

2014 ANNUAL REPORT Protecting Tomorrow's Water Today



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District Information

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.

District Information Continued

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

Staff 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
<u>Staff</u>	
Leah Adams	General Manager
Mitzi Shuttlesworth	Office Manager
Jess Landreneau	Field Technician I
David Waldrop	Field Technician II

Letter from the General Manager

The year 2014 brought with it many changes to the District. There was a change in staff by adding a new full time Field Technician, David Waldrop, and the hiring of a new Office Manager, Mitzi Shuttlesworth. Even though it was an election year, it was the resignation and replacement of Richard Bagley with Ray Davis that brought a change in the Board, not the election. One area that has not been altered was the District's commitment to science and protecting the aquifer.

The District remains focused on the monitor well program already in place to understand the relationship between the water table, water usage, and recharge. The District maintains 15 monthly monitor wells, 11 annual monitor wells for TWDB, and 5 rain gauges throughout the County. Because of the use of frac ponds in our area, the District also maintains on average 93 monitor wells just to understand the effect fracing has on the aquifer. The frac pond monitor well program uses approximately 3-5 monitor wells per pond at varying distances. The program is designed to help us understand the radius of influence the pumping has on the aquifer.

The District has also remained committed to science in 2014 with the continuation of the aquifer wide hydrological study. The District contracted with Intera to build upon the information they collected in the study that began in 2012 and was completed in 2013. The 2014 study will look at how the aquifer responds to pumping, provide a clear picture of the geology of the aquifer, and define the middle and lower Wilcox. The District plans to continue this effort into 2015 by hopefully continuing the study. The continuation will look at impacts of new and existing wells, possible aquifer specific well spacing rules, and geologically look at the impact or balance between conservation and development.

To help protect the aquifer this year, the District investigated multiple water complaints. We received three (3) frac pond drawdown complaints which all turned out to be pump or bacterial related. The District also has seven (7) ongoing water well issues related to contamination or potential contamination. The issues range from surface contamination due to Oil and Gas operations, gas intrusion into the aquifer, and water well construction problems. Due to the complex nature of the potential contamination problems, the District has yet to help resolve these issues, but the problems provide insight into how the aquifer responds to actions to remediate.

After gaining a better understanding about the aquifer and how our groundwater responds to use, the Board has identified areas of the rules that need to be updated. As the District grows and laws change, I expect the Board members to continue to review the rules to ensure private property rights are protected. Other requirements will be to work on the drought contingency plan as required by our management plan and continue the second half of the aquifer study. The District will continue to work towards understanding more about the aquifer we are charged with managing so that we can protect tomorrow's water, today.

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 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.

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.

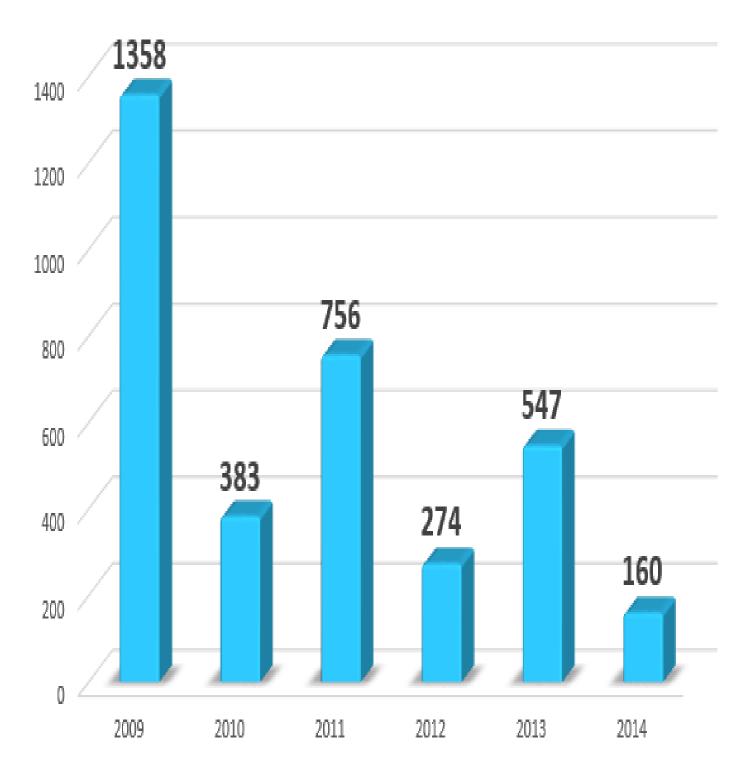
A.1. Standard: The number of new and existing water wells registered with the District will be provided in the Annual Report for each fiscal year.

Summary of Actions

In 2014, the District accepted and reviewed 160 applications for water wells. The total is 385 less than 2013 and 112 less than 2012. **Table 1** shows a graph that compares the total number of applications for each year. Currently, we have a cumulative total of 3,301 water wells plotted in our ARC GIS mapping system.

Table 1 - Total Number of Water Well Registrations

Total Number of Registrations/Permits



Goal 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 160 applications received in 2014, we had 83 Exempt: Oil and Gas applications (7 were plugged), 43 Exempt: Domestic use applications, 2 Exempt: Mining, 18 Exempt: Monitor wells, and 14 Non-Exempt applications. The three following pages provide **Tables 2—5** respectively which show the number of and types of water wells.

Table 2 - Exempt: Oil and Gas Water Wells

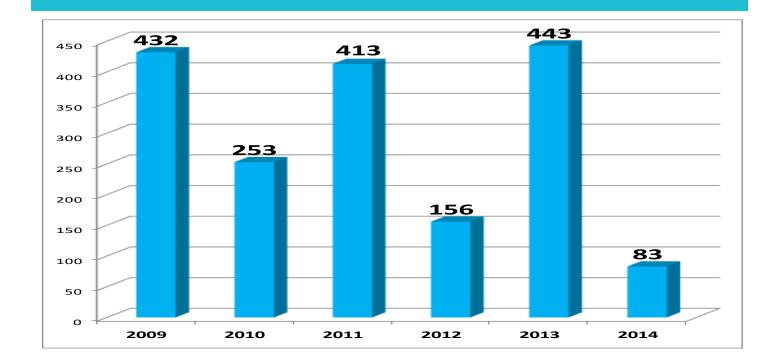
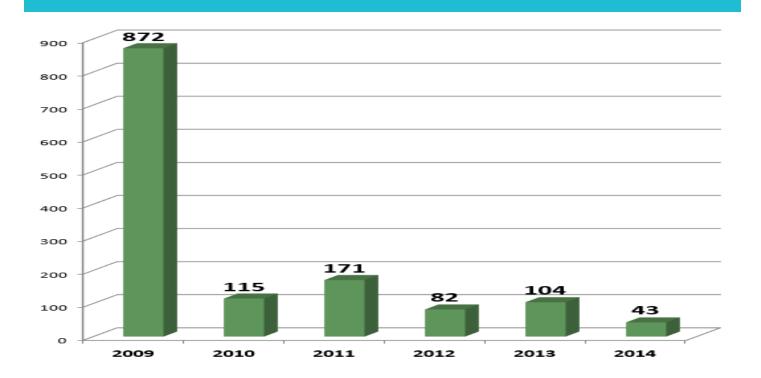
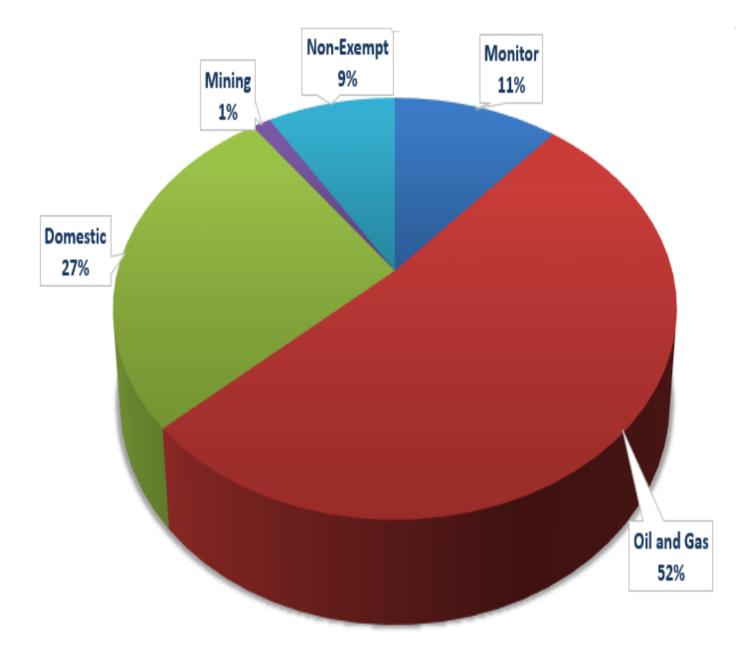


Table 3 - Exempt: Domestic

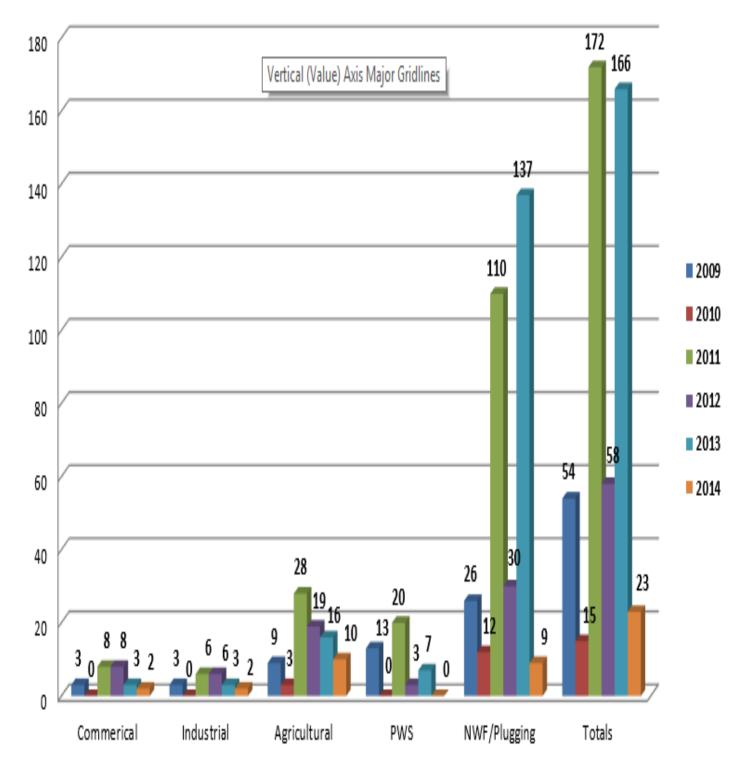


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Table 4 - 2014 Other Wells By Type



Non Exempt Water Wells



Goal A.3.

