Proposal for Decision or PFD and states what the Board shall consider when issuing the PFD at final hearing.
- p. Add Rule 10.14, Appeal of Desired Future Conditions (DFC) of Aquifers, states the timeline and process for filing an appeal to the DFC adopted by District.
- q. Update to the Fee Schedule and Guidelines for Preparation of Hydrogeological Reports as a result of proposed rule changes.

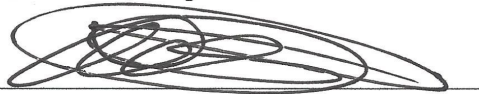
3. Adjourn

These public hearings are available to all persons regardless of disability. If you require special assistance to attend or participate in the hearings, please contact the Panola County GCD at (903) 690-0143 at least 24 hours in advance of the meeting.

At any time during the meeting and in compliance with the Texas Open Meetings Act, Chapter 551, Government Code, Vernon's Texas Codes, Annotated, the Panola County Groundwater Conservation District Board may meet in executive session on any of the above agenda items for consultation concerning attorney-client matters (§551.071); deliberation regarding real property (§551.072); deliberation regarding prospective gift (§551.073); personnel matters (§551.074); and deliberation regarding security devices (§551.076). Any subject discussed in executive session may be subject to action during an open meeting.

Certification

I, the undersigned authority, do hereby certify that on September 2, 2015 at or before 5:00 p.m., our office posted and filed the above notice of meeting with the Panola County Clerk's Office, and also posted a copy near the front door of the Panola County GCD office in a place convenient and readily accessible to the general public all times and that it will remain so posted continuously for at least 20 days preceding the scheduled time of said meeting in accordance with Texas Government Code, Chapter 551.



Leah Adams, General Manager
Panola County Groundwater Conservation District

WITNESS THE HAND AND SEAL OF THE UNDERSIGNED CLERK ON THIS THE

2ND DAY OF SEPTEMBER, 2015 AT 1:45 O'CLOCK A.M. P.M.



BOBBIE DAVIS COUNTY CLERK
PANOLA COUNTY, TEXAS

BY _____ DEPUTY

pendix A cont. - Rule Review

Public Hearing Minutes on Rule Changes Panola County Groundwater Conservation District September 22, 2015

A public hearing on the possible changes to the District rules was held by the Panola County Groundwater Conservation District Board of Directors upon adjournment of the Public Hearings for Operating Permit Applications which started at 5:30 p.m. in the District Conference Room at 419 W. Sabine Street, Carthage, Texas 75633, Tuesday, September 22, 2015. The following were in attendance:

Board Members -

Precinct #1: Mike Pennington
Danny Reed
Precinct #2: James Browning
Larry Dorman
Precinct #3: Al Clay

Precinct #4: Ray Davis

At large: Bobby Langford

District Staff - Leah Adams, General Manager; Mitzi Shuttlesworth, Office Manager;
David Waldrop, Field Tech; and Jess Landreneau, Field Technician

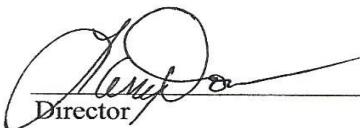
Others Present - Scott Yarnell; Tyler Yarnell; and Jackie Robinson, Robinson & Payne, PLLC

Absent - Jim Payne, Precinct # 3; and Larry McMillan, Precinct #4

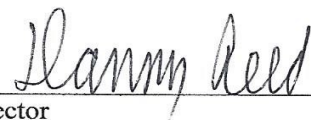
PUBLIC HEARING - RULE CHANGES

1. The public hearing for rule changes was called to order by Larry Dorman, Board President, at 5:35 p.m. following the Public Hearings for Operating Permit Applications.
2. There being no one signed up who wished to speak on the proposed rule changes, Larry Dorman asked if approval of the rules could be tabled to the next meeting. James Browning moved and Mike Pennington seconded the motion to table approval of the rules. The motion passed unanimously.
3. There being no further discussion the public rule hearing was adjourned at 5:38 p.m.

Approved this 27th day of October, 2015



Director



Director

pendix A cont. - Rule Review

PUBLIC HEARING – RULE CHANGES

Panola County Groundwater Conservation District

419 W Sabine St., Carthage, Texas 75633

Phone: 903.690.0143 Fax: 903.690.0135

Public Hearing on District Rule Amendments

Tuesday, October 27, 2015 at 5:30 pm

County Clerk's Office Only: IN MY OFFICE	
AT <u>12:30</u> O'CLOCK	<u>P</u> M
OCT 07 2015	
BOBBIE DAVIS COUNTY CLERK, PANOLA COUNTY, TEXAS	
BY <u>B. Davis</u> DEPUTY	

PUBLIC HEARING AGENDA – RULE CHANGES

1. Call to order.
2. Public Hearing for District Rule Amendments:

District Rule amendments

- a. Add definitions to Rule 1.1, (f) Aquifer storage and recovery project, (g) ASR injection well, (h) ASR recovery well, (i) Best available science, (p) Development Board, (vv) Office, (ggg) Project operator, and (nnn) Remediation well.
- b. Change Rule 3.3(c), the addition of a non-refundable accelerated processing fee of \$200.
- c. Change Rule 3.4 (b), clarification of the requirement of the driller to submit well report deposit.
- d. Change Rule 3.5(a)(6) and (7), the addition of exemptions of the permitting requirements for remediation and aquifer storage and recovery wells.
- e. Change Rule 3.9(c), allows for the use of a certificate of mailing or notification in local paper for permit notifications.
- f. Change to Rule 3.16(c)-(h), allows for the renewal of a permit application without a hearing if applied for timely with no changes to original permit and if applicant is in good standing with the District.
- g. Changes to Rule 3.17, clarification of notifications published in the newspaper and what should be included in notification.
- h. Add Rule 3.18, Aquifer Storage and Recovery Projects, deals with the registration, operating, and fees required by the District for all ASR projects.
- i. Add Rule 4.2(a)(5), adds monitor and remediation wells to the list of wells required to submit production.
- j. Change to Rule 6.1(a)(3), adds exempt wells used for monitoring and remediation to list of wells required to be metered.
- k. Change to Rule 9.2(d) and (e), established a plugging report deposit and deadlines for all applications to plug similar to well reports for newly drilled wells.
- l. Change Rule 10.3(h) and (i), defines action for the Board on uncontested and contested case hearings.
- m. Add Rule 10.4(g)(5), Contested Case Permit Hearing and Designation of Parties, authorizes Board to take action in a contested case hearing when no party has standing or where no justiciable issue is raised.

pendix A cont. - Rule Review

- n. Add Rule 10.5(d)-(g), Contested Case Hearings Conducted by the State Office of Administrative Hearings (SOAH), adds rules for contested case hearings conducted by the SOAH and what role the District plays in the hearing.
- o. Change to Rule 10.8, changing the term "Report" to Proposal for Decision or PFD and states what the Board shall consider when issuing the PFD at final hearing.
- p. Add Rule 10.14, Appeal of Desired Future Conditions (DFC) of Aquifers, states the timeline and process for filing an appeal to the DFC adopted by District.
- q. Update to the Fee Schedule and Guidelines for Preparation of Hydrogeological Reports as a result of proposed rule changes.

3. Adjourn

These public hearings are available to all persons regardless of disability. If you require special assistance to attend or participate in the hearings, please contact the Panola County GCD at (903) 690-0143 at least 24 hours in advance of the meeting.

At any time during the meeting and in compliance with the Texas Open Meetings Act, Chapter 551, Government Code, Vernon's Texas Codes, Annotated, the Panola County Groundwater Conservation District Board may meet in executive session on any of the above agenda items for consultation concerning attorney-client matters (§551.071); deliberation regarding real property (§551.072); deliberation regarding prospective gift (§551.073); personnel matters (§551.074); and deliberation regarding security devices (§551.076). Any subject discussed in executive session may be subject to action during an open meeting.

Certification

I, the undersigned authority, do hereby certify that on October 7, 2015 at or before 5:00 p.m., our office posted and filed the above notice of meeting with the Panola County Clerk's Office, and also posted a copy near the front door of the Panola County GCD office in a place convenient and readily accessible to the general public all times and that it will remain so posted continuously for at least 20 days preceding the scheduled time of said meeting in accordance with Texas Government Code, Chapter 551.



Leah Adams, General Manager
Panola County Groundwater Conservation District

WITNESS THE HAND AND SEAL OF THE UNDERSIGNED CLERK ON THIS THE

7TH DAY OF OCTOBER, 2015 AT 12:30 O'CLOCK A.M. P.M.




BOBBIE DAVIS COUNTY CLERK
PANOLA COUNTY, TEXAS

BY _____ DEPUTY

pendix A cont. - Rule Review

Public Hearing Minutes on Rule Changes Panola County Groundwater Conservation District October 27, 2015

A public hearing on the possible changes to the District rules was held by the Panola County Groundwater Conservation District Board of Directors at 5:30 p.m. in the District Conference Room at 419 W. Sabine Street, Carthage, Texas 75633, Tuesday, October 27, 2015. The following were in attendance:

Board Members -

Precinct #1: Mike Pennington
Danny Reed
Precinct #2:
Larry Dorman
Precinct #3: Al Clay
Jim Payne
Precinct #4: Ray Davis
Larry McMillan
At large: Bobby Langford

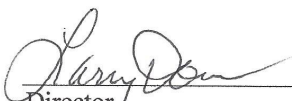
District Staff - Leah Adams, General Manager; Teresa Griffin, Office Manager; David Waldrop, Field Tech; and Jess Landreneau, Field Technician

Absent - James Browning, Precinct #2

PUBLIC HEARING – RULE CHANGES

1. The public hearing for rule changes was called to order by Larry Dorman, Board President, at 5:30 p.m.
2. Larry Dorman began a discussion of the proposed rule changes by making a comment on the proposed changes to the definitions section to add (vv) Office and (ggg) Project operator. With no other board member comments on the proposed changes to the definitions, Larry next discussed the proposed rule change to the fee schedule to include the application rush fee. No other comments were made by board members. Danny Reed moved and Larry McMillan seconded the motion to approve the proposed changes to the rules as noticed and provided to the public on October 7, 2015. Larry Dorman voted against the proposed rule changes. The motion to adopt the proposed changes to the rules passed with 8 votes for and 1 vote against.
3. There being no further discussion the public rule hearing was adjourned at 5:41 p.m.

Approved this 18th day of November, 2015.



Director



Director

pendix A cont. - Rule Review

Panola County Groundwater Conservation District Board of Directors Regular Meeting Minutes October 27, 2015

A regular meeting of the Panola County Groundwater Conservation District Board of Directors was held on Tuesday, October 27, 2015 immediately following the public hearing for rule amendments which ended at 5:41 pm in the District Conference Room at 419 W. Sabine Street, Carthage, Texas 75633. The following were in attendance:

Board Members -

Precinct #1: Mike Pennington
Danny Reed
Precinct #2: James Browning (arrived at 6:05 pm)
Larry Dorman
Precinct #3: Al Clay
Jim Payne
Precinct #4: Ray Davis
Larry McMillan
At large: Bobby Langford

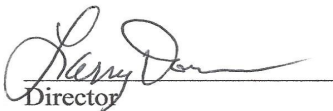
District Staff - Leah Adams, General Manager; Teresa Griffin, Office Manager; David Waldrop, Field and Office Assistant; and Jess Landreneau, Field Technician

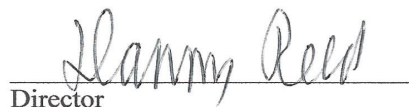
1. The regular board meeting was called to order by Larry Dorman at 5:41 p.m.
2. There were no public comments.
3. After reviewing the September 22, 2015 Public Hearing - Permit Meeting Minutes, Danny Reed moved and Ray Davis seconded the motion to accept the minutes as presented. The motion passed unanimously of those present.
4. After reviewing the September 22, 2015 Public Hearing – Rule Meeting Minutes, Danny Reed moved and Bobby Langford seconded the motion to accept the minutes as presented. The motion passed unanimously of those present.
5. After reviewing the September 22, 2015 Regular Board Meeting Minutes, Ray Davis moved and Mike Pennington seconded the motion to accept the minutes as presented. The motion passed unanimously of those present.
6. The District Financial Officer, Leah Adams, presented the quarterly investment report to the Board. After the presentation, Danny Reed moved and Larry McMillan seconded the motion to accept the report as presented. The motion passed unanimously of those present.
7. Field Technician, Jess Landreneau, gave a presentation to the Board on a water well plugging done by Rusk County Groundwater Conservation District (RCGCD) and how RCGCD used elogging equipment to better understand the aquifers and the water sands.

pendix A cont. - Rule Review

8. Larry Dorman opened up a discussion on water well completion and plugging processes. After some discussion, no action was taken.
9. District Field and Office Assistant, David Waldrop, provided updates on submitted groundwater production totals for 2015, wells registered this year, well site remediation progress, and water well plugging inspections. Through the second quarter, the District has recorded 1,566 acre-feet of groundwater production. In 2015 to date, the District has recorded 113 well registrations (new drills plus existing well registrations). District Field Technician, Jess Landreneau, provided updates on the regular monthly monitor wells, rain gauges, and frac pond monitoring. The monthly monitor deep well readings show a decline in water levels of approximately 0.71 feet in the last month. Compared to 2011, the deep well water levels are up 3.49 feet. The shallow well water levels have declined 0.83 feet in the last month, and they are 2.35 feet higher than in 2011. The rainfall average for August was 2.86 inches. The historical average for August is 2.68 inches, and the historical average for September is 3.99 inches. The majority of Panola County is currently in severe drought conditions according to the U.S. Drought Monitor. The Alexander frac pond in Delray is an area of concern due to large drawdowns. The Lake Anadarko frac pond and the Carthage West frac pond areas have had significant groundwater level recoveries in the past month.
10. After reviewing the accounts payable for the period of September 17, 2015 - October 26, 2015, Danny Reed moved and Mike Pennington seconded the motion to approve payment of expenses as presented. The motion passed unanimously.
11. No Executive Session was required.
12. Since no Executive Session was required, no action was taken.
13. Prior to scheduling the next meeting. Larry Dorman announced his resignation from the Board. He stated, "This is going to be my last meeting. I don't feel like we are being effective in the areas we need to be effective and I am running into too much headwind from management to get some of the things done I want to get done. I think y'all can probably work it out without me. So, I appreciate working with you all. I have enjoyed all these years and I think y'all can make things work for the community better without me. So, thank y'all." After Larry got up and walked out of the meeting, the Board scheduled the next regular meeting for Wednesday, November 18, 2015 at 5:30 p.m. at the District Office.
14. Ray Davis moved and Danny Reed seconded the motion to adjourn at 750 p.m. The motion passed unanimously.