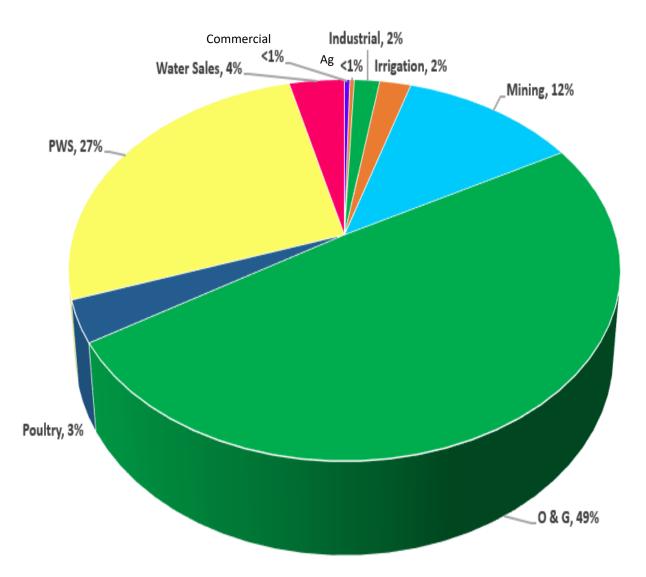
A.3. Objective: The District will regulate the production of groundwater by maintaining a database of groundwater usage through the production volume reports each year according to District rules.

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

Summary of Actions

The District approved by permit the use of 1,816,459,200 gallons (5,575 acre feet) of water annually by the people and businesses in Panola County. The actual use was 526,958,302 gallons (1,617 acre feet) for 2014. **Table 6** shows the breakdown of permitted water use by user group. 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 167,480,000 gallons (514 acre feet) annually and oil and gas reported 672,684,515 gallons (2,064 acre feet) annually. (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 2014.)

Table 6 - 2014 Production by Well Type



Goal 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 web site, www.pcgcd.org, contains links to a number of useful web sites the elimination. reduction. and prevention pertaining to of waste of groundwater. Exhibit 1 on the following page shows a snapshot of the links on our website. In 2014, the District worked with well drillers to repair 3 water wells that had problems with the surface completion or the annular seal. There are 14 more on the list to be repaired, with problems ranging from surface completion to obstructed casings. The District is also tracking other groundwater quality issues, such as gas venting, sinkholes, saltwater leaks, surface tank leaks, and poor surface conditions that could affect our unconfined aguifer. We are also assisting with water guality sampling, as District staff has collected and delivered to the lab 4 sets of samples for individuals/businesses in 2014. Additionally, District staff has compiled well data for a regional groundwater methane study that is being run by university researchers. Staff was present for and assisted with 6 water sampling events in the 2014 Panola County methane study (Exhibit 2).

Exhibit 1 - Links to Educational Material



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 Resoures 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/wwd/wwd.htm

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

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

Exhibit 2 - Preventing Waste and Studying Water

Quality



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

In November of 2014, 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 not limited to) permitting frack pond use, applying deposits for plugging water wells, and notifying landowners for public hearings by newspaper. A copy of the agenda and the minutes showing the rule review can be found in **Appendix A**. At the end of 2014, the District was still working on the wording for these changes.

Goal 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 where attended by a representative of the District. **Appendix B** shows the attendance of a representative at the May 21, 2014 meeting through the signed meeting minutes. Signed minutes for the other two meeting are not available at the time this report was created.

Goal 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.

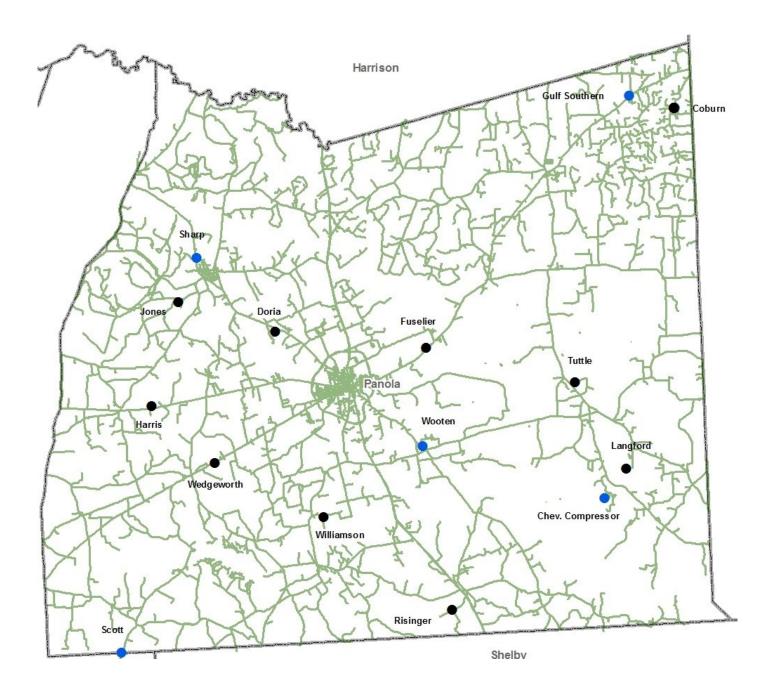
D.1. Standard: The District's Annual Report will include a description of the number of water wells measured and the monitoring results of the measured water wells for each year.

Summary of Actions

In 2014, we included 4 deep wells from the Texas Water Development Board (TWDB) network to the monthly schedule for a total of 15 wells (Exhibit 3). We also continue to annually check the 16 monitor wells for the TWDB. Tables 7 and 8 show updated level data for 2014. Continued study of the aquifer will help us to further refine our monitor well program.

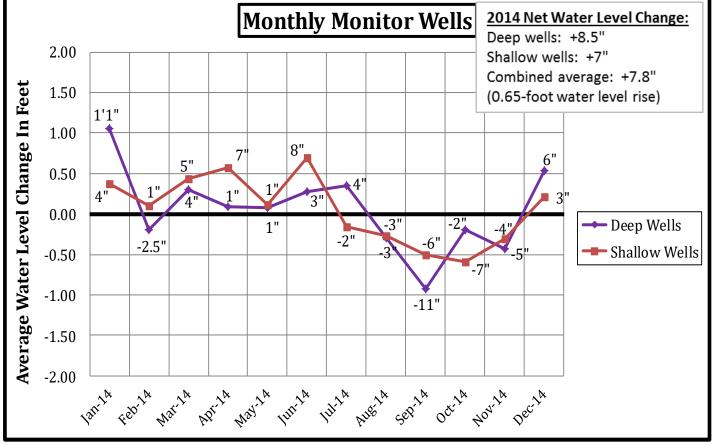


Exhibit 3 - Map of Monthly Monitor Wells



PCGCD Well

Number	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
3548207	39.8	39.8	39.3	39.0	38.1	38.1	38.3	38.7	39.5	40.0	39.8	38.8
3553658	68.9	73.3	75.0	76.2	77.5	74.7	72.8	71.8	72.2	71.5	77.4	78.2
3554612	17.1	17.2	17.0	16.7	16.3	16.2	16.0	15.8	16.0	16.5	16.6	16.4
3552906	38.5	38.0	38.1	37.9	38.1	37.5	37.2	36.5	36.9	36.6	36.9	37.3
3553105	29.5	28.9	28.6	28.3	28.5	27.7	27.3	27.3	27.4	28.1	28.4	28.4
3564115	25.8	25.9	25.6	25.7	25.6	26.3	26.7	27.7	29.7	31.2	30.0	28.9
3706304	21.2	21.2	20.9	20.5	20.5	20.5	20.8	20.9	20.8	21.3	21.7	21.7
3555905	20.9	20.9	20.0	18.8	17.7	16.9	17.1	17.7	19.2	20.5	21.3	21.6
3561208	12.4	12.8	11.9	10.9	11.4	9.4	10.5	11.6	12.2	12.8	12.7	11.0
3562402	74.7	74.8	73.9	73.4	73.1	72.9	72.7	72.4	73.0	72.8	72.0	71.6
3562337	63.1	63.0	62.3	61.6	61.5	62.0	60.9	62.4	64.2	62.9	61.5	59.8
3563614	40.0	40.0	39.9	39.8	39.6	39.5	39.4	39.5	39.8	40.5	41.0	40.9
None (Gulf So.)	30.6	29.7	28.7	28.2	28.1	28.2	28.3	28.9	30.1	30.9	31.4	30.9
3545721	63.9	61.9	61.3	61.4	61.2	60.8	60.6	60.6	60.9	61.2	61.3	61.1
None (W. Scott)	No data	68.4	67.9	67.3	67.1	66.6	67.0	68.0	68.8	69.6	70.0	69.7



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 the 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

Both the "PDSI" and "Situation Reports" can be found in **Appendix C and D** of this document.

E.2. Objective: The District will create and adopt through the Board of Directors a Drought Contingency Plan and 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 necessary.

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 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 District was still in the process of working with the Board President and our Attorney by the end of the year. Field Technician, Matt Kruebbe, had completed the review of the local plans (**Appendix E**) and Field Technician, Jess Landreneau, completed a copy of a draft plan (**Appendix F**) based on the review of the local plans. The District's plan is to incorporate the drought contingency plan's approval into the rule changes for 2015 that were identified during the 2014 review of the rules.

Goal F.1.

F.1. Objective: The District will promote conservation at least once during each fiscal year by distributing literature packets or brochures and 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 3,250 book covers for the 2014 school year. **Exhibit 4** 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 and Junior High, Beckville Junior and Senior High School, Tatum High School, and Gary Schools. Our website also provides suggestions of ways to conserve water. **Exhibit 5** shows a snapshot of the web site links.

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and fold top and bottom ends ignal de arriba a abajo, CONCERNATION IS A WORD THAT DESCRIBES THE ACT OF PROTECTING OP KEEPING SOMETHING FROM DAMAGE OR LOCC. IT DECORRECTIVE NEED OF AVOIDING WASTE, OR THE IDEA OF UGING SOMETHING CAREFULLY This Book Belongs To: Student Name ibiar los lados del ferro per s for ends WATER? IT IS ALSO TRUE THAT THE EARTH IS COVERED MOSTLY IN h 0 OR MOST THINGS WE NANT WATER FOR. YOU CAN ACTUALLY GET NATER ... HE CAN'T USE IT FOR DRINKING, BATHING, WATERING, WATER, BUT WHAT MOST PEOPLE FORGET, IS THAT IT IS SAUT DE WE OUK you're covered Me'rer la partada de' libro dentro de las mangos del farro y estarú cubirrio. Subject te ends of book o sleeves and the covered. ACK DRINKING GALT WATER! Make sure your textbooks are covered at all times e sus librit $\Delta \Delta \Delta \Delta \Delta \Delta \Delta \Delta$ $\Delta \Delta \Delta \Delta \Delta \Delta \Delta \Delta \Delta$ NAME SUBJECT INCORAMBLE THECE WORDS AND THEN FIND THEM IN THE PUZZLE BELOW STAEMNSEWO CONXNTTYAN INSKUEDRMI WATERTMIVU NPEYINORUI ROTECTHK BGKSWAPHS HMTOJHLEV DRERGFQVB EAMTXBAML OPRESERVE MADSLAKET VAIDTNERSCON VEAS groundwater conservation district TBAH PROCTET LGALON TERWA KEAL 419 W Sabine Street ~ Carthage, TX 75633 903-690-0143 office ~ 903-690-0135 fax PANOLA COUNT www.pcgcd.org OTHER THAN HELPING KEEP OUR WATER SUPPLY HEALTHY YOUR FAMILY WILL SAVE SOME MONEY. IT TAKES ELECTRICITY TO HEAT WATER FOR COOKING OR BATHING, SO WHEN YOU Walraven THERE ARE SO MANY THINGS YOU CAN DO EVERYDAY TO HELP CONCERVE WATER, JUST CAVE & CALLONCI WHEN YOU WASH YOUR HANDS. USING THE WATER SPARNIGY, YOU USE LESS WATER - YOU USE LESS ELECTRICITY WATER ACTUALLY COSTS YOUR FAMILY 214-560-119 TURNING OFF THE WATER WHEN YOU ARE NOT ACTUALLY USING IT CAN MAKE A BIG CAR SAVE ALMOST 2 GALLONCI AND SOMETHING SO SIMPLE AS TAKING A SHOWER HONEY GO USING LESS WILL LOWER THE WATER BILLS AND THE TAKES THEY PAY! WISTEAD OF A BATH CAN SAVE OVER 15 GALLONS! SOLE THE $\Delta \Delta \Delta \Delta \Delta \Delta$ $\Delta \Delta \Delta \Delta \Delta \Delta \Delta$ 633 WHERMAN D <



HOME A

ABOUT US OUR WATER

LINKS

FAO'S

CONTACT

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.