Approved this 18th day of November 2015.


Director


Director

pendix A cont. - Rule Review

REGULAR BOARD MEETING

Panola County Groundwater Conservation District

419 W. Sabine St., Carthage, Texas 75633

Phone: 903.690.0143 Fax: 903.690.0135

Regular Board Meeting of the PCGCD Board of Directors

Wednesday, November 18, 2015

County Clerk's Office Use Only:	
FILED FOR RECORD IN MY OFFICE	
AT 305	O'CLOCK 0 M
NOV 13 2015	
BOBBIE DAVIS COUNTY CLERK, PANOLA COUNTY, TEXAS	
BY 830181	DEPUTY

REGULAR BOARD MEETING AGENDA

1. Call to order.
2. Public comment.
3. Review and consider approval of minutes for October 27, 2015, Public Hearing – Rule Changes.
4. Review and consider approval of minutes for October 27, 2015, Regular Board Meeting.
5. Presentation from Intera on DFC's and other consulting services.
6. Review and approval of Resolution 2015-06 appointing a GMA 11 Presiding Officer and designee.
7. Review and approve the 2016 Holiday Schedule.
8. Discussion and possible action on Well Inspection Program.
9. Hear Field Technician report and discuss topics such as groundwater production, water well issues, frac pond monitoring, monitor wells, rain gauges, collection of field data, and historical water level data.
10. Review and confirm District expenditures from October 27, 2015 to November 13, 2015.
11. EXECUTIVE SESSION: The Panola County Groundwater Conservation District Board of Directors may go into an executive session under the authority of the Government code, Chapter 551, Texas Open Meetings Act. Please see details below.
12. Consider action(s) regarding matters discussed in executive session.
13. Set date and time for next meeting.
14. Adjournment.

This meeting is available to all persons regardless of disability. If you require special assistance to attend or participate in the meeting, please contact the Panola County GCD at (903) 690-0143 at least 24 hours in advance of the meeting.

pendix A cont. - Rule Review

At any time during the meeting and in compliance with the Texas Open Meetings Act, Chapter 551, Government Code, Vernon's Texas Codes, Annotated, the Panola County Groundwater Conservation District Board may meet in executive session on any of the above agenda items for consultation concerning attorney-client matters (§551.071); deliberation regarding real property (§551.072); deliberation regarding prospective gift (§551.073); personnel matters (§551.074); and deliberation regarding security devices (§551.076). Any subject discussed in executive session may be subject to action during an open meeting.

Certification

I, the undersigned authority, do hereby certify that on October 22, 2015 at or before 5:00 p.m., our office posted and filed the above notice of meeting with the Panola County Clerk's Office, and also posted a copy near the front door of the Panola County GCD office in a place convenient and readily accessible to the general public at all times, and that it will remain so posted continuously for at least 72 hours preceding the scheduled time of said meeting in accordance with Texas Government Code, Chapter 551.



Leah Adams, General Manager
Panola County Groundwater Conservation District

WITNESS THE HAND AND SEAL OF THE UNDERSIGNED CLERK ON THIS THE
13TH DAY OF NOVEMBER, 2015 AT 3⁰⁸ O'CLOCK A.M. P.M.

Bobbie Davis
BOBBIE DAVIS, COUNTY CLERK
PANOLA COUNTY, TEXAS

BY Shenequa Brooks DEPUTY



pendix A cont. - Rule Review

REGULAR BOARD MEETING

Panola County Groundwater Conservation District

419 W. Sabine St., Carthage, Texas 75633

Phone: 903.690.0143 Fax: 903.690.0135

**Regular Board Meeting of the PCGCD Board of Directors
Tuesday, December 22, 2015**

County Clerk's Office Use Only:	
FILED FOR RECORD IN MY OFFICE	
AT <u>2:15</u> O'CLOCK <u>9</u> M	
DEC 17 2015	
BOBBIE DAVIS COUNTY CLERK, PANOLA COUNTY, TEXAS	
BY <u>T. Endaly</u>	DEPUTY

REGULAR BOARD MEETING AGENDA

1. Call to order.
2. Public comment.
3. Review and consider approval of minutes for November 16, 2015, Special Called Board meeting.
4. Review and consider approval of minutes for November 18, 2015, Public Hearing-Permits.
5. Review and consider approval of minutes for November 18, 2015, Regular Board Meeting.
6. Review and approval of Resolution 2015-07 Adopting the Amount of the Well Plugging Report Deposit fee.
7. Review and approval of Resolution 2015-06 appointing a GMA 11 Presiding Officer and District Representative.
8. Discuss and possible action on plugging applications.
9. Discussion and possible action on approval of a new District water well database system.
10. Review and possible action on Employee Performance Evaluations and compensation.
11. Hear Field Technician report and discuss topics such as groundwater production, water well issues, frac pond monitoring, monitor wells, rain gauges, collection of field data, and historical water level data.
12. Review and confirm District expenditures from November 14, 2015 to December 16, 2015.
13. EXECUTIVE SESSION: The Panola County Groundwater Conservation District Board of Directors may go into an executive session under the authority of the Government code, Chapter 551, Texas Open Meetings Act. Please see details below.
14. Consider action(s) regarding matters discussed in executive session.
15. Set date and time for next meeting.
16. Adjournment.

This meeting is available to all persons regardless of disability. If you require special assistance to attend or participate in the meeting, please contact the Panola County GCD at (903) 690-0143 at least 24 hours in advance of the meeting.

pendix A cont. - Rule Review

At any time during the meeting and in compliance with the Texas Open Meetings Act, Chapter 551, Government Code, Vernon's Texas Codes, Annotated, the Panola County Groundwater Conservation District Board may meet in executive session on any of the above agenda items for consultation concerning attorney-client matters (§551.071); deliberation regarding real property (§551.072); deliberation regarding prospective gift (§551.073); personnel matters (§551.074); and deliberation regarding security devices (§551.076). Any subject discussed in executive session may be subject to action during an open meeting.

Certification

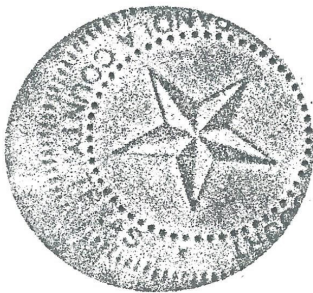
I, the undersigned authority, do hereby certify that on December 17, 2015 at or before 5:00 p.m., our office posted and filed the above notice of meeting with the Panola County Clerk's Office, and also posted a copy near the front door of the Panola County GCD office in a place convenient and readily accessible to the general public at all times, and that it will remain so posted continuously for at least 72 hours preceding the scheduled time of said meeting in accordance with Texas Government Code, Chapter 551.



Leah Adams, General Manager
Panola County Groundwater Conservation District

WITNESS THE HAND AND SEAL OF THE UNDERSIGNED CLERK ON THIS THE

17TH DAY OF DECEMBER, 2015 AT 2:15 O'CLOCK A.M. P.M.



Bobbie Davis, Clerk
BOBBIE DAVIS, COUNTY CLERK
PANOLA COUNTY, TEXAS

BY Dereasa J. Endrey DEPUTY

pendix A cont. - Rule Review

Panola County Groundwater Conservation District Board of Directors Regular Meeting Minutes November 18, 2015

A regular meeting of the Panola County Groundwater Conservation District Board of Directors was held on Wednesday, November 18, 2015 immediately following the public hearing for Operating Permits and Drilling Permits which ended at 5:40 pm in the District Conference Room at 419 W. Sabine Street, Carthage, Texas 75633. The following were in attendance:

Board Members -

Precinct #1: Danny Reed
Precinct #2: James Browning
Larry Dorman
Precinct #3: Al Clay
Jim Payne
Precinct #4: Ray Davis
Larry McMillan
At large: Bobby Langford

District Staff - Leah Adams, General Manager; Teresa Griffin, Office Manager; and Jess Landreneau, Field Technician

Absent- Mike Pennington Precinct #1

1. The regular board meeting was called to order by Larry Dorman at 5:41 p.m.
2. There were no public comments.

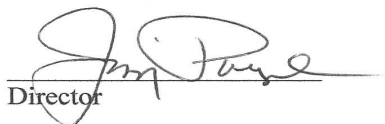
The Board entered into Executive Session at 5:42 p.m., under the authority of the Government Code, chapter 551, Texas Open Meetings Act. They exited the executive session at 6:34 p.m. There was no action taken after returning from Executive Session.

3. After reviewing the minutes of the October 27, 2015 Public Hearing on Rule Changes, Danny Reed moved and Larry McMillan seconded the motion to accept the minutes as presented. The motion passed unanimously of those present.
4. After reviewing the October 27, 2015 Regular Board Meeting Minutes, Ray Davis moved and Larry McMillan seconded the motion to accept the minutes as presented. The motion passed unanimously of those present.
5. The presentation from Intera on DFC's and other consulting services was rescheduled for the January meeting. No representative from Intera was present at the meeting.
6. After review and discussion of Resolution 2015-06 appointing a GMA 11 Presiding Officer and designee, Danny Reed moved and Ray Davis seconded the motion to table the Resolution until December meeting. The motion passed unanimously by those present.

pendix A cont. - Rule Review

7. The 2016 Holiday schedule was presented for review and approval. After review and discussion, Ray Davis moved and Jim Payne seconded to approve the Holiday schedule as presented. The motion passed unanimously by those present.
8. The Well Inspection Program was discussed; the board recommended the General Manager draft a Release form with input from the board members and legal review by the District's attorney to be considered for approval by the board at the December meeting.
9. District Field and Office Assistant, David Waldrop, provided updates on submitted groundwater production totals for 2015, wells registered this year, well site remediation progress, and water well plugging inspections. Through the second quarter, the District has recorded 1,566 acre-feet of groundwater production. In 2015 to date, the District has recorded 113 well registrations (new drills plus existing well registrations). District Field Technician, Jess Landreneau, provided updates on the regular monthly monitor wells, rain gauges, and frac pond monitoring. The monthly monitor deep well readings show a decline in water levels of approximately 0.71 feet in the last month. Compared to 2011, the deep well water levels are up 3.49 feet. The shallow well water levels have declined 0.83 feet in the last month, and they are 2.35 feet higher than in 2011. The rainfall average for August was 2.86 inches. The historical average for August is 2.68 inches, and the historical average for September is 3.99 inches. The majority of Panola County is currently in severe drought conditions according to the U.S. Drought Monitor. The Alexander frac pond in Delray is an area of concern due to large drawdowns. The Lake Anadarko frac pond and the Carthage West frac pond areas have had significant groundwater level recoveries in the past month.
10. After reviewing the accounts payable for the period of October 27, 2017 to November 13, 2015, 2015, Danny Reed moved and Jim Payne seconded the motion to approve payment of expenses as presented. The motion passed unanimously.
11. No additional Executive Session was needed.
12. Since no additional Executive Session was required, no action was taken.
13. The next meeting date was set for December 22, 2015 at 5:30 p.m. at the District Office.
14. Danny Reed moved and Ray Davis seconded the motion to adjourn at 7:39 p.m. The motion passed unanimously.

Approved this 22nd day of December 2015.


Director


Director

pendix B - Region I Meeting Minutes 2015

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MINUTES OF THE REGULAR MEETING
of the
REGIONAL WATER PLANNING GROUP "T"
Wednesday, January 28, 2015– 10:00 a.m.
Nacogdoches Recreation Center
1112 North Street, Nacogdoches, Texas

1. Call to Order – Kelley Holcomb, Chair, called the meeting to order at 10:10 a.m.
2. Invocation & Pledge of Allegiance – Kelley Holcomb gave the invocation and led the group in the Pledge of Allegiance.
3. Roll Call and Determination of Quorum –The roll was called by Lila Fuller and a quorum was determined as follows:

Voting Members Present (16 of 22)

Kelley Holcomb
Leah Adams
David Alders
David Brock
Josh David
Chris Davis
Mike Harbordt
William Heugel
Joseph Holcomb
Bill Kimbrough
John Martin
David Montagne
Gregory Morgan
Monty Shank
Worth Whitehead
J. Leon Young

Voting Members Absent (5)

Jeff Branick
Mark Dunn
Scott Hall
Dale Peddy
Darla Smith

Voting Member Vacancies (1)

Proxies:

Kelley Holcomb for Dale Peddy
Bill Huegel for Darla Smith

Non-Voting Members Present:

Connie Standridge – Region C

Governmental Reporting Agencies Present:

Lann Bookout, Texas Water Development Board

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Terry Stelly – Texas Parks and Wildlife
Manuel Martinez – Texas Dept. of Agriculture

Other Guests Present:

Stacy Corley, City of Nacogdoches
Lila Fuller, City of Nacogdoches
Rex Hunt, Alan Plummer Associates, Inc.
Cynthia Syvarth – Alan Plummer Associates, Inc.
Spandana Tummuri – Freese & Nichols, Inc.
Philip Topck – Alan Plummer Associates, Inc.
Mary Vann – SRA-TX
Amanda Maloukis – RCGCD
Jerry Nichols – TSSWCB
Ben A. Stephenson – Dallas Water Utilities
Trey Watson – TSSWCB
David Alford – Neches & Trinity Valley GCD
Steve Bartlett – City of Nacogdoches

4. Receive Comments from Ms. Kathleen Jackson, Director, Texas Water Development Board.

Chair Holcomb stated a conflict prevented Director Jackson from attending the meeting.

5. Consideration and approval of the minutes of the November 19, 2014 meeting.

Mike Harbordt moved to approve the minutes as presented. Motion seconded by Monty Shank and unanimously passed.

6. Report from City of Nacogdoches – Lila Fuller.

No report.

7. Reports of adjoining regions activity (only as needed):

- A. **Region C** – Mike Harbordt reported Region C met January 26, 2015 and discussed items related to resolution of the interregional conflict regarding the Marvin Nichols Reservoir Water Management Strategy.
- B. **Region D** – Worth Whitehead stated Region D was in the process of taking the same steps for the regional water plan.
- C. **Region H** – David Alders stated they were discussing amendments to the 2011 plan to account for development of brackish groundwater desalination facility for Brazosport Water Authority, as well as conventional treatment operations by BWA and the application of Dow Chemical related to the expansion of existing off-channel reservoir and pump station infrastructure.

8. Reports from Standing Committees (only as needed):

- A. **Executive Committee** – Has not met since last Planning Group meeting. No report.
- B. **Finance Committee** – No report.
- C. **Bylaws Committee** – No report.
- D. **Technical Committee** – Mike Harbordt deferred his report to the action items later on the agenda.
- E. **Nominations Committee** – Monty Shank deferred his report to Agenda Item 18.