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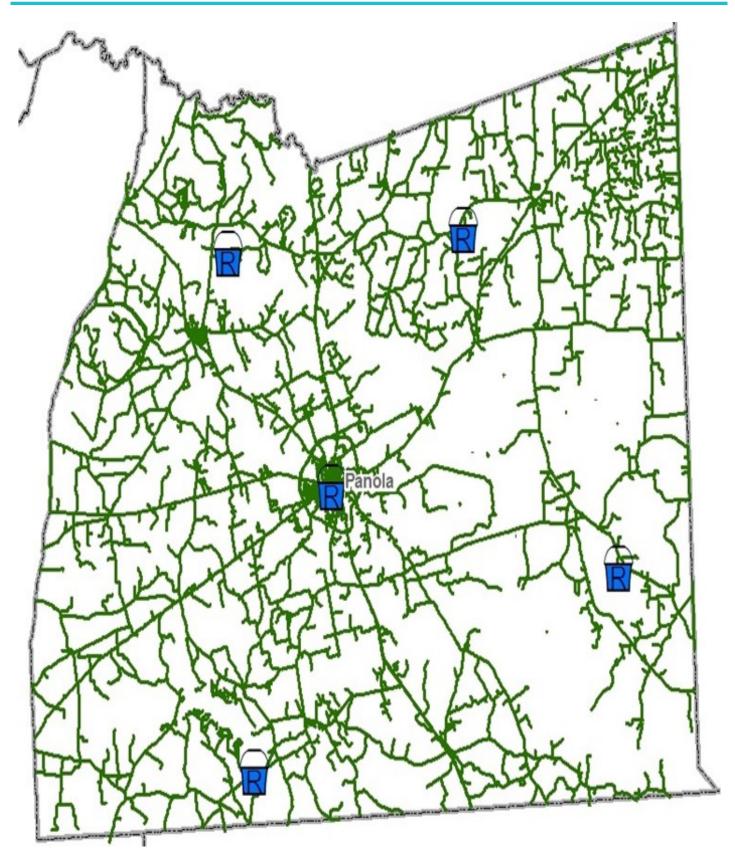
F.2. Objective: The District will provide information relating to recharge enhancement on the District website at least one time each fiscal year.

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

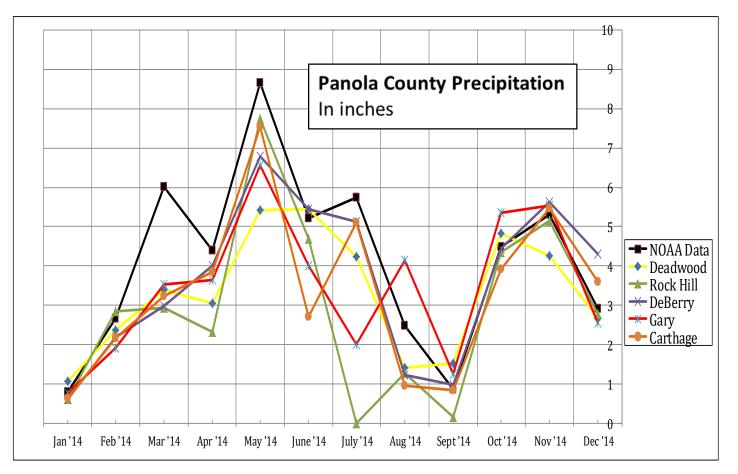
To help us better understand the recharge of the aquifer, the District uses rain gauges throughout the County to measure and track the amount of rainfall each year. The District currently has five (5) rain gauges. The Map in **Exhibit 6** shows the placement of the gauges and the amount of rainfall collected at different areas around the County. In 2014, the District measured an average of 39.87 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 7**.

Exhibit 6 - Map of Rain Gauges



Tables 9 and 10 - Rainfall in Panola County

Identifier	1 st Quarter	2nd Quarter	3 rd Quarter	4 th Quarter	Annual Total
Carthage	6.01	14.09	6.90	12.98	39.98
Deadwood	6.82	13.92	7.17	11.76	39.67
Gary	6.19	14.22	7.38	13.43	41.22
Rock Hill	6.38	14.73	1.41	12.27	34.79
DeBerry	5.78	16.24	7.32	14.35	43.69
NOAA Data	9.48	18.26	9.10	12.71	49.55



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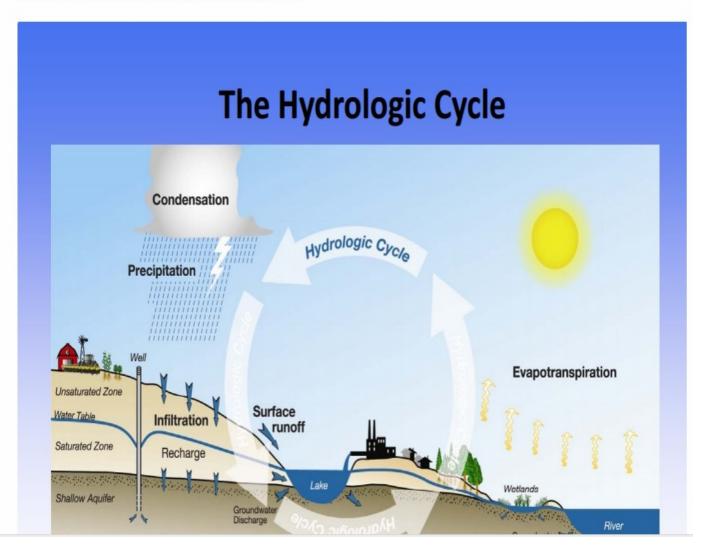
HOME

ABOUT US OUR WATER

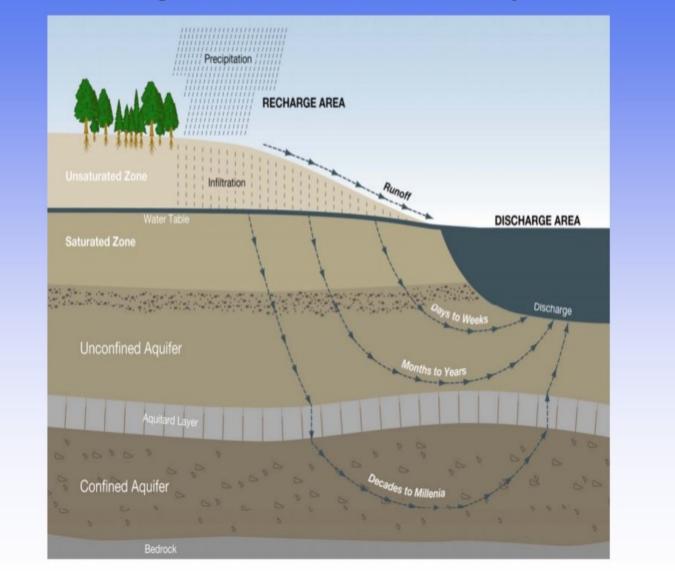
FAQ'S LINKS CONTACT

Recharge Enhancement

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



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.

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.

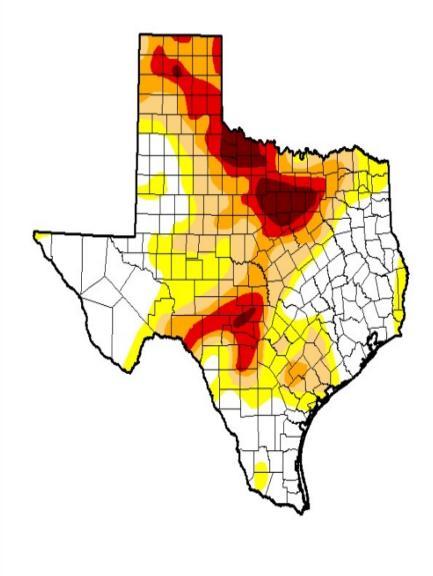
Cumulative - Panola

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.

U.S. Drought Monitor Texas



February 24, 2015

(Released Thursday, Feb. 26, 2015) Valid 7 a.m. EST

Dro	ught Co	ondition	ns (Per	cent Are	ea)
None	D0-D4	D1-D4	D2-D4	D3-D4	D4

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	38.35	61.65	43.39	27.86	14.34	4.46
Last Week 2/17/2015	39.21	60.79	43.39	27.81	13.92	4.46
3 Month s Ago 11/25/2014	34.11	65.89	42.56	22.05	9.50	2.57
Start of Calendar Year 12302014	34.37	65.63	44.68	25.73	11.70	3.17
Start of Water Year 930/2014	28.92	71.08	48.95	29.54	11.26	2.69
One Year Ago 225/2014	7.38	92.62	67.88	33.55	9.45	0.93

Intensity:

D0 Abnormally Dry D1 Moderate Drought





D2 Severe Drought



The Drought Monitor focuses on broad-scale conditions.

Local conditions may vary. See accompanying text summary for forecast statements.

Author: Richard Heim NCDC/NOAA



http://droughtmonitor.unl.edu/

The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC-UNL.

Exhibit 7

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 Storate and Infiltration

Enhanced Aquifer Recharge

Goal F.3.

F.3. Objective: The District will advocate 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 har-

vesting. Exhibit 8 is a snapshot showing the links on our website.

Exhibit 8



INTY on district HOME ABOUT US OUR WATER FAQ'S LINKS CONTACT

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

ANNOUNCEMENTS

March Board Meeting MARCH 24, 2015 CONTACT US

419 W. Sabine St., Carthage, TX 75633 903-690-0143

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Developed by Arnold Graphic Design

Goal 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 measured and the monitoring results of the measured water wells for each year.

Summary of Actions

For the year 2014, the District used 10 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** shows 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 the use of monitoring hydraulic fracturing pond pumpage. **Exhibit 9** the results of the monitoring of the fracturing ponds.