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9. **Reports from other State agencies:**

- A. **Texas Department of Parks and Wildlife** – Terry Stelly reported on the Fly Fish Texas event (March 14) and Friends of Neches River Trail event (March 21). He stated he would share the links to the events with Lila who could forward to all of the members.
- B. **Texas Department of Agriculture**. –Manuel Martinez stated water was a priority for Ag Commissioner Miller and that TDA would be more involved in water issues going forward. He stated Dan Hunter had been named the Assistant Commissioner for Water and Rural Affairs, which was a new position in the Texas Department of Agriculture.

10. **Report from Texas Water Development Board staff:**

A. **Update on Region C and Region D Conflict, Stakeholder Meetings, SWIFT Funding**

Lann Bookout gave an update on the SWIFT Funding, stating applications were being accepted to fund any water project that was included in the State Water Plan. He stated the pre-application was due February 3, 2015.

He reviewed the Stakeholders Committee meeting. Kelley Holcomb gave more information on modification standards that were discussed. The committee ultimately decided not to make changes to the prioritization guidelines as the 2016 Prioritization is developed.

Lann stated additional information on the SWIFT funding was available on the TWDB website.

Lann stated he could provide a copy of the Order regarding the Region C and Region D conflict regarding the Marvin Nichols Reservoir Water Management Strategy.

11. **Report from consultant team – Rex Hunt/Alan Plummer Associates, Inc.**

A. **Review of Draft Chapter 5A of the 2016 Regional Water Plan**

Rex reviewed the project schedule, stating this would be a review only of Chapter 5A, as there was still work to be done before it was presented for approval by the ETRWPG in March. He stated he would ask for a vote on Unique Stream Segment and Unique Reservoir Site evaluation methodologies today and vote on recommendations in March.

Spandana Tummuri with Freese & Nichols, Inc. reviewed the methodology for determining Water Management Strategies and the Identification of Potentially Feasible Water Management Strategies. She stated water management strategy selection for regional planning consisted of potentially feasible strategies, recommended strategies and alternate strategies. She presented the types of water management strategies and discussed them in greater detail.

Spandana stated Region I was a “water rich” region, with many identified shortages primarily due to lack of infrastructure, contracts with water suppliers, and/or the development of additional groundwater supplies. Because Region I had ample water, it should look at conservation as making sure ample supplies remain. However, she stated there would be no significant savings in conservation efforts because of the low municipal demands compared to non-municipal demands as well as the low per capita water use in the region. Most shortages were addressed by expanded use of existing supplies, which was the most important strategy for the region.

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She reviewed the available groundwater and surface water supplies in the region, stating 60% of WUGS with need are expected to continue to use groundwater. She showed Counties near capacity in groundwater as being Angelina, Cherokee, Nacogdoches, Orange, Shelby and Smith Counties, but noted it did not account for brackish water supplies in these counties.

Spandana went into greater detail regarding the expanded use of local supplies which are generally limited to irrigation, livestock and mining.

She stated they were in the process of sending a survey to all WUGS with needs to identify potentially feasible water management strategies, and the FTP site link to Chapter 5A would be sent to the ETRPG members within the next few days.

Rex briefly reviewed potential legislation and regulatory recommendations, stating a vote on the recommendations would be presented in March or April. Any recommendations from members should be sent to Chair Holcomb.

(A copy of the PowerPoint presentation can be obtained from the Administrator)

Chair Holcomb recessed for lunch at 11:20 a.m.

The meeting reconvened at 11:34 a.m.

12. **Public comment** – None.

13. **New Business** –

Consideration and Approval Authorizing of a Resolution designating the City of Nacogdoches as the Political Subdivision for the 2021 (5th Cycle) Regional Water Plan; and Authorizing the City of Nacogdoches to apply for funding with the Texas Water Development Board for the 2021 Regional Water Plan and to enter into a contract to accomplish same.

David Alders moved to adopt a Resolution designating the City of Nacogdoches as political subdivision for the 2021 (5th Cycle) Regional Water Plan; and authorizing the City of Nacogdoches to apply for funding with TWDB for the 2021 Regional Water Plan and enter into a contract to accomplish same. The motion was seconded by Worth Whitehead and unanimously passed.

14. **Consideration and Approval of a request to the TWDB to perform a Socio Economic Impact Analysis.**

Rex Hunt explained the analysis would be performed by TWDB staff, but that the RWPG needed to request the analysis be done.

Joseph Holcomb moved that APAI be authorized to request TWDB to perform a Socio Economic Impact Analysis. The motion was seconded by David Montagne and unanimously passed.

15. **Consideration and Approval of Draft Chapter 1 of the 2016 Initially Prepared Regional Water Plan.**

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Cynthia Syvarth with APAI reviewed updates to this Chapter, stating detailed information was included in the written chapter. She further stated Chapter 1 would be posted on the Region I website upon approval.

After some comment about poultry production in Anderson County and its possible identity as an expanding demand, David Alders moved to approve Chapter 1 as presented, with poultry production in Anderson County being expended in the final IPP. The motion was seconded by Monty Shank and unanimously passed.

16. Consideration and Possible Approval of the Methodology for and/or Recommendation of Unique Stream Segments.

Rex Hunt with APAI reviewed the unique stream segments utilizing TWDB study "Draft Ecologically Significant River and Stream Segments of Region I, Regional Water Planning Area (2005)", stating a lot of the streams in the region meet the requirements of "unique", with 11 meeting 3 or more criteria.

After some discussion on the methodology, Michael Harbordt moved to approve the methodology for evaluating unique stream segments and to also make no recommendation to designate unique stream segments in Region I in this round of planning. The motion was seconded by David Alders and unanimously passed.

(A copy of the PowerPoint presentation can be obtained from the Administrator)

17. Consideration and Possibly Approval of the Methodology for and/or Recommendation of Unique Reservoir Sites.

Rex Hunt with APAI reviewed the definition of a unique reservoir site and identified the proposed sites in Region I. He noted that Lake Columbia and Fastrill Reservoir have previously been identified as Unique Reservoir Sites by the Texas Legislature. Rex stated the options for the RWPG were to select one or more of the remaining proposed reservoir site for status as a Unique Reservoir Site, or elect not to name any proposed sites for this status.

After some discussion, Leon Young moved to make no recommendations regarding additional Unique Reservoir Sites in Region I in this round of planning and to recommend that the the Reservoir Sites of Lake Columbia and Fastrill Reservoir continue to be designated as Unique Reservoir Sites. The motion was seconded by David Montagne and unanimously passed.

(A copy of the PowerPoint presentation can be obtained from the Administrator)

18. Election of Officers and Executive Committee At Large positions.

Monty Shank, Nominations Committee Chair, presented the following officers from the Committee:

Chair: Kelley Holcomb
 1st Vice Chair – Worth Whitehead
 2nd Vice Chair – Dr. Michael Harbordt
 Secretary – David Brock
 Assistant Secretary – John Martin
 At-Large – Dr. Leon Young

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At-Large – David Alders

David Montagne moved that the slate of officers as presented by the Nominating Committee be approved. The motion was seconded by Joseph Holcomb and unanimously passed.

19. **General discussion.** Chair Holcomb announced the next meeting was scheduled for March 11, 2015.

20. **Adjourn** – Chair Holcomb adjourned the meeting at 12:13 p.m.

APPROVED THIS 11th day of March 2015.


Kelley Holcomb, Chair
ETRWPG – Region I

ATTEST:


David Brock, Secretary

Minutes approved: March 11, 2015

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MINUTES OF THE REGULAR MEETING
of the
REGIONAL WATER PLANNING GROUP "I"
Wednesday, March 11, 2015– 10:00 a.m.
Nacogdoches Recreation Center
1112 North Street, Nacogdoches, Texas

1. Call to Order – Kelley Holcomb, Chair, called the meeting to order at 10:15 a.m.
2. Invocation & Pledge of Allegiance – Kelley Holcomb gave the invocation and led the group in the Pledge of Allegiance.
3. Roll Call and Determination of Quorum –The roll was called by Lila Fuller and a quorum was determined as follows:

Voting Members Present (14 of 22)

Kelley Holcomb
Leah Adams
David Brock
Josh David
Scott Hall
William Heugel
Joseph Holcomb
John Martin
David Montagne
Gregory Morgan
Monty Shank
Darla Smith
Worth Whitehead
J. Leon Young

Voting Members Absent (7)

David Alders
Jeff Branick
Chris Davis
Mark Dunn
Mike Harbordt
Bill Kimbrough
Dale Peddy

Voting Member Vacancies (1)

Proxies:

Monty Shank for Chris Davis
Monty Shank for Mike Harbordt
Kelley Holcomb for Dale Peddy

Non-Voting Members Present:

Connie Standridge – Region C
Ben A. Stephenson – Dallas Water Utilities

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Governmental Reporting Agencies Present:

Lann Bookout, Texas Water Development Board
 Terry Stelly – Texas Parks and Wildlife
 Manuel Martinez – Texas Dept. of Agriculture

Other Guests Present:

Stacy Corley, City of Nacogdoches
 Lila Fuller, City of Nacogdoches
 Rex Hunt, Alan Plummer Associates, Inc.
 Cynthia Syvarth – Alan Plummer Associates, Inc.
 Spandana Tummuri – Freese & Nichols, Inc.
 Mary Vann – SRA-TX
 Steve Bartlett – City of Nacogdoches
 Donna McCollum – KTRE-TV

4. Receive Comments from Ms. Kathleen Jackson, Director, Texas Water Development Board.

Chair Holcomb stated Director Jackson was unable to attend.

5. Consideration and approval of the minutes of the January 28, 2015 meeting.

Josh David moved to approve the minutes as presented. Motion seconded by Worth Whitehead and unanimously passed.

6. Report from City of Nacogdoches – Lila Fuller.

No report.

7. Reports from other State agencies:

- A. **Texas Department of Parks and Wildlife** – Terry Stelly shared that according to Cindy Loeffler, PE with TPW, the Region L bill to designate significant stream segments was being heard in the House.

Texas Department of Agriculture – Manuel Martinez stated Ag Commissioner Miller had TDA staff going to all regional meetings and reporting back to him to keep current with water issues in the State. He also mentioned the Specialty Crop Block Grant available through TDA, defined as fruits and vegetables, dried fruit, tree nuts, horticulture, nursery crops (including floriculture). More information on the grant program can be found at <https://texasagriculture.gov/Home/ProductionAgriculture/SpecialtyCropBlockGrantProgram.aspx>.

8. Report from Texas Water Development Board staff:

- A. **Update and guidance on 2016 Regional Water Plan tasks and timeline.**

Lann Bookout gave an update on the SWIFT Funding, stating 45 applications had been received. He stated staff would prioritize the applications with final approval of funding expected during the summer.

He stated the 5th Cycle funding applications had been received by the regions and TWDB had until April 9 to approve. The contracts must be fully executed by August 31, 2015.

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9. **Report from consultant team – Rex Hunt/Alan Plummer Associates, Inc.**
- A. **Review of schedule for 2016 Regional Water Plan, tasks and timeline.**

Rex reviewed the project schedule.

- B. **Review of draft Chapter 5B of the 2016 Regional Water Plan.**

Spandana Tummuri with Freese & Nichols, Inc and Cynthia Syvarth with Alan Plummer Associates, Inc. reviewed Chapter 5B of the 2016 Regional Water Plan, which covered the evaluation of potentially feasible, recommended, and alternative water management strategies. They explained how strategies within the chapter would be organized between Water User Groups by County and Wholesale Water Providers. They provided a handout demonstrating how data would be compiled into Chapter 5B and technical memorandums, as well as handouts covering the needs and water management strategies for Wholesale Water Providers and Water User Groups.

It was reported they had received 85% of the surveys back from water providers and were very pleased with that response, stating the more input received the more accurate the 2016 Plan would be.

They reviewed the WMS Matrix Evaluation and the criteria used. As an example, they presented a strategy of reservoir development for surface water and the treatment process for groundwater.

Each county with needs were reviewed individually for recommended and alternative strategies.

(A copy of the PowerPoint presentation and handouts can be obtained from the Administrator)

Chair Holcomb recessed for lunch at 11:30 a.m.

The meeting reconvened at 12:00 noon.

10. **Public Comment. – None.**

11. **Consideration and Approval of Draft Chapters 5A, 8, 9 and 10 of the 2016 Initially Prepared Regional Water Plan.**

Spandana gave a brief review of Chapter 5A. Spandana reminded the planning group that Chapter 5A identified potentially feasible water management strategies. She reviewed updates that had been made to supply availability within the region since the last meeting.

Upon completion of the review, Chair Holcomb called for a motion to approve Draft 5A of the 2016 Initially Prepared Regional Water Plan as presented (part of Item No. 11 on agenda). Leon Young moved to approve Draft Chapter 5A as presented. The motion was seconded by Monty Shank and unanimously passed.

Chair Holcomb reminded members that Chapter 8 would contain Legislative recommendations, and to provide him or the consultants with any recommendations they had

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as soon as possible. Consulting staff referred the members to handouts they had been provided with the Legislative recommendations from the 2011 Water Plan.

Cynthia explained Chapter 9 would contain the Infrastructure Financing Report which would be developed by the TWDB after completion of the IPP. She stated the vote on this draft chapter would be as a "placeholder" and the report will be added to Chapter 9 before final adoption of the plan.

Monty Shank moved to approve Draft Chapter 9, which would contain the Infrastructure Financing Report upon its completion. The motion was seconded by John Martin and unanimously passed.

Chair Holcomb stated Draft Chapter 10 would include documentation related to adoption of the 2016 Plan and public participation related to a review of the IPP. Again, the adoption of the draft chapter would be a "placeholder" for the information to be added later. Kelley reviewed the public outreach used in the past and solicited recommendations for any changes.

It was suggested that a "counter" be added to the ETRWPG website to track how many times the site was accessed and what information was being viewed.

Worth Whitehead moved to approve Draft Chapter 10 as presented. The motion was seconded by Josh David and unanimously passed.

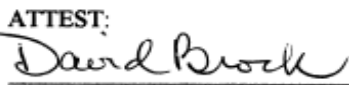
12. **General discussion.** Rex Hunt stated they were soliciting photos of water related structures within the Region that could be used in the final water plan. He asked that the pictures be sent to him or to Lila.

Chair Holcomb recognized Spandana and Cynthia for the work they had done on the plan and what a useful tool it would be upon completion. He announced the next meeting was scheduled for April 8, 2015.

13. **Adjourn** – Chair Holcomb adjourned the meeting at 12:21 p.m.

APPROVED THIS 8th day of April 2015.


Kelley Holcomb, Chair
ETRWPG – Region I

ATTEST:

David Brock, Secretary

Minutes approved: April 8, 2015

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MINUTES OF THE REGULAR MEETING
of the
REGIONAL WATER PLANNING GROUP "I"
Wednesday, April 8, 2015– 10:00 a.m.
Nacogdoches Recreation Center
1112 North Street, Nacogdoches, Texas

1. Call to Order – Kelley Holcomb, Chair, called the meeting to order at 10:10 a.m. Chair Holcomb directed attention to the revised agenda that had been posted accordingly.
2. Invocation & Pledge of Allegiance – Worth Whitehead gave the invocation and led the group in the Pledge of Allegiance.
3. Roll Call and Determination of Quorum –The roll was called by Lila Fuller and a quorum was determined as follows:

Voting Members Present (14 of 22)

Kelley Holcomb
David Alders
David Brock
Josh David
Mark Dunn
Scott Hall
William Heugel
Joseph Holcomb
Bill Kimbrough
John Martin
Gregory Morgan
Monty Shank
Worth Whitehead
J. Leon Young

Voting Members Absent (7)

Leah Adams
Jeff Branick
Chris Davis
Mike Harbordt
David Montagne
Dale Peddy
Darla Smith

Voting Member Vacancies (1)

Proxies:

Monty Shank for Chris Davis
Monty Shank for Mike Harbordt
Kelley Holcomb for Dale Peddy
Bill Heugel for Darla Smith

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Non-Voting Members Present:

Connie Standridge – Region C
Ben A. Stephenson – Dallas Water Utilities

Governmental Reporting Agencies Present:

Lann Bookout, Texas Water Development Board
Terry Stelly – Texas Parks and Wildlife
Manuel Martínez – Texas Dept. of Agriculture

Other Guests Present:

Stacy Corley, City of Nacogdoches
Lila Fuller, City of Nacogdoches
Rex Hunt, Alan Plummer Associates, Inc.
Cynthia Syvarth – Alan Plummer Associates, Inc.
Spandana Tummuri – Freese & Nichols, Inc.
Mary S. Vann – SRA-TX
Jess Landreneau – Panola County GCD
Steve Bartlett – City of Nacogdoches

4. Consideration and approval of the minutes of the March 11, 2015 meeting.

Mark Dunn moved to approve the minutes as presented. Motion seconded by Monty Shank and unanimously passed.

5. Report from City of Nacogdoches – Lila Fuller.

No report.

6. Reports from other State agencies:

- A. **Texas Department of Parks and Wildlife** – Terry Stelly shared that HB 1016 relating to the designation of certain river or stream segments as being of unique ecological value was through committee. He stated there was also a companion bill in SB1293.

Texas Department of Agriculture –Manuel Martinez stated Ag Commissioner Miller was in Nacogdoches on Tuesday for the Nacogdoches County Ag Awards Banquet.

7. Report from Texas Water Development Board staff:

- A. **Update and guidance on 2016 Regional Water Plan tasks and timeline.**

Lann Bookout reminded members that the IPP would need a vote of 2/3 to be adopted. He reviewed the public meeting requirement and 30 day comment period. He stated Cycle 5 contracts would go to the TWDB on May 6 for approval.

8. Report from consultant team – Rex Hunt/Alan Plummer Associates, Inc.

- A. **Review of schedule for 2016 Regional Water Plan.**

Rex Hunt reviewed the project schedule and gave an update on the final IPP draft.

9. **Receive public comments on the scope of planning activities for 2021 (5th Cycle) Regional Water Plan (limited to three minutes)**

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Rex Hunt reviewed the scope of planning activities for the 2021 Plan. No one wished to speak.

10. Consideration and approval of actions related to the 2016 Initially Prepared Plan:

A. Adoption of the Final Initially Prepared Plan.

B. Authorize the submittal of the approved Initially Prepared Plan and related documents before the May 1, 2015 deadline.

C. Authorize the Executive Committee to approve minor revisions to Initially Prepared Plan prior to the May 1, 2015 submittal deadline.

Consultants Cynthia Syvarth (APAI) and Spandana Tummuri (Freese Nichols, Inc.) reviewed each chapter of the Draft Initially Prepared Plan. They encouraged comments and stated comments and changes could be made after the IPP is submitted to the Texas Water Development Board.

David Alders suggested a complete wetlands map for the Region is included.

There was discussion on per capital water use; drought information contained in Chapter 7 and clarification of drought of record (historical) for reservoirs.

Chair Holcomb recessed for lunch at 11:20 a.m.

The meeting reconvened at 11:45 a.m.

Cynthia Syvarth and Spandana Tummuri continued their review of the Draft IPP – Chapter 5B. They referenced the strategy handout and discussed the 14 consultant team strategies identified in the draft IPP.

There was discussion on conservation strategies and how they would be addressed in the IPP and pointed out the need in Henderson County to add an alternate strategy that worked to get MAG numbers changed to allow use from Carrizo Wilcox.

Chapter 8 Legislative recommendations were discussed, stating they would remain in draft form to allow for additional changes until May 1 submission.

The group discussed various sections of this chapter including junior water rights; unique reservoir designation; wastewater reuse; uncommitted surface water and suggestion additions for the 2016 plans as follows:

- Develop and document standardized processes for regional water plan development that coincide with federal permitting processes where possible.
- Funding through the TWDB for additional groundwater modeling to better develop DFC's and related MAGS
- Clarification on the criteria for developing and designating unique stream segments, to include a limitation on the impacts of the designation.
- Regional Water Plan Prioritization should define what constitutes a "project" to exclude WMS's with no capital costs.

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There being no additional discussion, Scott Hall moved to adopt the final IPP as presented, and authorize submission by May 1, authorizing the Executive Committee to approve minor revisions. The motion was seconded by Josh David and unanimously passed.

11. Consideration and approval for publishing notice of the dates, times and locations of public hearings to receive comments on the adopted Initially Prepared Plan.

After discussion on historically holding three public meetings in Beaumont, Jacksonville and Nacogdoches, and that only one meeting is required, Greg Morgan moved to consolidate to one meeting in Nacogdoches to be held in late June or July, and publish the required legal notice in the Tyler, Nacogdoches and Beaumont newspapers as historically done. The motion was seconded by John Martin and unanimously passed.

12. Consideration and approval authorizing the City of Nacogdoches to issue a Request for Qualifications for the 2021 Regional Water Planning Process (Round 5).

Scott Hall moved to authorize the City of Nacogdoches to solicit RFQs for consulting engineer for the 2021 Regional Water Planning Process (Round 5) as presented. The motion was seconded by Monty Shank and unanimously passed.

General discussion. Kelley Holcomb stated The Fort Worth District, U.S. Army Corps of Engineers would host two public meetings on April 28 and 29 to provide information and receive public input as it prepares to revise the Master Plan for Sam Rayburn Reservoir.

The meeting on April 28 will be held at the Ellen Trout Zoo and the meeting on April 29 will be at the Rayburn Country Banquet Room beginning at 6 p.m. At the conclusion of the presentation there will be time for the public to view maps, ask questions and provide comments about the project.

13. Adjourn – Chair Holcomb adjourned the meeting at 1:20 p.m.

APPROVED THIS 30th day of September 2015.


Kelley Holcomb, Chair
ETRWPG – Region I

ATTEST:


David Brock, Secretary

Minutes approved: September 30, 2015

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MINUTES OF THE REGULAR MEETING
of the
REGIONAL WATER PLANNING GROUP "I"
Wednesday, September 30, 2015– 10:00 a.m.
Nacogdoches Recreation Center
1112 North Street, Nacogdoches, Texas

1. Call to Order – Kelley Holcomb, Chair, called the meeting to order at 10:10 a.m.
2. Invocation & Pledge of Allegiance – David Alders gave the invocation and led the group in the Pledge of Allegiance.
3. Roll Call and Determination of Quorum –The roll was called by Stacy Corley and a quorum was determined as follows:

Voting Members Present (18 of 22)

Kelley Holcomb
Leah Adams
David Alders
David Brock
Josh David
Mark Dunn
Scott Hall
Mike Harbordt
William Heugel
Joseph Holcomb
John Martin
David Montagne
Gregory Morgan
Dale R. Peddy
Monty Shank
Darla Smith
Worth Whitehead
J. Leon Young (joined meeting at 11:15 a.m.)

Voting Members Absent (3)

Jeff Branick
Chris Davis
Bill Kimbrough

Proxies:

J. Leon Young to David Alders

Voting Member Category Vacancies: (1) Water Utilities

Non-Voting Members Present:

Governmental Reporting Agencies Present:

Lann Bookout, Texas Water Development Board
Scott Galaway, Texas Water Development Board

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Terry Stelly, Texas Parks and Wildlife
Manuel Martinez, Texas Dept. of Agriculture

Other Guests Present:

Stacy Corley, City of Nacogdoches
Lila Fuller, City of Nacogdoches
Rex Hunt, Alan Plummer Associates, Inc.
Spandana Tummuri – Freese & Nichols, Inc.
Travis Williams, SRA
Jim Brown, SRA
C. Hamilton, NTVGCD
Amanda Maloukis, RCGCD
Jackie Risner, Pineywoods GCD

4. Consideration and approval of the minutes of the April 8, 2015 meeting.

Mark Dunn moved to approve the minutes as presented. Motion seconded by Monty Shank and unanimously passed.

5. Report from City of Nacogdoches – Stacy Corley.

Mrs. Fuller advised the members that today was her last official day with the City of Nacogdoches as she has retired and Stacy Corley will be assuming her administrative duties with Region I. Chairman Holcomb asked Mrs. Fuller and Mrs. Corley to come up to the podium. Chairman Holcomb presented Mrs. Fuller with a plaque of appreciation from Region I for her service since 2007. Rex Hunt and Spandana Tummuri presented Mrs. Fuller and Mrs. Corley with flowers of appreciation for their work with Region I.

6. Reports from other State agencies:

- A. **Texas Department of Parks and Wildlife** – Terry Stelly shared the coastal red tide issue which has been affecting the coast from Galveston on south for the last few weeks.
- B. **Texas Department of Agriculture** – Manuel Martinez stated the Texas Department of Agriculture has just awarded approximately 160 grants for Rural Community Improvements. He stated that in the Region I area 18 to 19 grants were awarded.

7. Report from Texas Water Development Board staff: -- Lann Bookout

A. Update and guidance on 2017 State Water Plan tasks and timeline.

Lann advised the interregional conflict between with Region C & D recently went to court, is in the process of mediation. Additionally, it is anticipated that the interregional conflict rule revisions will go to the Board for consideration for final adoption in October. He stated Region I is not involved in any boundary issues. Boundaries are reviewed every five years to coincide with Planning cycles. The adopted Final Plan is due to TWDB December 1, 2015 including the adopted Final 2016 Prioritization.

Lann discussed the prior Swift Funding Cycle and advised the Second round of Swift funding will begin in December. The Board has asked for the State Water Plan to be completed one (1) year early for use in the Swift funding application evaluation for the Second round of funding.

Lann introduced Scott Galaway, Outreach Specialist from the Houston Field Office for Region H/I. He can help with funding for utility needs regarding Drinking and Clean Water.

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8. Report from consultant team – Rex Hunt/Alan Plummer Associates, Inc.

Review of schedule, responses to Initially Prepared Plan Comments and Project Prioritization for the 2016 Regional Water Plan.

Rex Hunt with APAI addressed members regarding the **project schedule**, the draft 2016 RWP has been delivered to Public locations and a public hearing was held to discuss the draft plan. Consideration and action to address all comments from the TWDB, Public, and Public agencies were completed in the summer of 2015. In September 2015, RWPG reviewed Chapter 10, Task 10 - Public Participation and Plan Adoption, also discussed Task 13 - 2016 Prioritizations of WMS in the 2016 RWP. In November 2015, RWPG will adopt Final 2016 Prioritization and adopt Final 2016 Plan. By December 1st of 2015, RWPG will submit Final 2016 Plan to TWDB.

Responses to 2016 IPP Comments: Comments were generally minor – significant changes to Chapters 5B, 9 and 10. No changes to Chapter 2 and minor changes to remaining chapters. RWPG received comments from the following: Public Response from IPP Hearing; TWDB; TPWD and UNRMWA. A few specific comments: Public comment on future impoundments (handout Item # 1); TWDB Level 1 comment on strategies that do not increase supply volume (item #12) TWDB Level 1 comments on quantitative reporting methods (Item 14 and 15) – TWDB Level 2 comment on Chapter 11 – identification of individual recommended and alternative strategies (Item #21)

2016 Prioritization: Water Management Strategy – a plan to meet a need for additional water by a discrete user group. **Project** – Identifies sponsor and capital cost requirements to implement a WMS. **2011 Prioritization** – prioritized 130 Water Management Strategies from the 2011 Plan. **2016 Prioritization** – prioritized 61 Projects from the 2016 Plan. This process includes uniform standards/criteria in five areas: **Decade of Need** (40% weighting); **Project Feasibility** (10% weighting); **Project Viability** (25% weighting); **Project Sustainability** (15% weighting) and **Project Cost Effectiveness** (10% weighting). Each area has between 1 and 4 uniform standards. Draft Assumptions Memorandum. Prioritization is underway. Typical scores will be from less than 200 to over 800 for projects. Rex to discuss draft results with Technical Committee before the November RWPG meeting. Final 2016 Prioritization will be presented at November RWPG meeting.

9. **Public Comments (limited to three (3) minutes)**

No one wished to speak.

10. **Consideration and approval of responses to comments on the 2016 Region I Initially Prepared Plan.**

Mike Harbordt moved to approve responses to comments on the 2016 Region I Initially Prepared Plan. The motion was seconded by Monty Shank and unanimously passed.

Dr. Young joined meeting at 11:15 a.m.

11. **Consideration and approval of Chapters 1, 2, 3, 4, 6, 7, 8 of the Final 2016 Regional Water Plan.**

Rex Hunt asked chapters to be considered be revised to include 2, 3, 4 and 8 as the other chapters still needed minor revisions. Mike Harbordt moved to approve Chapters: 2, 3, 4 and 8 of the Final 2016 Regional Water Plan. The motion was seconded by Greg Morgan and unanimously passed.

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12. Consideration and approval authorizing the City of Nacogdoches to accept the Statement of Qualifications from Alan Plummer Associates Inc, (APAI) and to enter into a contract with APAI for the 5th Cycle of Region I Water Planning.

Chairman Holcomb asked Rex Hunt to name the subcontractors for 5th Cycle. Rex advised Freese & Nichols, Inc. (Spandana Tummuri) and LBG Guyton (James Beach) will be the subcontractors for the 5th Cycle of Region I Water Planning.