Tables 11 and 12 : Monitor Wells and Water Level

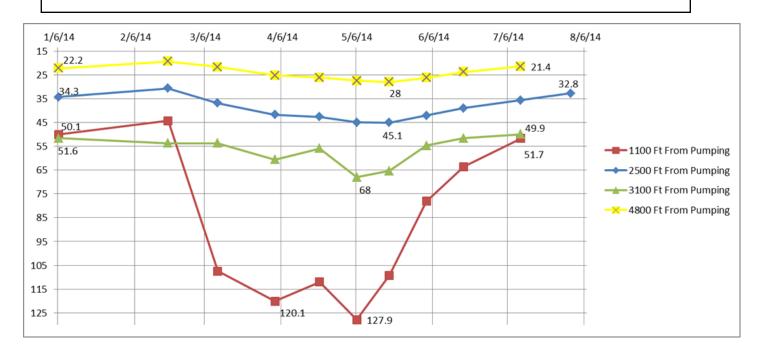
Monitoring Results

PCGCD #	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
3548207	39.8	39.8	39.3	39.0	38.1	38.1	38.3	38.7	39.5	40.0	39.8	38.8
3553658	68.9	73.3	75.0	76.2	77.5	74.7	72.8	71.8	72.2	71.5	77.4	78.2
3564115	25.8	25.9	25.6	25.7	25.6	26.3	26.7	27.7	29.7	31.2	30.0	28.9
3562402	74.7	74.8	73.9	73.4	73.1	72.9	72.7	72.4	73.0	72.8	72.0	71.6
3562337	63.1	63.0	62.3	61.6	61.5	62.0	60.9	62.4	64.2	62.9	61.5	59.8
3563614	40.0	40.0	39.9	39.8	39.6	39.5	39.4	39.5	39.8	40.5	41.0	40.9
NA (Gulf So.)	30.6	29.7	28.7	28.2	28.1	28.2	28.3	28.9	30.1	30.9	31.4	30.9
3545721	63.9	61.9	61.3	61.4	61.2	60.8	60.6	60.6	60.9	61.2	61.3	61.1
3552903	67.0	71.3	68.8	76.5	74.1	69.6	67.4	67.2	67.1	67.3	66.5	65.7
NA (Metcalf 2)	67.6	67.6	67.7	67.7	67.5	67.0	66.8	66.7	67.1	66.7	66.9	66.7
			0.5	0.0						0.5		1.0
	Changes:	0.0	0.5	0.3	0.9	0.0	-0.2	-0.4	-0.8	-0.5	0.2	1.0
		-4.4	-1.7	-1.2	-1.3	2.8	1.9	1.0	-0.4	0.7	-5.9	-0.8
		-0.1	0.3	-0.1	0.1	-0.7	-0.4	-1.0	-2.0	-1.5	1.2	1.1
		-0.1	0.9	0.5	0.3	0.2	0.2	0.3	-0.6	0.2	0.8	0.4
		0.1	0.7 0.1	0.7 0.1	0.1 0.2	-0.5 0.1	1.1 0.1	-1.5 -0.1	-1.8 -0.3	1.3 -0.7	1.4 -0.5	1.7 0.1
		0.0	1.0	0.1	0.2	-0.1	-0.1	-0.1	-0.3	-0.7	-0.5	0.1
		2.0	0.6	-0.1	0.1	0.1	0.1	0.0	-0.3	-0.8	-0.3	0.3
		-4.3	2.5	-7.7	2.4	4.5	2.2	0.0	0.1	-0.2	0.1	0.2
		0.0	-0.1	0.0	0.2	0.5	0.2	0.2	-0.4	0.2	-0.2	0.8
		0.0	0.1	0.0	0.2	0.5	0.2	0.1	0.1	0.1	0.2	0.2
Average		-0.6	0.5	-0.7	0.3	0.7	0.5	-0.2	-0.8	-0.1	-0.3	0.5
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Average Water Level Change 0.00 -1.00 -1.50												
-2.00												
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Exhibit 9 - Hydraulic Fracturing Pond Summary and Example Data

In 2014, the District monitored 29 frac pond areas, with 8 of those areas showing full water level recovery in the same year. Another 6 areas had water levels partially recover in 2014, and 13 frac pond areas did not show full water level recovery due to prolonged pumping. Two areas did not fully recover in 2014 due to aquifer conditions. An average of 93 water wells were checked monthly to monitor the effects of concentrated local pumping due to hydraulic fracturing.

The largest drawdown seen in 2014 was about 83 feet, which was measured in a well 1,100 feet from the nearest pumping well. The pumping field in this scenario (graphed below) consisted of 7 wells, and 9,258,676 gallons were produced in 2014 by those wells.



2014 Maximum Groundwater Level Drawdown Due to Frac Pond Pumping

Goal G.2.

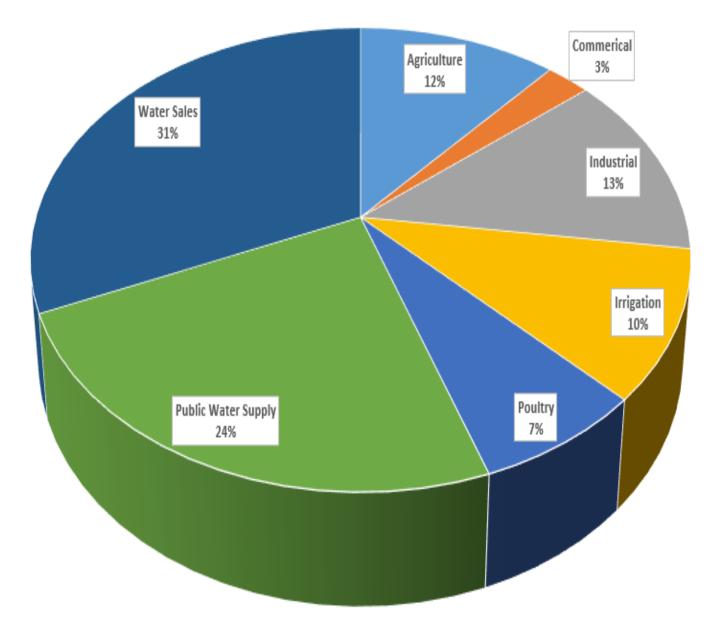
G.2. Objective: The District will consider a reasonable estimated amount of actual groundwater production under existing permits through tracking production of all permitted water wells.

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

Summary of Actions

In 2014, the District accepted 22 operating permits applications. Of the 22, one was an increase in the original permitted amount. The addition created a total of 78 operating permits and 87 grandfathered use permits for the District. The District has permitted out 1,409,857,110 gallons or 4,327 acre feet of water for operating permits and 852,774,230 gallons or 2,617 acre feet for grandfathered use permits. The total production for all permitted water wells by 2014 was 2,262,631,340 gallons or 6,944 acre feet. The total amount of water permitted by well type is represented in **Exhibit 10**.

Exhibit 10 - 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

Appendix A - 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

County Clerk's Office Log Paly: IN MY OFFICE
AT 3:15 O'CLOCK P M_
NOV 1 4 2014
CLARA JONES COUNTY CLERK, PANOLA COUNTY, TEXAS BY R. UCK DEPUTY

Regular Board Meeting Of The PCGCD Board Of Directors Thursday, November 20, 2014 Begins at 5:30 p.m.

REGULAR BOARD MEETING AGENDA

- 1. Call to order.
- 2. Public comment.
- 3. Review and consider approval of minutes for October 23, 2014, Public Hearing-Permit.
- 4. Review and consider approval of minutes for October 23, 2014, Regular Board Meeting.
- 5. Review and consider approval of the 2015 Holiday Schedule.
- 6. Discuss and possible action on water well driller civil penalties.
- 7. Discuss and possible action on groundwater-related legislation and legislative activities.
- Discuss and possible action on revisions to District Rules, including addressing permitting issues, and path forward.
- Hear Field Technician report and discuss topics such as frac pond monitoring, monitor wells, rain gauges, collection of field data, and historical water level data.
- 10. Review and confirm District expenditures for October 21, 2014 November 14, 2014.
- 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.

Meeting Agenda - November 20, 2014

Panola County Groundwater Conservation District Board of Directors Regular Meeting Minutes November 20, 2014

A regular meeting of the Panola County Groundwater Conservation District Board of Directors was held on Thursday, November 20, 2014 in the District Conference Room at 419 W. Sabine Street, Carthage, Texas 75633. The following were in attendance:

Board Members -

Precinct #1: Mike Pennington

Precinct #2: James Browning Larry Dorman Precinct #3: Al Clay Jim Payne Precinct #4: Larry McMillan Ray Davis (left at 6:30 p.m.) At large: Bobby Langford

Absent - Danny Reed, Precinct #1

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

Others - Ty Embrey and Troupe Brewer, Attorneys

- 1. The regular board meeting was called to order by Larry Dorman at 5:30 p.m.
- 2. There were no public comments.
- After reviewing the October 23, 2014 Public Hearing Minutes, Larry McMillan moved and Ray Davis seconded the motion to accept the minutes as presented. The motion passed unanimously.
- After reviewing the October 23, 2014 Regular Board Meeting Minutes, Jim Payne moved and Larry McMillan seconded the motion to accept the minutes as presented. The motion passed unanimously.
- After review of the PCGCD 2015 Holiday Schedule, James Browning moved and Mike Pennington seconded the motion to approve the schedule as presented. The motion passed unanimously.
- 6. After discussion of the various violations by Ron Sharp and Carl Linkenhoker, Ray Davis moved and Bobby Langford seconded the motion to assess a \$1,500 fine for Carl Linkenhoker and to postpone fines for Ron Sharp until the next meeting to allow the General Manager to gather information about the violations. The motion passed unanimously.

PCGCD Meeting Minutes - November 20, 2014

- 7. Larry Dorman introduced Ty Embrey, legal counsel for the District. Ty provided insight into new bills being presented by TWCA and TAGD regarding water well drilling enforcement, aquifer storage and recovery, permit renewals, oil and gas permitting, and brackish groundwater use. Ray Davis left to attend a prior scheduled engagement at 6:30 p.m. after the legislative discussion.
- The Board discussed making rule revisions including permitting frac pond water wells and water well completion requirements. The General Manager will draft possible changes and bring them back to another board meeting. No action was taken.
- 9. Jess Landreneau, Field Technician, provided updates on the regular monthly monitor wells, frac pond monitor wells, and rain gauges. The monthly monitor deep well readings show a drop in water levels of approximately 0.43 feet in the last month. Compared to 2011, the deep well water levels are up 1.25 feet. The shallow well water levels have dropped 0.31 feet in the last month, and they are 0.89 feet higher than in 2011. The rainfall average for October was 4.57 inches. The historical average for October is 4.07 inches. The historical average for October is 4.07 inches. The historical average for November is 4.57 inches, and the U.S. Drought Monitor map for Texas illustrates Panola County's current status is abnormally dry. Frac pond monitor wells in Antioch have had water levels return to pre-frac pumping conditions in the last month. The Wedgeworth frac pond in Riderville and the Alexander frac pond in Delray are still areas of concern due to large drawdowns.
- After reviewing the accounts payable for the period of October 21, 2014 November 14, 2014, Jim Payne moved and James Browning seconded the motion to approve payment of expenses as presented. The motion passed unanimously.
- 11. The Board entered executive session at 7:42 p.m. under the authority of Section 551.074 (personnel) of the Government Code, Chapter 551, Texas Open Meetings Act. The Board exited the executive session at 8:05 p.m.
- 12. After returning to regular session, Jim Payne moved and Mike Pennington seconded the motion to increase the General Manager's salary to \$72,500 based on performance. The motion passed unanimously.
- The next regular meeting was scheduled for Thursday, December 18, 2014 at 5:30 p.m. at the District Office.
- Jim Payne moved and Al Clay seconded the motion to adjourn at 8:09 p.m. The motion passed unanimously.

Approved this 18th day of December, 2014.

PCGCD Meeting Minutes - November 20, 2014

Director

MINUTES OF THE REGULAR MEETING of the REGIONAL WATER PLANNING GROUP "I" Wednesday, May 21, 2014 – 10:00 a.m. Nacogdoches Recreation Center 1112 North Street, Nacogdoches, Texas

- <u>Call to Order</u> Kelley Holcomb, Chair called the meeting to order at 10:10 a.m.
- Invocation & Pledge of Allegiance David Alders gave the invocation and led the group in the Pledge of Allegiance.
- <u>Roll Call and Determination of Quorum</u> The roll was called by Lila Fuller and a quorum was determined as follows:

Voting Members Present (15 of 22)

Kellev Holcomb Leah Adams David Alders David Brock Josh David Scott Hall Mike Harbordt William Heugel John Martin Gregory Morgan Dale R. Peddy Monty Shank Darla Smith Worth Whitehead J. Leon Young Voting Members Absent (6) Jeff Branick Jerry Clark Chris Davis Mark Dunn Joseph Holcomb Bill Kimbrough Voting Member Vacancies (1) Proxies: Scott Hall for Jeff Branick Scott Hall for Jerry Clark Monty Shank for Chris Davis Kelley Holcomb for Mark Dunn Kelley Holcomb for Joseph Holcomb Non-Voting Members Present: None

Governmental Reporting Agencies Present: Lann Bookout, Texas Water Development Board Michelle Spodnik, Texas Department of Agriculture

Other Guests Present:

Lila Fuller, City of Nacogdoches Stacy Corley, City of Nacogdoches Rex Hunt, Alan Plummer Associates, Inc. Simone Kiel - Freese and Nichols, Inc. Cynthia Syvarth - Alan Plummer Associates, Inc. Mary S. Vann - SRA Jim Brown - SRA Ann Galassi - SRA Jerry Nichols - TSSWCB Jesse Garcia - South Sabine Water Co. John Phillips - City of Troup Jackie Risner - Pineywoods GCD Trey Watson - TSSWCB Randy Randolph - Texas Association of Builders April Scase - TSSWCB Jeremy W. Welch - TSSWCB Gregg Nichols - Edward Jones Steve Bartlett - City of Nacogdoches

4. Consideration and approval of the minutes of the February 26, 2014, meeting.

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

Chair Holcomb moved to Agenda Item no. 14 at this time.

New Business

a. <u>Consideration and approval of Final Draft 2011 Regional Water Plan</u> <u>Prioritization; Submittal of Prioritization Score Sheet and related documentation</u> for the East Texas Regional Water Planning.

Chair Holcomb recognized Mike Harbordt as Chair of the Technical Committee who reviewed the process to date. He stated it had been a learning process to lead to more clear rules in the future. He stated the draft would be complete by June 1 with the final August 1.

Darla Smith arrived at 10:17 a.m.

Lann Bookout (TWDB) gave a brief review of the process by the State. He stated the Stakeholder Committee was providing comments and reviewed documents needed for prioritization. He said score sheet submittal deadline was June 1.

Rex Hunt reviewed the prioritization process for the ETRWPG and reviewed the handouts, which included a project description with final scores, sorted by likelihood to seek State funding; and preliminary project rankings.

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Mr. Hunt explained that prioritization was only 1 of 7 criteria that would be developed before the final plan was complete.

Simone Kiel, (Freese & Nichols) reviewed the implementation schedule, stating draft rules were anticipated by June 1.

The criteria for prioritization were reviewed and Simone stated the Stakeholder Committee assigned criteria weighting for scoring. It was further stated that data from the regional water planning group was used.

Simone reviewed the Prioritization Assumptions memo and stated the ETRWPG should consider things they feel important to identify regional needs in the comment letter.

Lake Columbia was mentioned, and how it affected the region.

Rollup strategy was discussed based on funding relationships. Project rollup would allow the scoring to be the same, yet are still listed individually on the spreadsheet. Recommended rollups were as follows:

- Rollup 1 Lake Naconiche Nacogdoches County this project includes Projects I-3, I-31, I-60 and I-124 (Appleby WCS, County other, Lilly Grove WSC and Swift WSC)
- Rollup 2 ANRA Treatment and Distribution System ANRA This project includes Projects I-1, I-56, -113 and I-128

Mike Harbordt moved to include the proposed rollups in the 2011 prioritization process as presented. The motion was seconded by Leon Young and unanimously passed.

The Draft Prioritization Projects memo and proposed final scores by likelihood to seek state funding was reviewed and questions answered.

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

Leon Young left the meeting at 11:51 a.m., giving his proxy to David Alders.

Mike Harbordt moved to approve the final draft prioritization and authorize submittal to the Texas Water Development Board as presented. The motion was seconded by Monty Shank and unanimously passed.

14-b. <u>Consideration and authorization of the East Texas Regional Water Planning Group</u> <u>Chair to submit the Task 4C Technical Memorandum to the Texas Water Development</u> <u>Board on or before August 1, 2014.</u>

Chair Holcomb stated that action was needed on this item to meet required deadlines, and the Technical Memo would be ratified at the next ETRWPG meeting.

Mike Harbordt moved to approve the Task 4C Technical Memorandum and authorize submission to the TWDB on or before August 1, 2014. The motion was seconded by David Alders and unanimously passed.

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Chair Holcomb continued the meeting from Agenda Item 5.

5. Report from City of Nacogdoches - Lila Fuller.

No report.

- 6. Reports of adjoining regions activity (only as needed):
 - A. Region C No report.
 - B. Region D No report.
 - C. Region H No report.

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

- A. Executive Committee No report.
- B. Finance Committee No report.
- C. Bylaws Committee No report.
- D. Technical Committee No report.
- E. Nominations Committee No report.

8. Reports from other State agencies:

- A. Texas Department of Parks and Wildlife Terry Stelly was not in attendance so no report was provided.
- B. Texas Department of Agriculture. Michelle Spodnik announced she would not be the TDA representative in the future due to staffing re-assignments. She further reported that Ag Commission had identified communities that had less than 90 days of water remaining; however no communities in the East Texas Region were identified.

9. <u>Report from Texas Water Development Board staff:</u> A. Update on 2016 Regional Water Planning process.

Lann Bookout gave a brief update on the 2016 State water planning process, reminding the group that the regional plans were due in 2015.

Chair Holcomb referenced concerns with the database and how it would affect the process. Lann stated what was learned during the prioritization process would be taken into consideration on future data.

 <u>Report from consultant team – Rex Hunt/Alan Plummer Associates. Inc.</u> A. Review of schedule (remainder of 2014)

No further information was given.

B. Update on current planning activities

No further information was given

- 11. Educational presentation None
- 12. Public comment None.
- 13. Unfinished business None

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- 14. New Business This item was discussed earlier in the meeting.
- Chairman's Report Kelley Holcomb. Chair Holcomb informed the group of the Regional Chairs Conference call to be held May 23 and would center on discussion regarding the prioritization plan from TWDB and HB 4.
- General Discussion Chair Holcomb stated the next meeting would be held August 20 or August 27 depending on when the room was available.
- 17. Adjourn Chair Holcomb adjourned the meeting at 12:12 p.m.

APPROVED THIS 27th day of August 2014

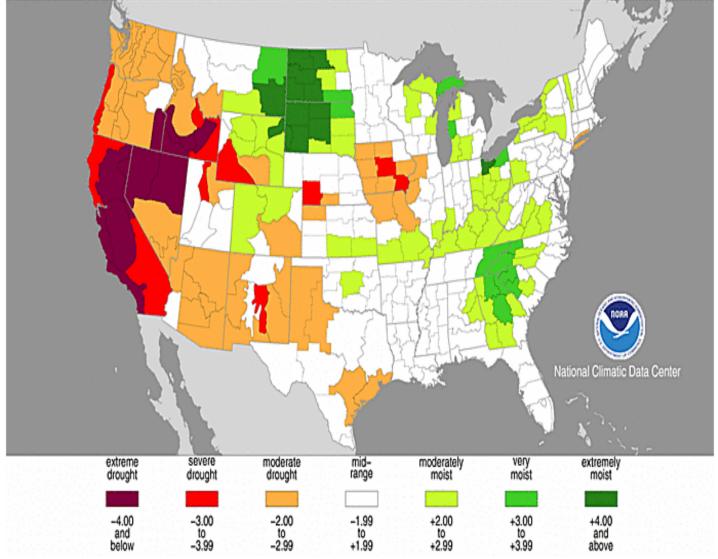
Kellev Holcomb, Chair

ETRWPG - Region I

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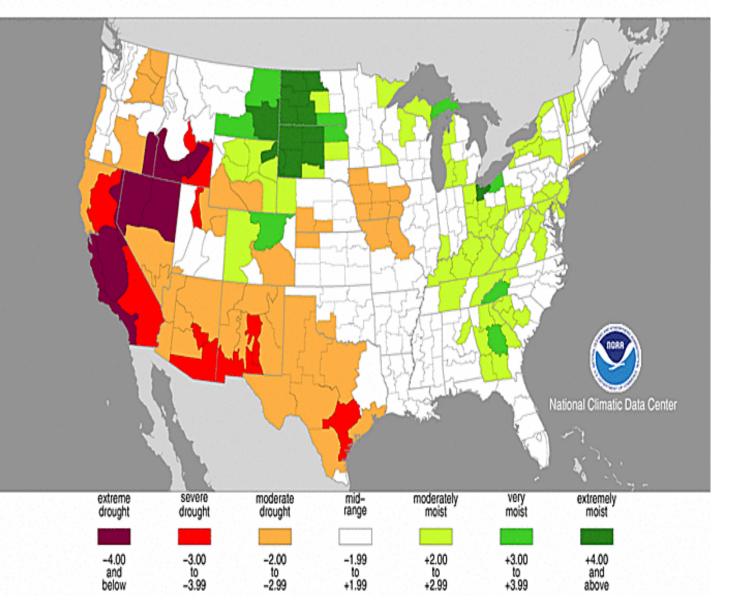
Minutes approved: August 27, 2014