David Alders moved to approve authorizing the City of Nacogdoches to accept the Statement of Qualifications from Alan Plummer Associates Inc., (APAI) and to enter into a contract with APAI for the 5th Cycle of Region I Water Planning. The motion was seconded by Monty Shank and unanimously passed.

13. Consideration and approval of the FY 2016 Annual Budget.

Darla Smith discussed the budget process, noting it is not funded by TWDB. Chairman Holcomb asked the Finance Committee to formulate a new funding method for FY 2017.

Darla Smith presented her recommendation of \$20,000 for Region I's FY 2016 Annual Budget; and to request \$10,000 from the RWPG counties. She also presented the purchase of a server for Region I's record retention for approximately \$639.00.

Worth Whitehead moved to approve the FY 2016 Annual Budget of \$20,000; to request \$10,000 from the RWPG counties; and approve the purchase of a server for Region I's record retention for approximately \$639.00. The motion was seconded by Monty Shank and unanimously passed.

14. General discussion.

None

15. Next Meeting Date – Thursday, November 5, 2015.

16. Adjourn – Chair Holcomb adjourned the meeting at 12:01 p.m.

APPROVED THIS 5th day of November 2015.

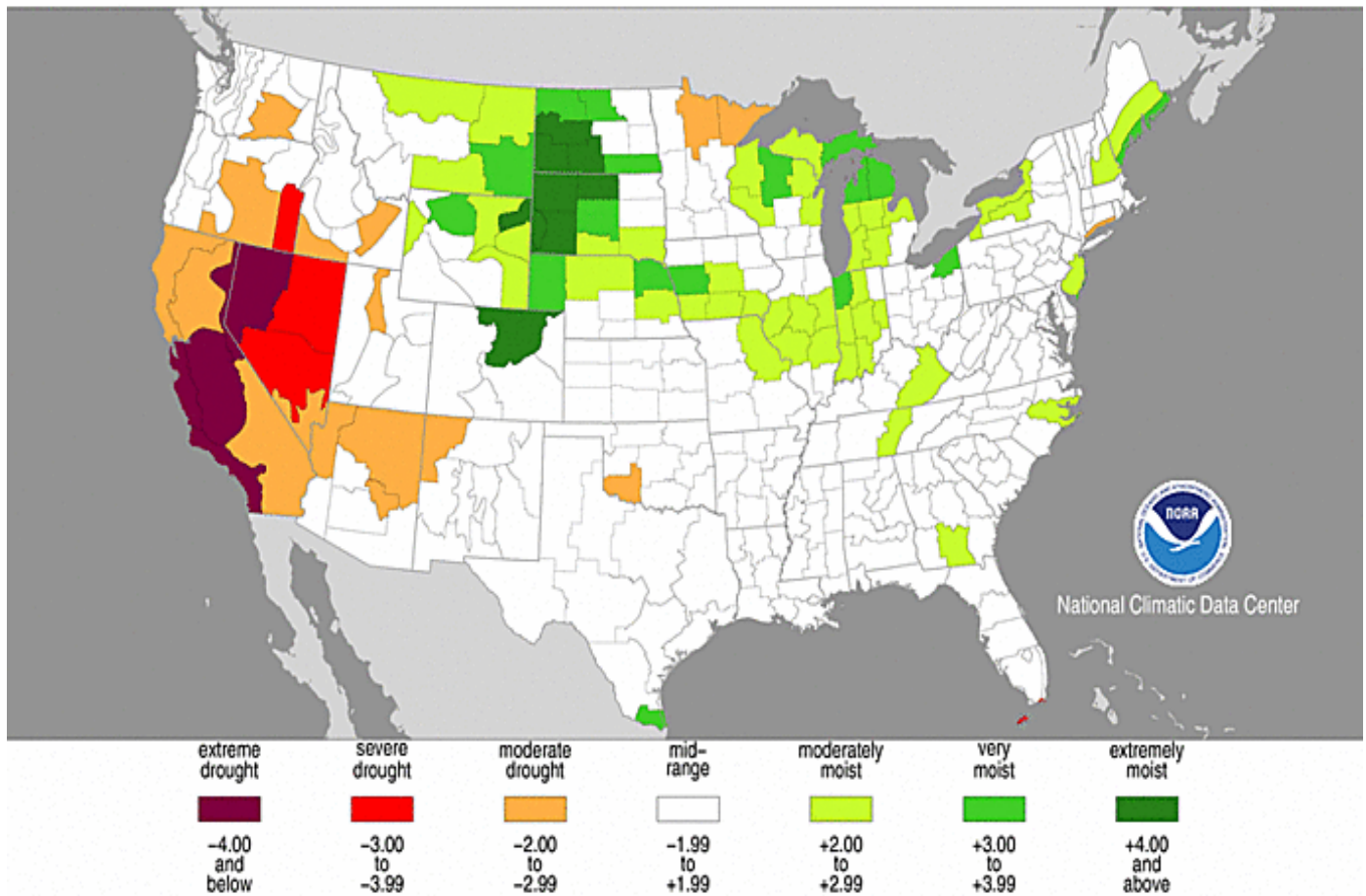

Kelley Holcomb, Chair
ETRWPG – Region I

ATTEST:

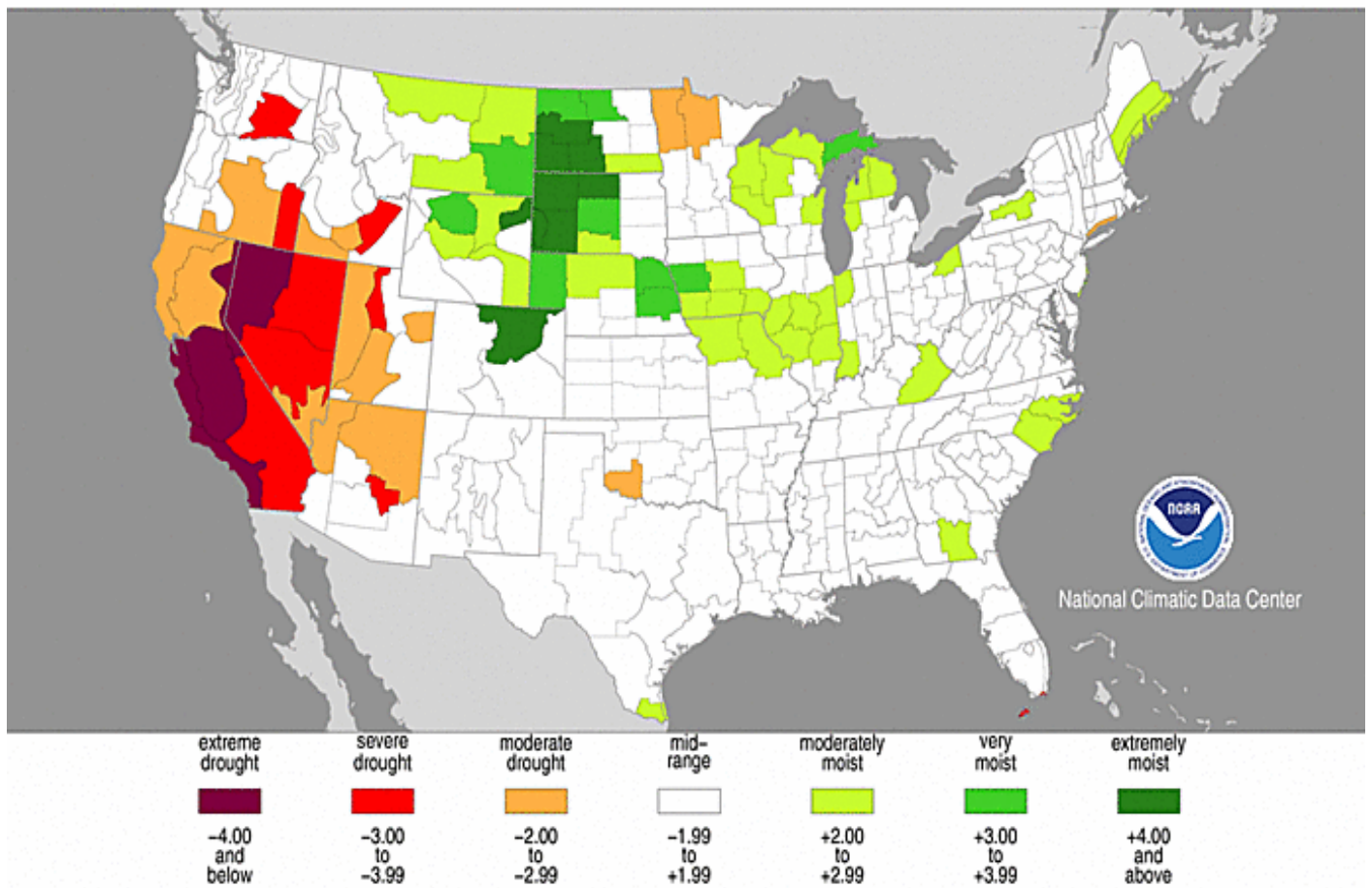

David Brock, Secretary

Minutes approved: November 5, 2015

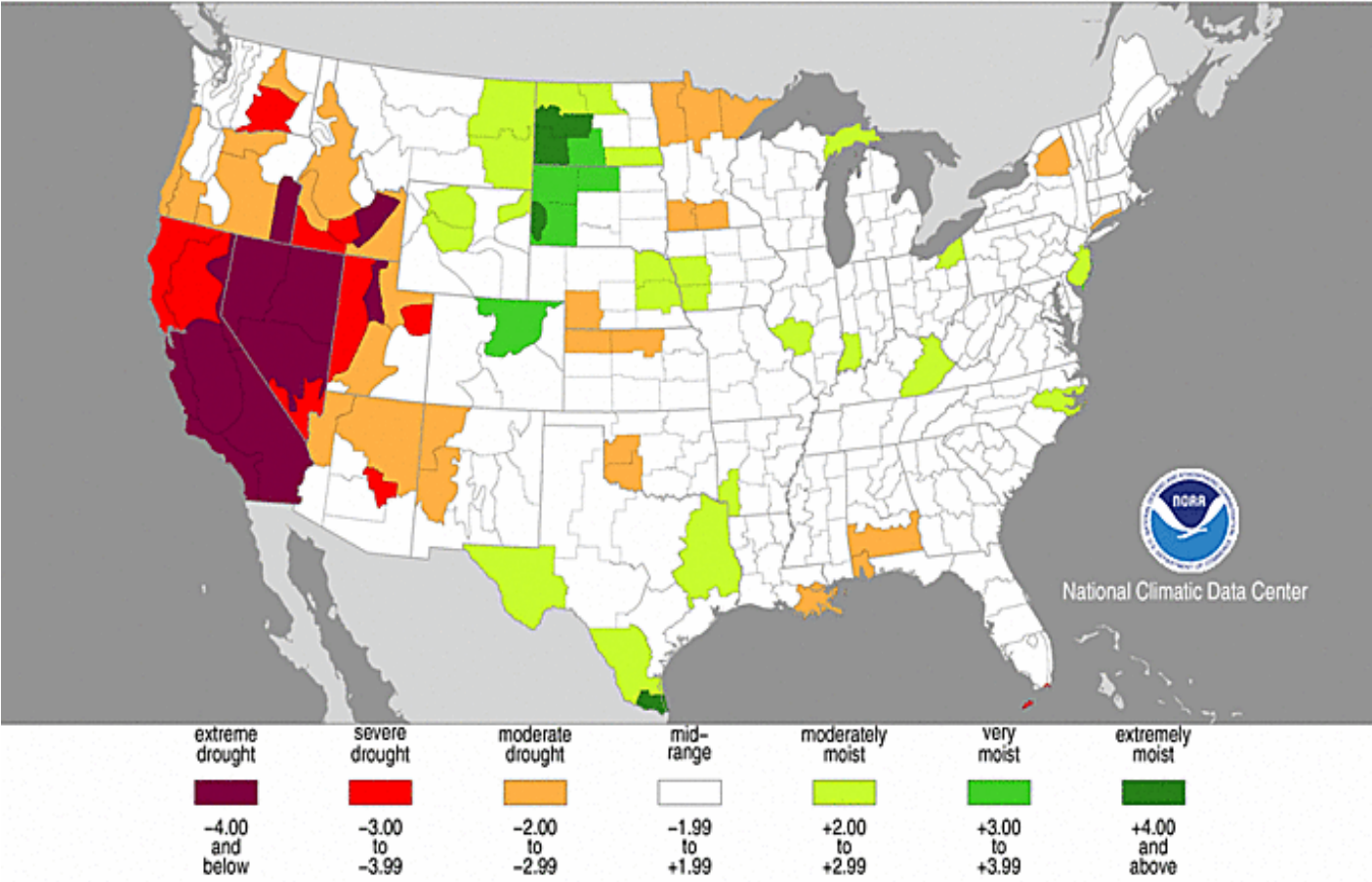
Palmer Drought Severity Index
January, 2015