Palmer Drought Severity Index January, 2014

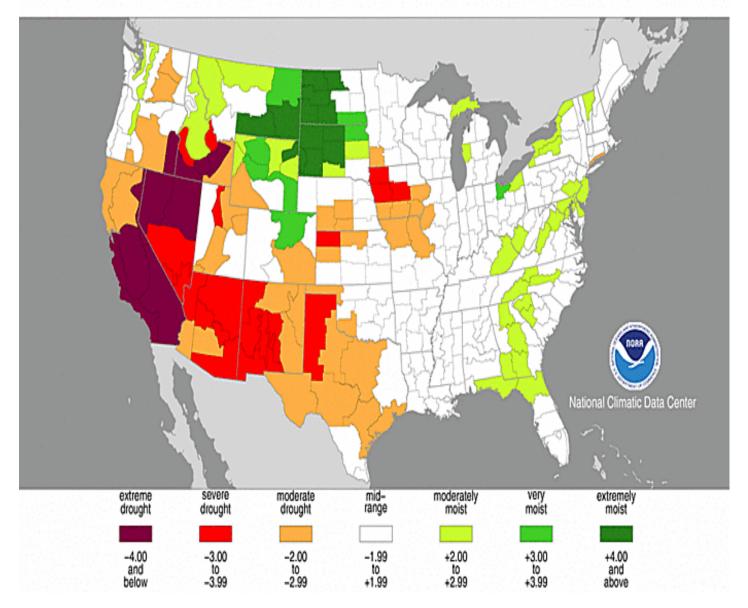


Data File: Palmer Drought Severity Index Divisional Data

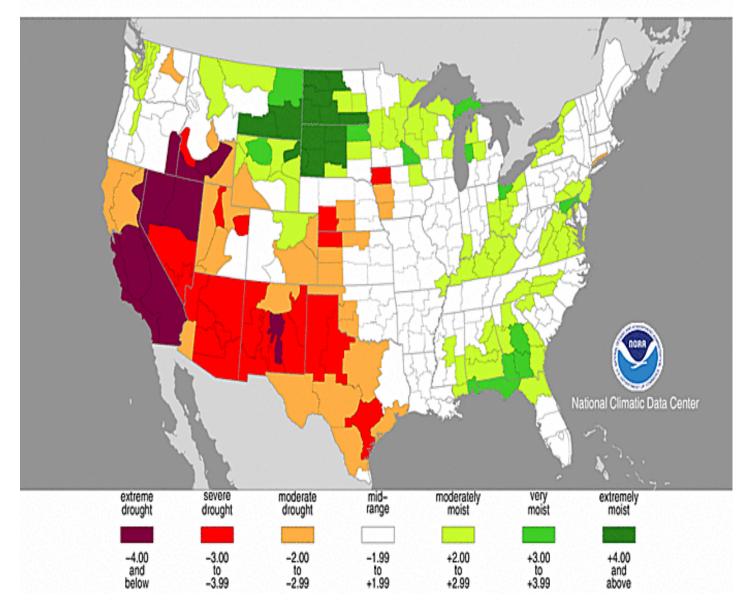
Palmer Drought Severity Index February, 2014



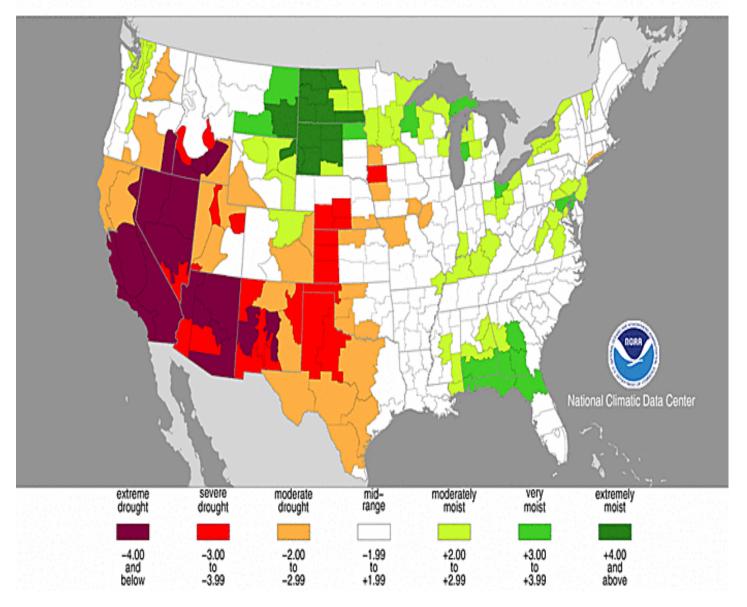
Palmer Drought Severity Index March, 2014



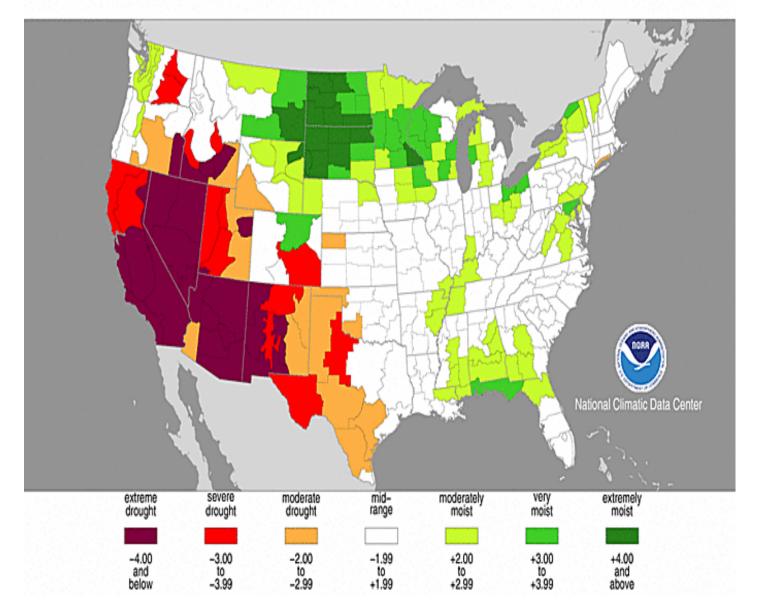
Palmer Drought Severity Index April, 2014



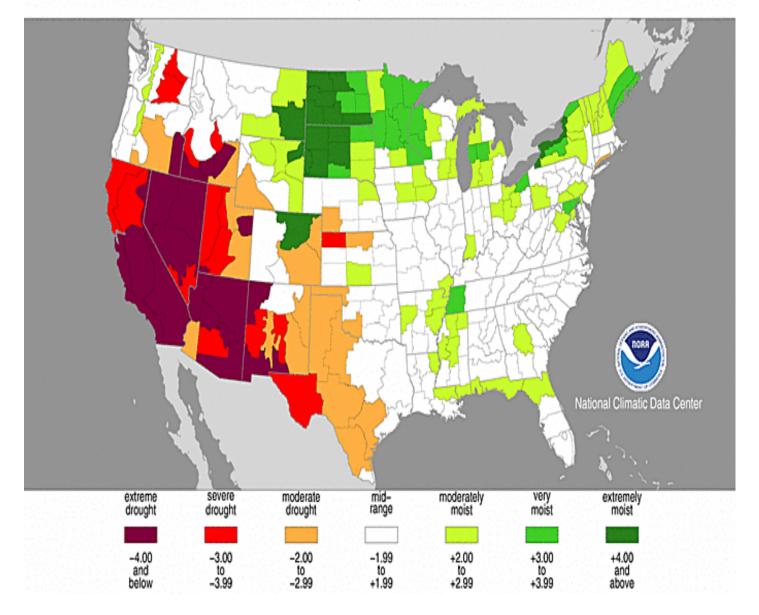
Palmer Drought Severity Index May, 2014



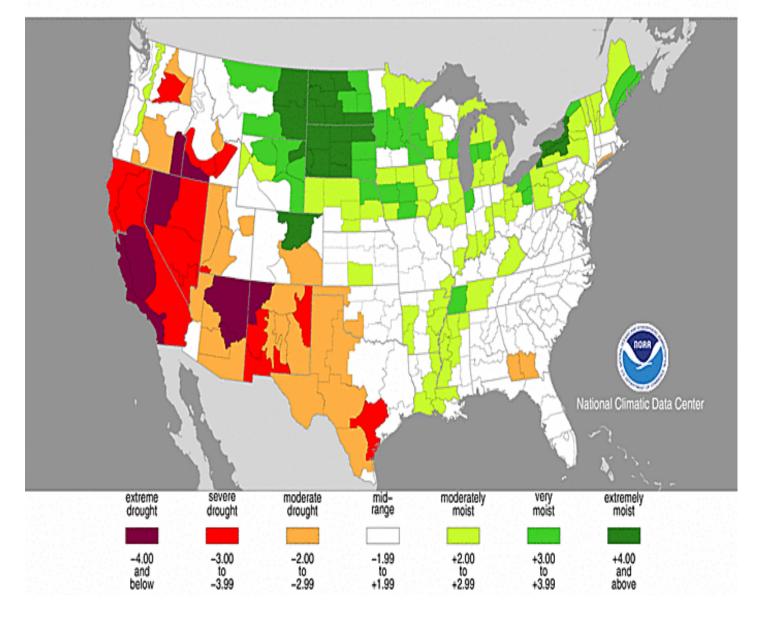
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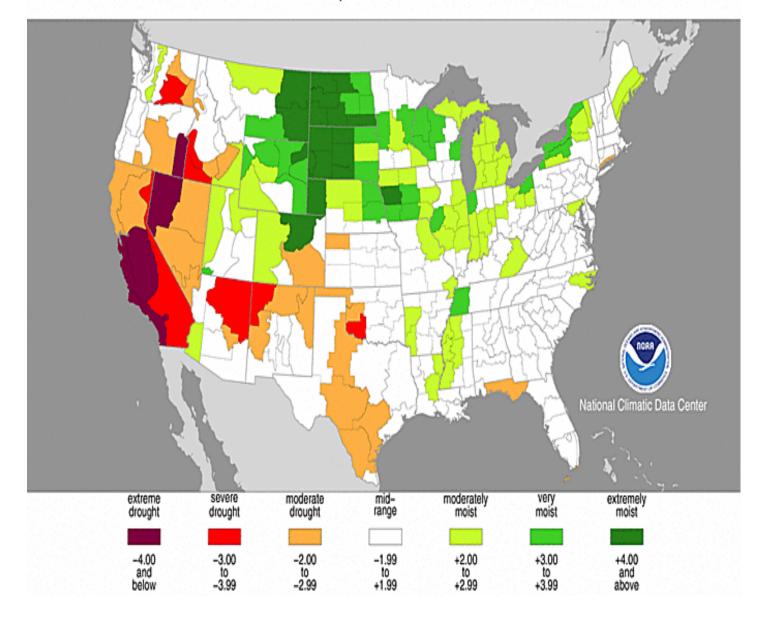
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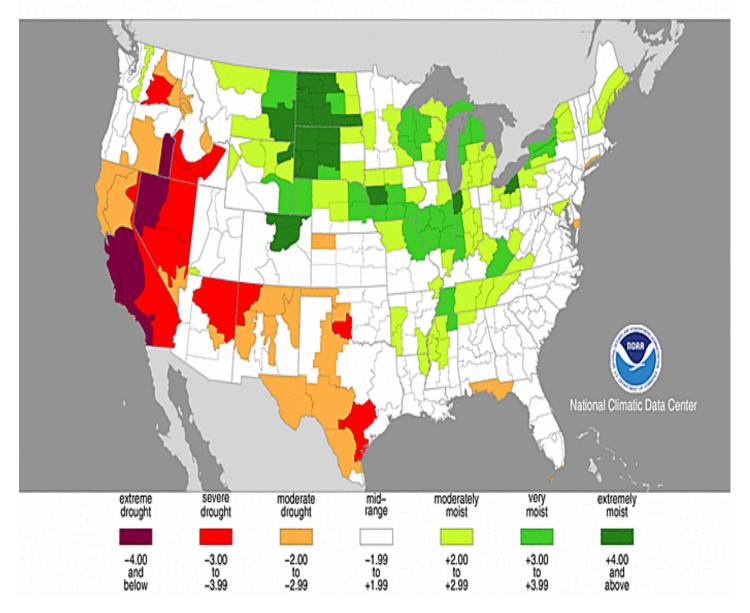
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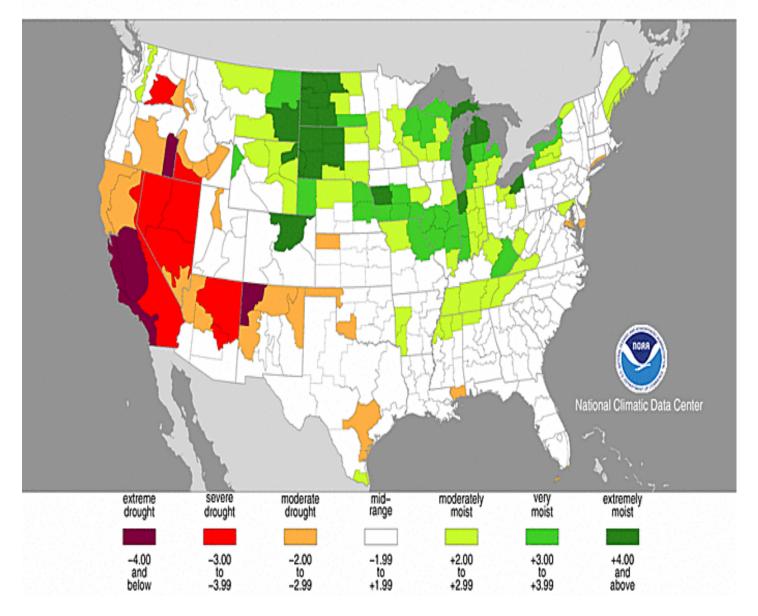
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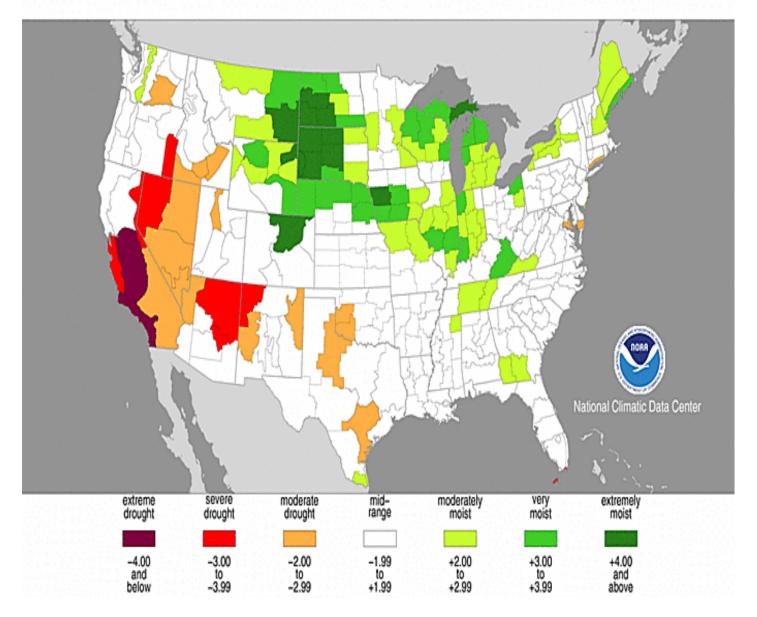
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Palmer Drought Severity Index November, 2014