Palmer Drought Severity Index
February, 2015

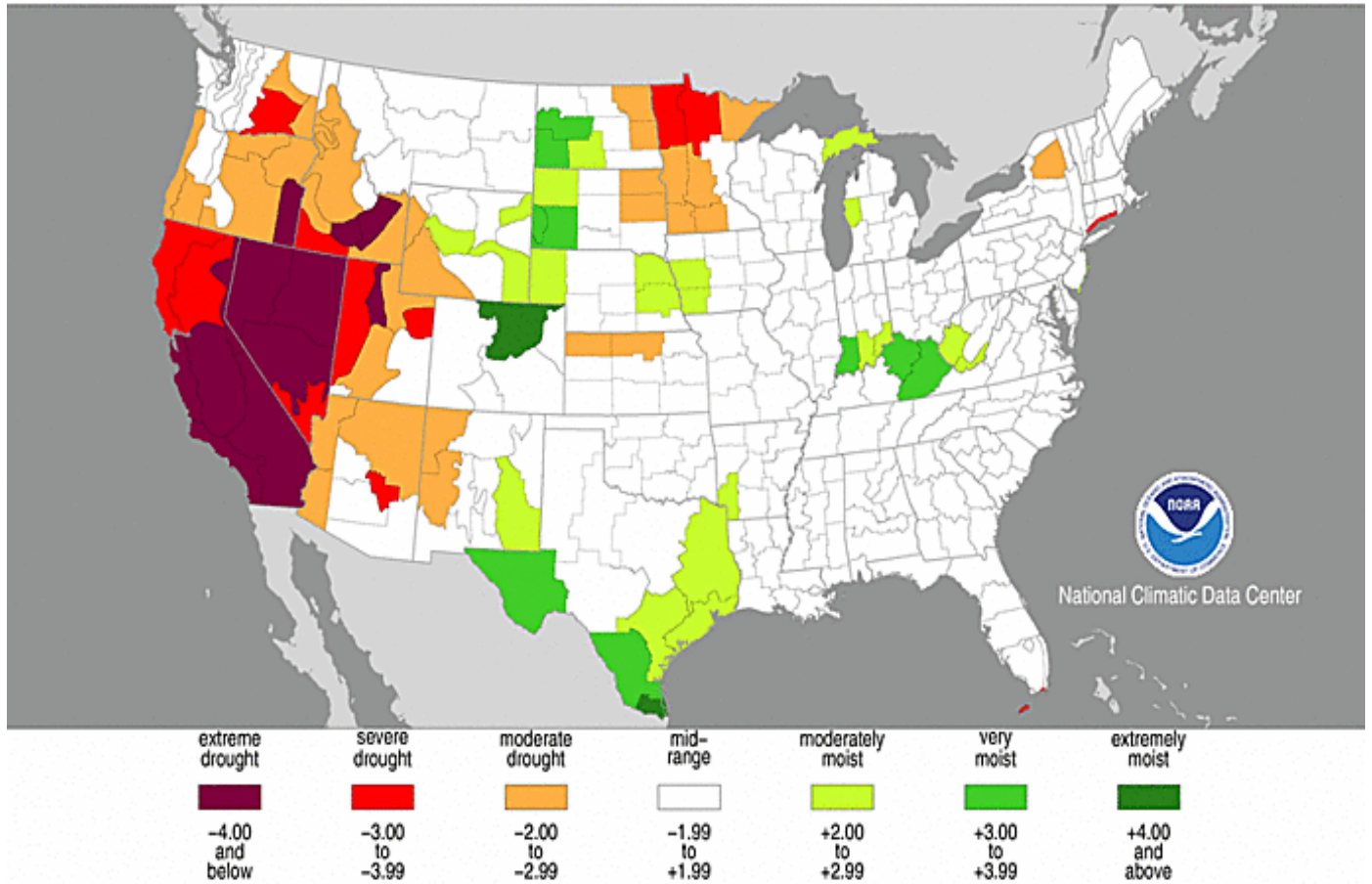


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March, 2015



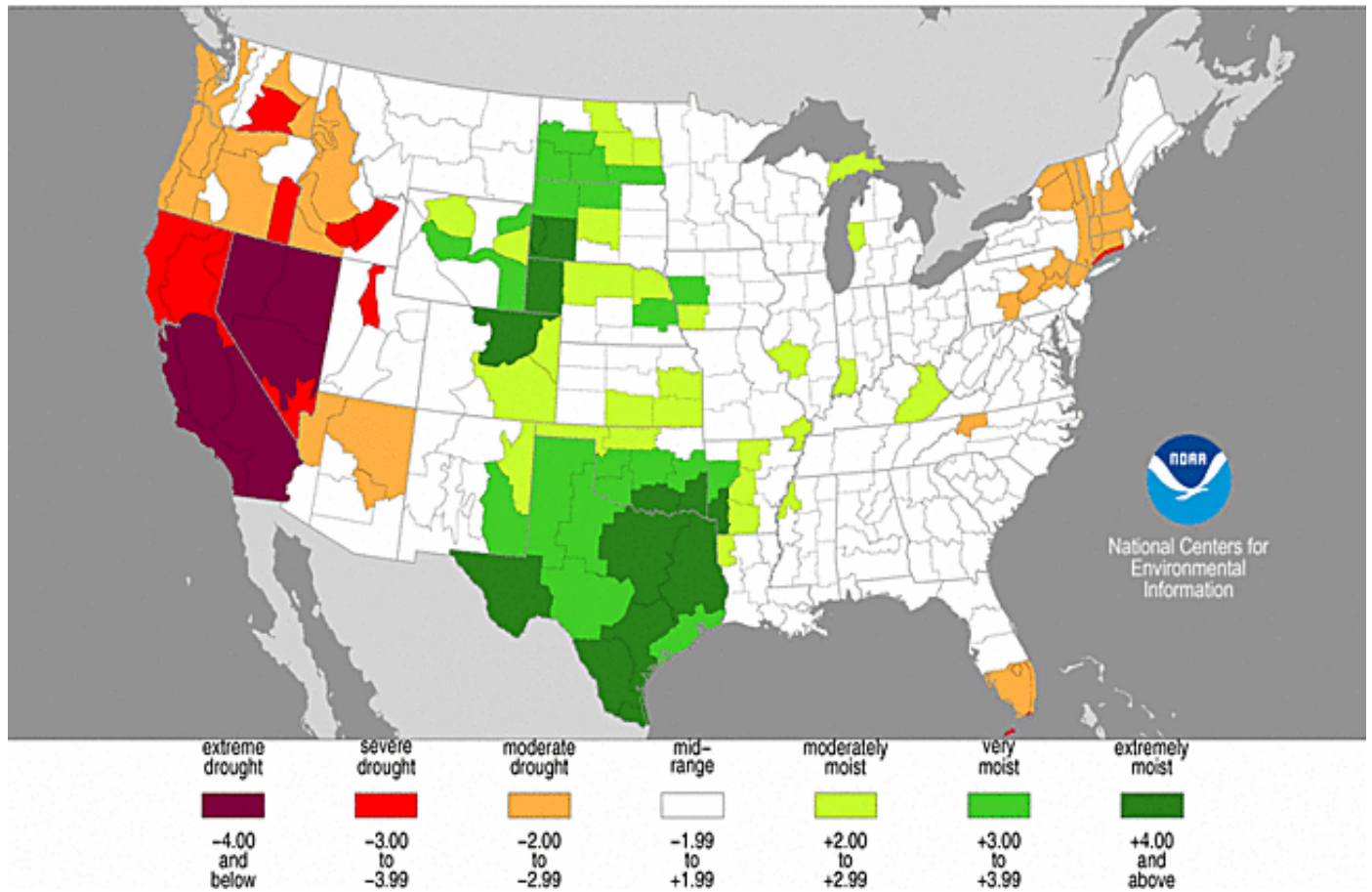
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Palmer Drought Severity Index
April, 2015



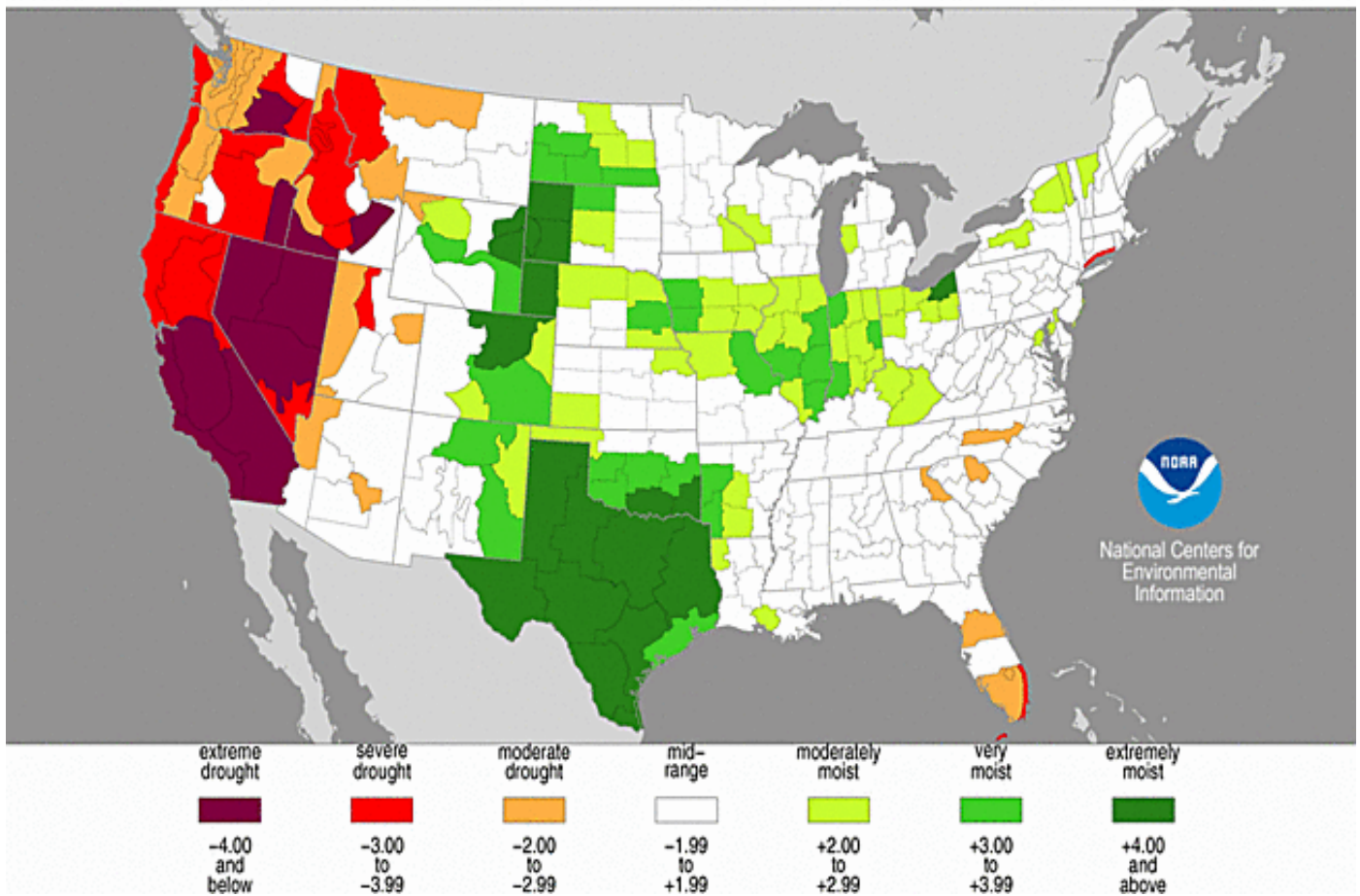
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Palmer Drought Severity Index
May, 2015



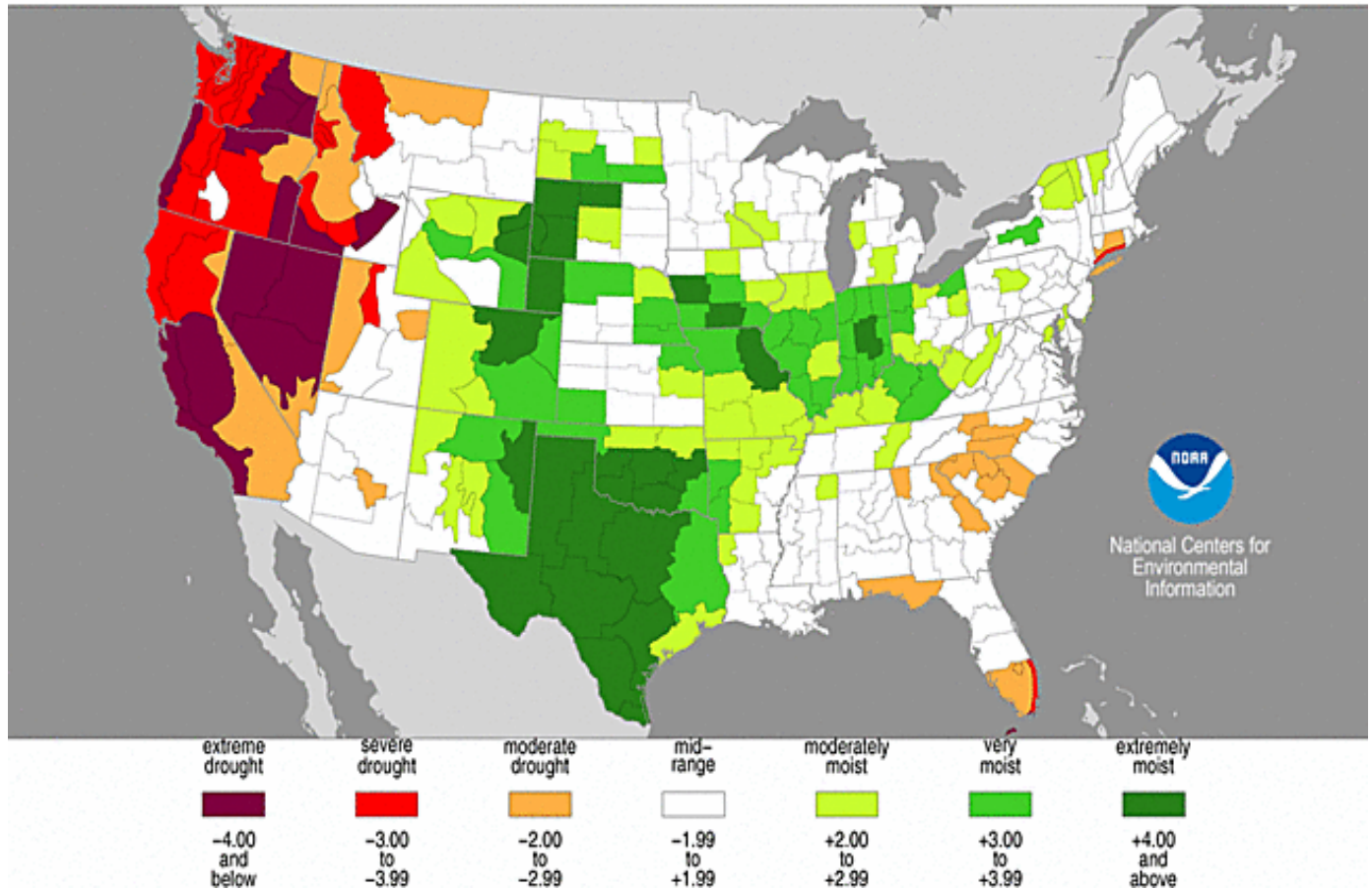
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Palmer Drought Severity Index
June, 2015