Palmer Drought Severity Index December, 2014



"Situation Report" January, 2014

The Situation Report for January 2014 was not available on the Texas DPS website.

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"Situation Report" February, 2014

The Situation Report for February 2014 was not available on the Texas DPS website.

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"Situation Report" March, 2014

The Situation Report for March 2014 was not available on the Texas DPS website.

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"Situation Report" April, 2014

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"Situation Report" May, 2014



DROUGHT PREPAREDNESS COUNCIL

RICK PERRY Governor

5805 N. Lamar Blvd. P.O. Box 4087 Austin, Texas 78773-0220 Phone: (512) 424-2138

W. NIM KIDD Council Chairperson

May 7, 2014

TO: The Honorable Rick Perry, Governor, State of Texas The Honorable David Dewhurst, Lieutenant Governor, State of Texas Mr. John Steen, Secretary of State, State of Texas The Honorable Leticia R. Van de Putte, President Pro-Tempore of the Senate, State of Texas The Honorable Joe Straus, Speaker of the House, State of Texas The Honorable Tommy Williams, Chairman, Senate Finance Committee, State of Texas The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas The Honorable Craig Estes, Chairman, Senate Committee on Agriculture, Rural Affairs & Homeland Security, State of Texas The Honorable Joseph Pickett, Chairman, House Committee on Homeland Security & Public Safety, State of Texas The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas The Honorable Tracy O. King, Chairman, House Agriculture & Livestock Committee, State of Texas The Honorable Abel Herrero, Chairman, House Criminal Jurisprudence Committee, State of Texas Mr. Jeff Boyd, Chief of Staff, Office of the Governor Mr. Steven McCraw, Director, Texas Department of Public Safety

FROM: Assistant Director Nim Kidd, Texas Division of Emergency Management

SUBJECT: Statewide Drought Situation Report

Nim Kidd, Chairman Texas Division of Emergency Mgmt

Sam Hermitte, Member Texas Water Development Board

Lance Williams, Member Texas Department of Agriculture

Gilbert Jordan, Member Texas Department of Transportation

Chris Loft, Member Texas Commission on Environmental Quality

> Michael Dunivan. Member Texas A&M Forest Service

Kent Saathoff, Member Electric Reliability Council of Texas

Dr. Travis Miller, Member Texas A&M AgriLife Extension Service

David A. Van Dresar, Member Texas Alliance of Groundwater Districts

> Mark Ellison, Member Office of the Governor Economic Development & Tourism

Regina Erales, Member Public Utility Commission of Texas

Steven Bednarz, Member State Soil & Water Conservation Board

David Bradsby, Member Texas Parks & Wildlife Department

Priscilla Boston, Member Texas Department of State Health Services

Dr. John W. Nielsen-Gammon, Member Office of the State Climatologist

Marisa Callan, Member Texas Department of Housing and Community Affairs

Oscar Fogle, Member

William Masterson, Member

"Situation Report" June, 2014



DROUGHT PREPAREDNESS COUNCIL

RICK PERRY Governor 5805 N. Lamar Blvd. P.O. Box 4087 Austin, Texas 78773-0220 Phone: (512) 424-2138

W. NIM KIDD Council Chairperson

June 13, 2014

TO: The Honorable Rick Perry, Governor, State of Texas The Honorable David Dewhurst, Lieutenant Governor, State of Texas Mr. John Steen, Secretary of State, State of Texas The Honorable Leticia R. Van de Putte, President Pro-Tempore of the Senate, State of Texas The Honorable Joe Straus, Speaker of the House, State of Texas The Honorable Tommy Williams, Chairman, Senate Finance Committee, State of Texas The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas The Honorable Craig Estes, Chairman, Senate Committee on Agriculture, Rural Affairs & Homeland Security, State of Texas The Honorable Joseph Pickett, Chairman, House Committee on Homeland Security & Public Safety, State of Texas The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas The Honorable Tracy O. King, Chairman, House Agriculture & Livestock Committee, State of Texas The Honorable Abel Herrero, Chairman, House Criminal Jurisprudence Committee, State of Texas Mr. Jeff Boyd, Chief of Staff, Office of the Governor Mr. Steven McCraw, Director, Texas Department of Public Safety

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"Situation Report" July, 2014



DROUGHT PREPAREDNESS COUNCIL

RICK PERRY Governor

5805 N. Lamar Blvd. P.O. Box 4087 Austin, Texas 78773-0220 Phone: (512) 424-2138

W. NIM KIDD Council Chairperson

July 16, 2014

TO: The Honorable Rick Perry, Governor, State of Texas The Honorable David Dewhurst, Lieutenant Governor, State of Texas Mr. John Steen, Secretary of State, State of Texas The Honorable Leticia R. Van de Putte, President Pro-Tempore of the Senate, State of Texas The Honorable Joe Straus, Speaker of the House, State of Texas The Honorable Tommy Williams, Chairman, Senate Finance Committee, State of Texas The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas The Honorable Craig Estes, Chairman, Senate Committee on Agriculture, Rural Affairs & Homeland Security, State of Texas The Honorable Joseph Pickett, Chairman, House Committee on Homeland Security & Public Safety, State of Texas The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas The Honorable Tracy O. King, Chairman, House Agriculture & Livestock Committee, State of Texas The Honorable Abel Herrero, Chairman, House Criminal Jurisprudence Committee, State of Texas Mr. Jeff Boyd, Chief of Staff, Office of the Governor Mr. Steven McCraw, Director, Texas Department of Public Safety FROM: Assistant Director Nim Kidd, Texas Division of Emergency Management SUBJECT: Statewide Drought Situation Report

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Oscar Fogle, Member

William Masterson, Member

"Situation Report" August, 2014



DROUGHT PREPAREDNESS COUNCIL

RICK PERRY Governor 5805 N. Lamar Blvd. P.O. Box 4087 Austin, Texas 78773-0220 Phone: (512) 424-2138 W. NIM KIDD Council Chairperson

August 22, 2014

TO: The Honorable Rick Perry, Governor, State of Texas The Honorable David Dewhurst, Lieutenant Governor, State of Texas Mrs. Nandita Berry, Secretary of State, State of Texas The Honorable Leticia R. Van de Putte, President Pro-Tempore of the Senate, State of Texas The Honorable Joe Straus, Speaker of the House, State of Texas The Honorable Tommy Williams, Chairman, Senate Finance Committee, State of Texas The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas The Honorable Craig Estes, Chairman, Senate Committee on Agriculture, Rural Affairs & Homeland Security, State of Texas The Honorable Joseph Pickett, Chairman, House Committee on Homeland Security & Public Safety, State of Texas The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas The Honorable Tracy O. King, Chairman, House Agriculture & Livestock Committee, State of Texas The Honorable Abel Herrero, Chairman, House Criminal Jurisprudence Committee, State of Texas Mr. Jeff Boyd, Chief of Staff, Office of the Governor Mr. Steven McCraw, Director, Texas Department of Public Safety

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SUBJECT: Statewide Drought Situation Report

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Gilbert Jordan Member

Texas Department of Transportation

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Michael Dunivan,

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Dr. Travis Miller, Member Texas A&M AgriLife Extension Service

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Priscilla Boston, Member Texas Department of State Health Services

Dr. John W. Nielsen-Gammon, Member Office of the State Climatologist

Marisa Callan, Member Texas Department of Housing and Community Affairs

Oscar Fogle, Member

William Masterson, Member

DROUGHT PREPAREDNESS COUNCIL 5805 N. Lamar Blvd. RICK PERRY W. NIM KIDD P.O. Box 4087 Governor Council Chairperson Austin, Texas 78773-0220 Phone: (512) 424-2138 September 18, 2014 TO: The Honorable Rick Perry, Governor, State of Texas The Honorable David Dewhurst, Lieutenant Governor, State of Texas Mrs. Nandita Berry, Secretary of State, State of Texas The Honorable Leticia R. Van de Putte, President Pro-Tempore of the Senate, State of Texas The Honorable Joe Straus, Speaker of the House, State of Texas The Honorable Tommy Williams, Chairman, Senate Finance Committee, State of Texas The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas The Honorable Craig Estes, Chairman, Senate Committee on Agriculture, Rural Affairs & Homeland Security, State of Texas The Honorable Joseph Pickett, Chairman, House Committee on Homeland Security & Public Safety, State of Texas The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas The Honorable Tracy O. King, Chairman, House Agriculture & Livestock Committee, State of Texas The Honorable Abel Herrero, Chairman, House Criminal Jurisprudence Committee, State of Texas Mr. Jeff Boyd, Chief of Staff, Office of the Governor Mr. Steven McCraw, Director, Texas Department of Public Safety FROM: Assistant Director Nim Kidd, Texas Division of Emergency Management SUBJECT: Statewide Drought Situation Report Nim Kidd, Chairman Sam Hermitte, Member Steven Bednarz, Member Texas Water Development Board State Soil & Water Conservation Board Texas Division of Emergency Momt Lance Williams, Member Dr. Travis Miller, Member David Bradsby, Member Texas Department of Agriculture Texas A&M AgriLife Extension Service Texas Parks & Wildlife Department Gilbert Jordan, Member David A. Van Dresar, Member Priscilla Boston, Member Texas Department of Transportation Texas Alliance of Groundwater Districts Texas Department of State Health Services Chris Loft, Member Mark Ellison, Member Dr. John W. Nielsen-Gammon, Member Office of the Governor Texas Commission on Environmental Office of the State Climatologist Quality Economic Development & Marisa Callan, Member Tourism Michael Dunivan, Texas Department of Housing and Member Texas A&M **Community Affairs** Regina Erales, Forest Service Member Public Utility Kent Saathoff, Member Oscar Fogle, Member Commission of Texas Electric Reliability Council of Texas William Masterson, Member Thomas M. Martine, Member