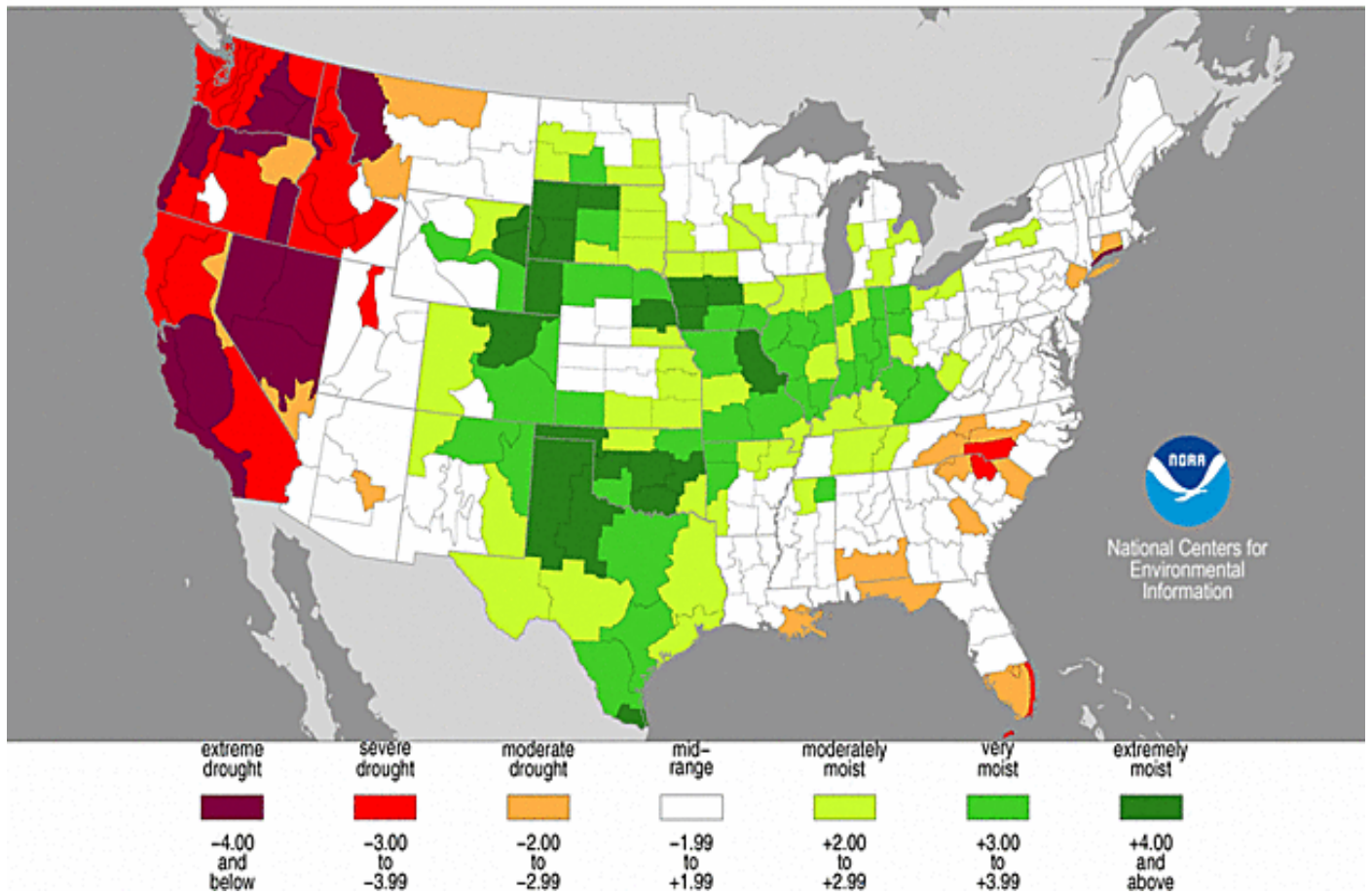
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Palmer Drought Severity Index
July, 2015



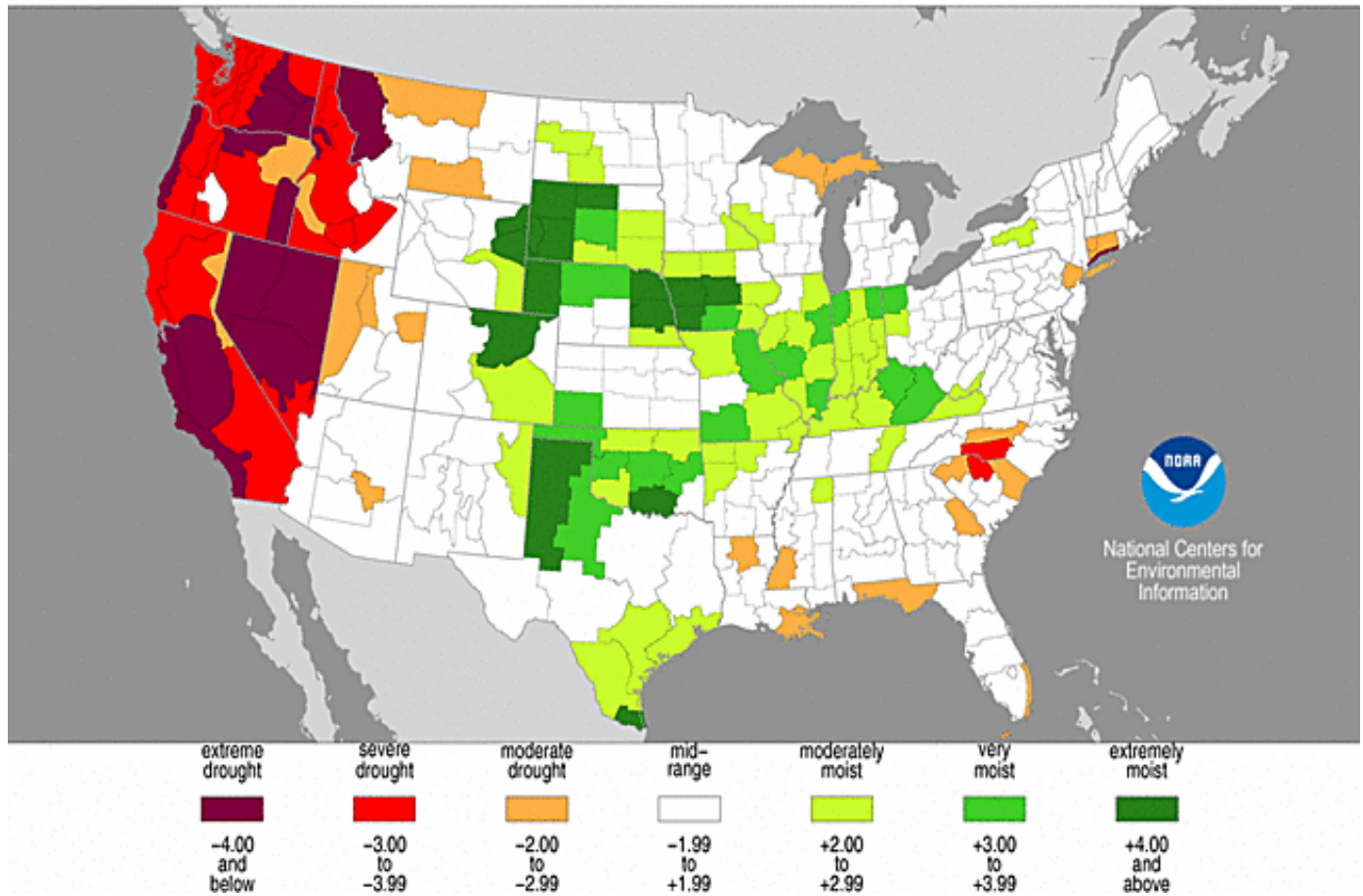
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Palmer Drought Severity Index
August, 2015

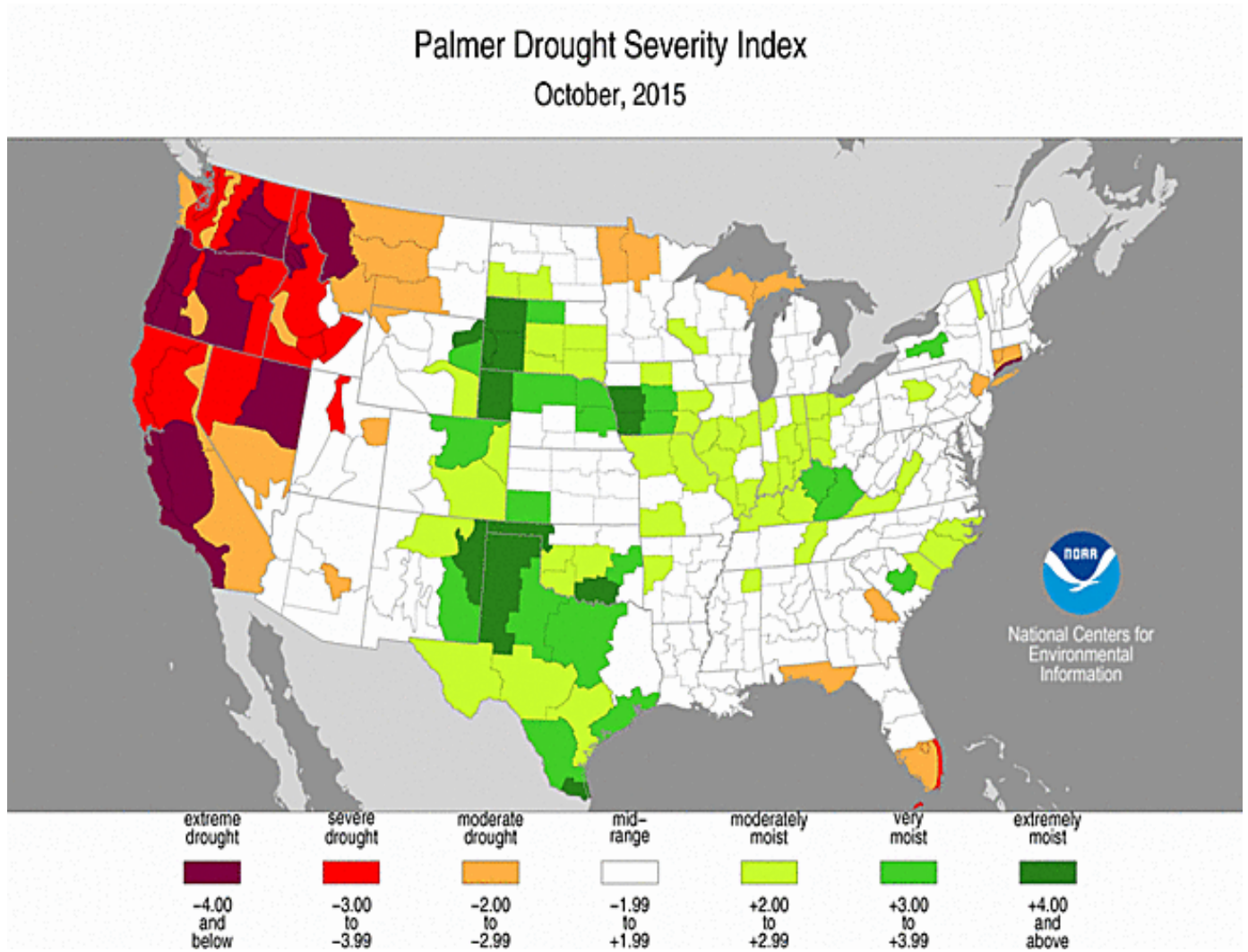


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Palmer Drought Severity Index
September, 2015

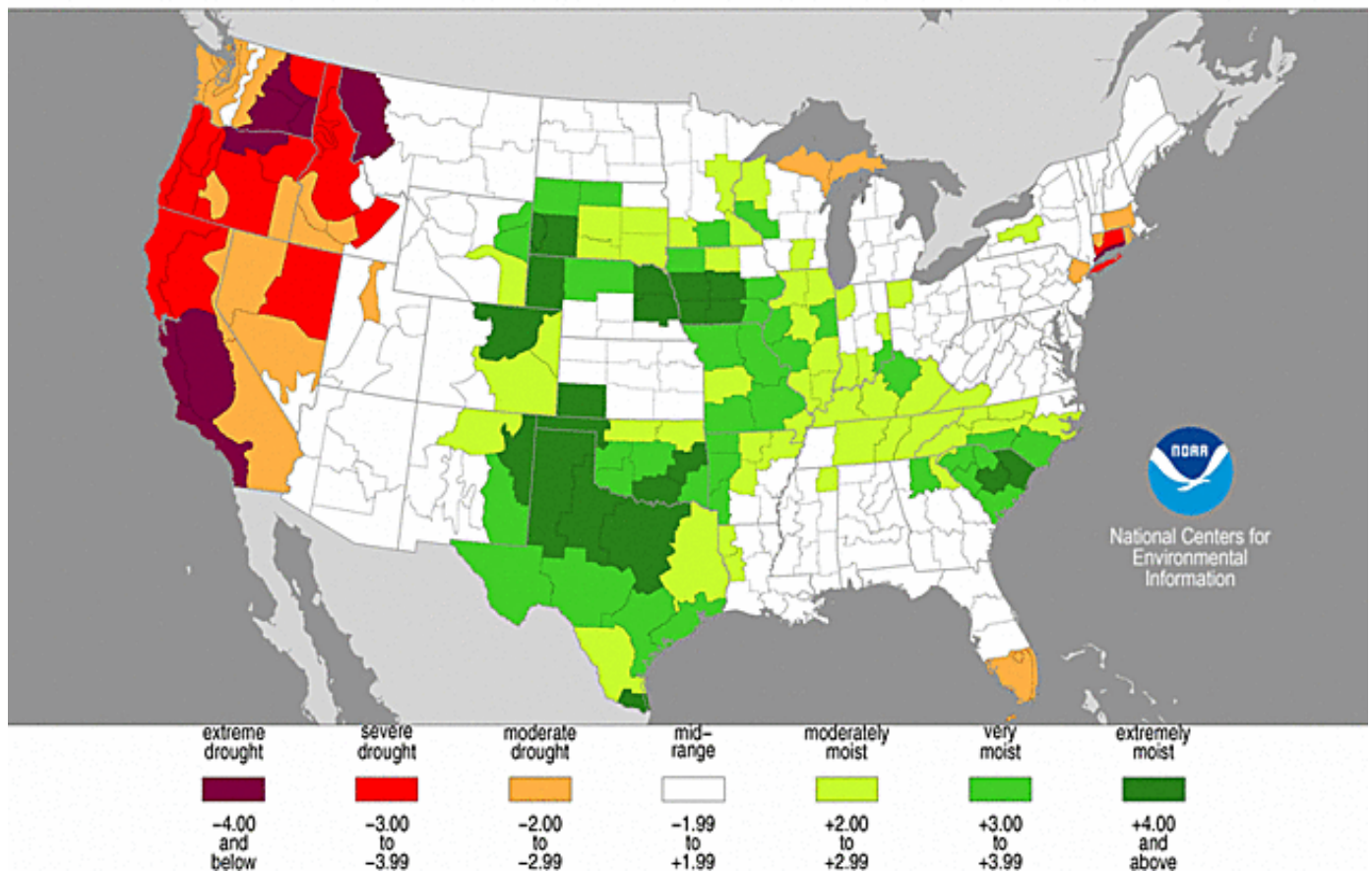


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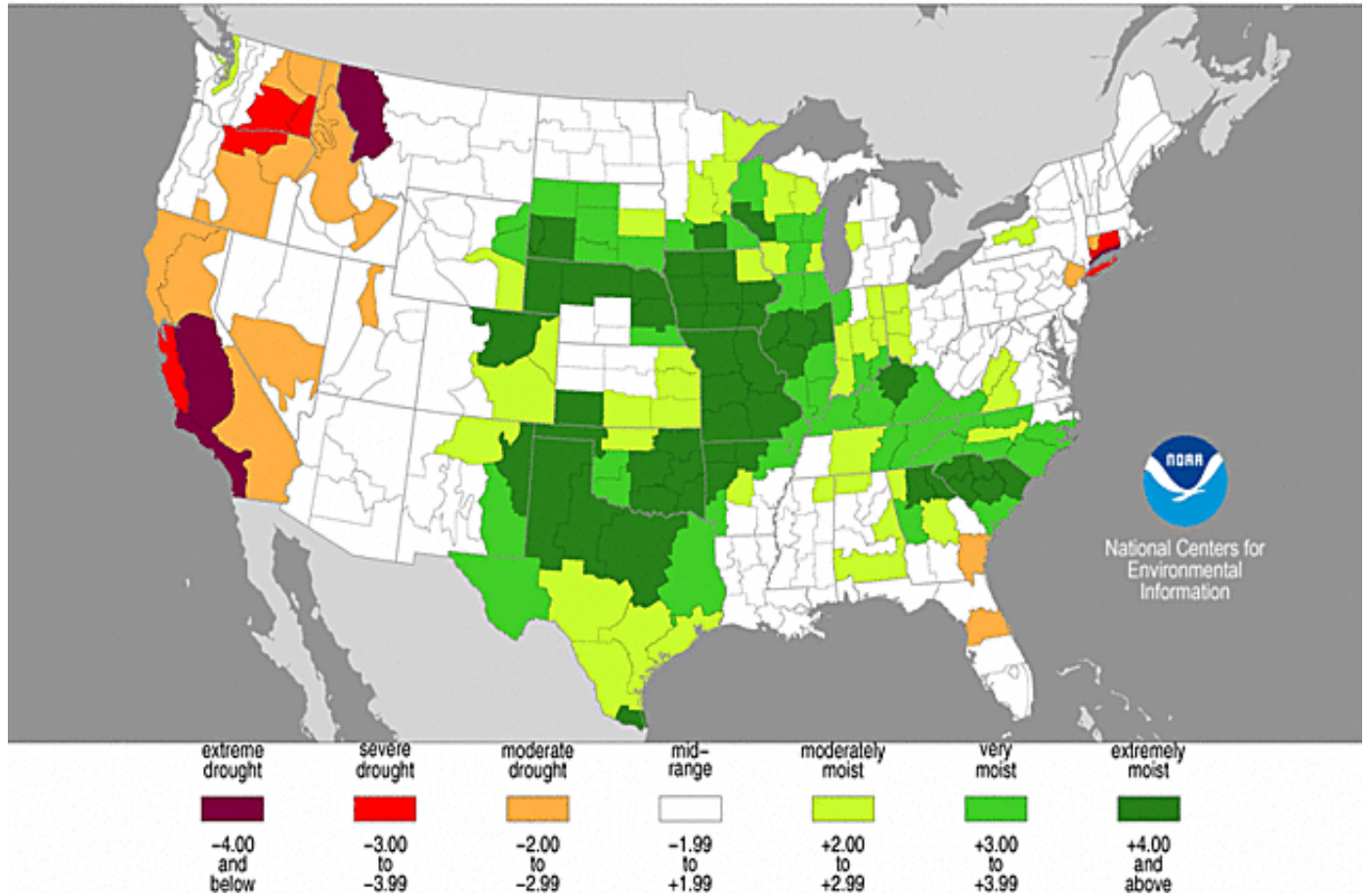
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Palmer Drought Severity Index
November, 2015



pendix C

Palmer Drought Severity Index
December, 2015



The Situation Reports for 2015 were not available on the Texas DPS website. PCGCD staff attempted to make contact concerning reports but did not receive a response.

Panola County Groundwater Conservation District 2015 ANNUAL REPORT

pendix D

Teresa Griffin

From: Teresa Griffin <tgriffin@pcgcd.org>
Sent: Thursday, December 03, 2015 4:40 PM
To: 'TDEM.DROUGHT@dps.texas.gov'
Subject: Situation reports

Importance: High

I have been looking for the State Drought Preparedness Council's reports for 2015 and have been unable to find them. Are they not available anymore? If they are would you provide me with the link?

Teresa Griffin
Office Manager
Panola County Groundwater Conservation District
419 W. Sabine St.
Carthage, TX, 75633
903-690-0143 Office
903-690-0135 Fax

Visit our website: www.pcgcd.org

pendix E - Draft Drought Contingency Plan

10-17-2014

Panola County Groundwater Conservation District Draft Drought Contingency Plan

Adopted _____, 2015

I. Purpose and Policy of Drought Contingency Plan

The Panola County Groundwater Conservation District ("District") adopts this Drought Contingency Plan ("Plan") to further its efforts of conserving, preserving, and managing the groundwater resources within the District's boundaries. The purpose of this Plan is to minimize the effects of groundwater depletion in the District during times of drought. The District believes that the voluntary reductions in usage that are associated with each drought stage in this Plan can be achieved and will minimize the effects of drought and over-pumping on the District's groundwater resources. Nothing in this Plan prevents the District from exercising its authority under Chapter 36 of the Texas Water Code, the District's enabling legislation, the District's Management Plan, or the District's Rules.

II. Designation of Drought Stages

The District Board of Directors ("Board") or the District General Manager shall determine when conditions warrant initiation or termination of each drought stage in this Plan, and shall take appropriate action to declare the appropriate stage. In the event the General Manager declares a drought stage in accordance with this Plan, the Board shall be informed of the action taken to declare a drought stage at the next District Board meeting. The Board may confirm or revise the action taken to declare a drought stage if considered to be necessary by the Board.

III. Public Notification of Drought Stages

Public notification of the initiation or termination of declared drought stages may be accomplished by using any one or more of the following methods:

- a. Notification on the District's internet website(s);
- b. Publication in newspaper(s) of general circulation in the District;
- c. Radio announcement(s);
- d. District mailing, fax, or email to owners/operators of permitted wells; or
- e. Signs posted at the District office or in various locations in the District.

IV. Criteria for Initiation and Termination of Drought Stages

Initiation of a Drought Stage: The United States Drought Monitor for Texas ("USDM") shall be monitored and presented to the District Board at each monthly Board

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meeting. The USDM is listed in the drought stages in this Plan as a verbal drought intensity rating (example: D2, Severe Drought). Drought stages shall be triggered when the USDM drought intensity rating in the majority of the District is raised to "D0, Abnormally Dry", and also at each level beyond "D0, Abnormally Dry". The USDM for Texas can be viewed at the following website:

<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?TX>

Drought stages in the District will also be determined in part by local precipitation deficits as shown by the District rain gauge data, as compared to historical precipitation data for the District territory. Precipitation deficits of ten inches or more (below the historical average) will be considered to indicate at least moderate drought. Also to be considered in drought stage declarations are water level changes in the District monthly monitor wells. Average water level decline of more than six inches in any one month will indicate new or worse drought conditions. Any three or more consecutive months of average water level decline will also indicate new or worse drought conditions.

Termination of a Drought Stage: The drought stage in effect shall be reduced or terminated when the USDM drought intensity rating in the majority of the District is lowered to a lesser drought level. Precipitation deficits of ten inches or less (below the historical average) will be considered as a factor in reducing the declared District drought stage. Also, the monthly monitor well water level changes will be considered in reducing the District drought stage. Any three or more consecutive months of average water level ascent, or any one month of average water level ascent exceeding six inches will indicate waning drought conditions.

V. Public Water Suppliers

The District recognizes that public water suppliers within the District have Drought Contingency Plans that provide drought stages and drought stage reduction measures that are intended to apply within their service areas. All public water suppliers within the District that have Drought Contingency Plans have the discretion as to how the desired usage reduction is to be accomplished within their service areas.

VI. Drought Stage Conservation Measures

The goals and usage reduction measures assigned to each drought stage below are voluntary and are recommended for the purpose of reducing the impact of drought conditions on the groundwater resources within the District's boundaries.

Stage 1 – Mild Drought Status

Drought Stage Trigger: *USDM Intensity = D0, Abnormally Dry*

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District Action:

- Notify the public of developing drought conditions and encourage continued conservation.
- Continue to monitor local drought and groundwater conditions.

Goal: 10% reduction in water use

Recommended Actions to Reduce Water Usage:

- a. Check for and repair all water leaks.
- b. Install aerators on faucets.
- c. While waiting for hot water to reach faucet, catch cold water in a container to be reused.
- d. Limit landscape irrigation to no more than two days per week. Agriculture and horticulture operations are exempted from this measure but are encouraged to reduce tree, plant, and crop watering by 10%.
- e. Do not leave faucets running when not in use.
- f. Turn off master water shutoff when out of town or on vacation.
- g. Check automatic sprinkler heads regularly to prevent clogging and adjust to eliminate overspray
- h. Avoid watering on windy days.
- i. Use mulch to conserve soil moisture.
- j. Limit vehicle washing except when conducted with a bucket or hand-held hose with an automatic shutoff device during and, if possible, use a commercial car wash that recycles water.
- k. Limit swimming pool filter backwashing to only when necessary.
- l. Utilize water reuse or recirculation where possible.
- m. Limit landscape irrigation to occur only between the hours of 9:00 p.m. and 6:00 a.m.

Stage 2 - Moderate Drought Status

Drought Stage Trigger: *USDM Intensity = D1, Moderate Drought; also to be considered: precipitation deficit of 10 inches or more, monthly average water level decline of 6 inches or more, or at least 3 consecutive months of average water level decline*

District Action:

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- Continue to notify the public of developing drought conditions, using multiple avenues of communication.
- Encourage continued conservation.
- Continue to monitor local drought and groundwater conditions.

Goal: 20% reduction in water use

Recommended Actions to Reduce Water Usage:

- a. Follow all actions under Stage 1 – Mild Drought Status.
- b. Use water to wash down buildings or other structures only for the fire protection purposes or for public health and safety purposes.
- c. Limit landscape irrigation to no more than one day per week. Agriculture and horticulture operations are exempted from this measure but are urged to reduce tree, plant, and crop watering by 20%.
- d. Keep swimming pools, landscape or decorative ponds, and fountains covered where possible, re-circulate water, and refill only once per week.
- e. Water livestock in leak-proof troughs as much as practical.
- f. Limit the use of ornamental fountains or ponds for aesthetic or scenery purposes to only where absolutely necessary to support aquatic life or where equipped with a recirculating system.
- g. Use soaker hoses for foundation protection only on designated watering days.
- h. Water for dust control only where required by law.
- i. Wash down sidewalks, walkways, driveways, parking lots, tennis courts or other hard-surfaced areas only for public health and safety purposes.

Stage 3 – Severe Drought Status

Drought Stage Trigger: *USDM Intensity = D2, Severe Drought; also to be considered: precipitation deficit of 10 inches or more, monthly average water level decline of 6 inches or more, or at least 3 consecutive months of average water level decline*

District Action:

- Continue to notify the public of developing drought conditions, using multiple avenues of communication.
- Encourage continued conservation.
- Coordinate with local officials and water suppliers to offer assistance, where feasible.
- Encourage new groundwater use applicants to minimize their proposed withdrawals until the drought abates.
- Consider reducing permitted volumes on any new or renewing operating permits.

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- Continue to monitor local drought and groundwater conditions.

Goal: 30% reduction in water use

Recommended Actions to Reduce Water Usage:

- a. Follow all actions under Stage 1 – Mild Drought Status and Stage 2 – Moderate Drought Status
- b. Limit all outdoor watering to the use of a hand-held hose with an automatic shutoff device or faucet-filled bucket or watering can.
- c. Do not refill swimming pools, landscape or decorative ponds and fountains.
- d. Limit all washing of vehicles, boats, or trailers to commercial carwashes that recycle water.

Stage 4 – Emergency Drought Status

Drought Stage Trigger: *USDM Intensity = D3 or D4, Extreme or Exceptional Drought; also to be considered: precipitation deficit of 10 inches or more, monthly average water level decline of 6 inches or more, or at least 3 consecutive months of average water level decline*

District Action:

- Continue to notify the public of developing drought conditions, using multiple avenues of communication.
- Encourage continued conservation.
- Coordinate with local officials and water suppliers to offer assistance, where feasible.
- Encourage new groundwater use applicants to delay or minimize their proposed withdrawals until the drought abates.
- Consider reducing permitted volumes on any new or renewing operating permits.
- Prioritize new permit applications by urgency of need and by degree of necessity.
- Postpone permit approvals as is reasonable based on local drought conditions and forecasts.
- Continue to monitor local drought and groundwater conditions.
- Increase enforcement efforts on violations of the District Rules, especially those that pertain to waste of groundwater and to illegal use of groundwater. Enforcement shall be conducted according to the District Civil Penalty Schedule.

Goal: 40% reduction in water use

Recommended Actions to Reduce Water Usage:

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- a. Follow all actions under Stage 1 – Mild Drought Status, Stage 2 – Moderate Drought Status, and Stage 3 – Severe Drought Status.
- b. Limit all outdoor use of water and nonessential uses as much as possible.
- c. No landscape irrigation or outdoor watering. Agriculture and horticulture operations are exempted from this measure but are urged to reduce tree, plant, and crop watering by 40%.
- d. No washing of vehicles, boats, or trailers.

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Chart of Drought Stages in Drought Contingency Plan

DROUGHT STAGE	DROUGHT STAGE TRIGGER	PERCENT OF VOLUNTARY REDUCTION IN WATER USE
Stage 1 – Mild Drought Status	<i>USDM Intensity = D0, Abnormally Dry</i>	10%
Stage 2 – Moderate Drought Status	<i>USDM Intensity = D1, Moderate Drought; also to be considered: precipitation deficit of 10 inches or more, monthly average water level decline of 6 inches or more, or at least 3 consecutive months of average water level decline</i>	20%
Stage 3 – Severe Drought Status	<i>USDM Intensity = D2, Severe Drought; also to be considered: precipitation deficit of 10 inches or more, monthly average water level decline of 6 inches or more, or at least 3 consecutive months of average water level decline</i>	30%
Stage 4 – Emergency Drought Status	<i>USDM Intensity = D3 or D4, Extreme or Exceptional Drought; also to be considered: precipitation deficit of 10 inches or more, monthly average water level decline of 6 inches or more, or at least 3 consecutive months of average water level decline</i>	40%