"Situation Report" September, 2014

Panola County Groundwater Conservation District 2014 ANNUAL REPORT

"Situation Report" October, 2014



DROUGHT PREPAREDNESS COUNCIL

Governor

5805 N. Lamar Blvd. P.O. Box 4087 Austin, Texas 78773-0220 Phone: (512) 424-2138

W. NIM KIDD Council Chairperson

October 10, 2014

TO: The Honorable Rick Perry, Governor, State of Texas The Honorable David Dewhurst, Lieutenant Governor, State of Texas Mrs. Nandita Berry, Secretary of State, State of Texas The Honorable Leticia R. Van de Putte, President Pro-Tempore of the Senate, State of Texas The Honorable Joe Straus, Speaker of the House, State of Texas The Honorable Tommy Williams, Chairman, Senate Finance Committee, State of Texas The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas The Honorable Craig Estes, Chairman, Senate Committee on Agriculture, Rural Affairs & Homeland Security, State of Texas The Honorable Joseph Pickett, Chairman, House Committee on Homeland Security & Public Safety, State of Texas The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas The Honorable Tracy O. King, Chairman, House Agriculture & Livestock Committee, State of Texas The Honorable Abel Herrero, Chairman, House Criminal Jurisprudence Committee, State of Texas Mr. Jeff Boyd, Chief of Staff, Office of the Governor Mr. Steven McCraw, Director, Texas Department of Public Safety

FROM: Assistant Director Nim Kidd, Texas Division of Emergency Management

SUBJECT: Statewide Drought Situation Report

Nim Kidd, Chairman

Sam Hermitte, Member Texas Water Development Board Dr. Travis Miller. Member

Lance Williams, Member Texas Department of Agriculture

Gilbert Jordan, Member

Texas Department of Transportation

Chris Loft, Member

Texas Commission on Environmental

Quality

Michael Dunivan,

Member Texas A&M

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Kent Saathoff, Member Electric Reliability Council

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Texas A&M AgriLife Extension Service

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Dr. John W. Nielsen-Gammon, Member Office of the State Climatologist

Marisa Callan, Member Texas Department of Housing and Community Affairs

Oscar Fogle, Member

William Masterson, Member

"Situation Report" November, 2014



DROUGHT PREPAREDNESS COUNCIL

RICK PERRY Governor

5805 N. Lamar Blvd. P.O. Box 4087 Austin, Texas 78773-0220 Phone: (512) 424-2138

W. NIM KIDD Council Chairperson

November 18, 2014

TO: The Honorable Rick Perry, Governor, State of Texas The Honorable David Dewhurst, Lieutenant Governor, State of Texas Mrs. Nandita Berry, Secretary of State, State of Texas The Honorable Craig Estes, President Pro-Tempore of the Senate, State of Texas The Honorable Joe Straus, Speaker of the House, State of Texas The Honorable Jane Nelson, Chairman, Senate Finance Committee, State of Texas The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas The Honorable Craig Estes, Chairman, Senate Committee on Agriculture, Rural Affairs & Homeland Security, State of Texas The Honorable Joseph Pickett, Chairman, House Committee on Homeland Security & Public Safety, State of Texas The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas The Honorable Tracy O. King, Chairman, House Agriculture & Livestock Committee, State of Texas The Honorable Abel Herrero, Chairman, House Criminal Jurisprudence Committee, State of Texas Ms. Kathy Walt, Chief of Staff, Office of the Governor Mr. Steven McCraw, Director, Texas Department of Public Safety FROM: Assistant Director Nim Kidd, Texas Division of Emergency Management

SUBJECT: Statewide Drought Situation Report

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Dr. John W. Nielsen-Gammon, Member Office of the State Climatologist

Marisa Callan, Member Texas Department of Housing and Community Affairs

Oscar Fogle, Member

William Masterson, Member

"Situation Report" December, 2014

The Situation Report for December 2014 was not available on the Texas DPS website at the time this Annual Report was created.

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Documentation of Draft Drought Contingency Plan

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	Wed 1/15/2014 2:17 PM Matthew Kruebbe Drought Stage Triggers							
To ladamspcgcd@att	To ladamspcgcd@att.net							
🚯 Follow up. Start by Friday, January 17, 2014. Due by Friday, January 17, 2014.								
Message 📦 Panola County Drought Stage Triggers by Community.docx (118 KB)								

Leah,

Let me know how these look. The first contains only the extracted charts in 4 pages, 1 stage per page. The second is the entire sample document you gave me, with charts inserted.

Do you want me to analyze/synthesize also the response measures, or did you only want the triggers?

Matt

See more about Matthew Kruebbe.



Documentation of Draft Drought Contingency Plan

Jess Landreneau

PCGCD

11-4-2014

October 2014 Field Tech Monthly Report

<u>10-1 to 10-3</u>: Field mileage: 350 Monthly monitor: 15 <u>Frac</u> pond wells: 13 Other field work: CR 248 disposal well meter check

<u>10-6 to 10-10</u>: Field mileage: 293 Site check: 9 GPS check: 2 Camera inspection: 1 (T. Malone transfer of ownership - CGU 16-52HH) Other field work: 2 (CR 119 0&G water well NIU, CR 248 disposal well meter check)

<u>10-13 to 10-17:</u> No field work

<u>10-20 to 10-24:</u> Field mileage: 500 <u>Erac</u> pond wells: 78 Site check: 5 Other field work: Anadarko CGU 20-24 meter check

<u>10-27 to 10-31:</u> Field mileage: 168 Site check: 1 Rain gauges for October were checked 10-31-2014

 Office days:
 6, 9, 10, 14, 15, 16, 17, 20, 27, 28, 29, 30, 31 (half)

 Vacation days:
 1st

 Holidays:
 13th

 Sick days:
 none

 Additional activity:

- Edited and mapped wells in ArcMap
- Reviewed and ruled on various applications
- Updated website (minutes, agendas, meeting dates, field data, job vacancy)
- Proofread/updated meeting minutes
- Made maps and compiled data for board meeting
- Helped applicants with paperwork
- Helped public with various water research topics (drillers, GCD, GMA, PWS, water quality, etc.)
- Searched for well reports and checked for well registration
- Office and vehicle maintenance (Escape inspection)
- Compiled documentation for rule violations (R. Sharp well completion dates)
- Researched drought contingency plans and wrote draft DCP for District
- Compiled recent Chevron plugging list, reviewed and processed new plugging apps
- Wrote board meeting agenda

Appendix F

Documentation of Draft Drought Contingency Plan

Jess Landreneau

PCGCD

11-4-2014

- Compiled irrigation groundwater use and land acreage data for TWDB estimates
- Contacted C. Ford about permitted water use and sent letter documenting exempt use
- Hung up dry erase board, mirrors, and other wall items in office
- Researched production report submission for 3rd quarter
- Met with BP about frac pond, well locations, hydro study requirements, and well spacing
- Worked on new frac pond layer in ArcMap

Ongoing Well Issues: (oldest to newest)

- Devon McRae bubbling well <u>Latest</u>: Local gas testing report is in Austin with the Railroad Commission for review. General Manager requested the lead on this issue.
- BP Allison 3 gas venting in water wells <u>Latest</u>: Monitor wells and vent wells are installed. PCGCD met with BP in February 2014 to discuss progress. General Manager requested the lead on this issue.
- Anadarko William Wall 3 bubbling well <u>Latest</u>: Anadarko sampled gas wells and water wells in the area, including the Wall 3 water well in May 2014. General Manager requested the lead on this issue.
- Exco Lawson-Morgan 1 sinkhole around well <u>Latest: Exco</u> has a plan to plug the sinkhole and the water well. The plan was agreed to by the PCGCD in September 2013 and Keithville Well Svc. is aware of the plan and agrees to it. Awaiting the green light from the PCGCD to start field work. General Manager has requested the lead on this issue.
- Anadarko CGU 20-24 (J. Roque) groundwater contamination from gas well leak (saltwater) – <u>Latest</u>: Anadarko is keeping us updated on the groundwater remediation and monitoring. Monitor wells are installed, soil has been treated, and evacuation of impacted water is ongoing. General Manager has requested the lead on this issue.
- Patara tank leaks leaking fluid storage tanks on three oil and gas locations in Fair Play – <u>Latest</u>: One location has had the faulty tank replaced in June 2014. Other locations are showing no progress according to James Browning. Multiple attempts to communicate with Patara have had no response (calls and emails in May and June 2014). General Manager has assumed role in contacting <u>Patara</u>.

Wells Needing Repair or Other Attention:

 Andrew Shivers domestic well – Sinkhole around well – Noted on GPS check paperwork in December 2011.

Appendix F

Documentation of Draft Drought Contingency Plan

Jess Landreneau

PCGCD

11-4-2014

- James H. Holland domestic well broken off and needs a cap Noted on GPS check paperwork in June 2011.
- Stutes Farm Needs a cap Landowner notified by letter in August 2013 and landowner responded by letter in September 2013 that the well would be capped. Still on the list to remind Field Tech to go verify well cap.
- HH Trust/M. Yamagata/F. Holland domestic well broken off and needs a cap -Noted on GPS check paperwork in December 2011.
- Dorothy Hardee domestic well broken off and needs a cap Noted on GPS check paperwork in January 2012.
- Anadarko JB Ingram 2 eroded surface completion Anadarko notified by email in December 2013.
- Henry <u>Twomey</u> domestic well broken off and needs a cap H. <u>Twomey</u> notified in person in August 2012 and said he would cap it. Field Tech visited in 2013 and it was covered but not capped.
- Anadarko CGU 17-7 obstructed by debris and needs a cap Anadarko notified by email in December 2013.
- Anadarko Gary Gas Unit 1 equipped but not in use, needs pump pulled and cap) Anadarko says well belongs to landowner. Need to contact landowner. Well found in September 2011.
- Jim Dunlap domestic well needs a cap Noted on GPS check paperwork in September 2011.
- Michael L. Moore domestic well needs a cap/lid (curbed well) Noted on GPS check paperwork in December 2011.
- Glen Bordner domestic well needs a cap Noted on GPS check paperwork in December 2011.
- Anadarko CGU 19-2 tree overgrown on a well Anadarko notified in April 2013 by email and said they would address this issue.