

Panhandle Water News

APRIL 2015

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Why Install a Rainwater Harvesting System

What is rainwater harvesting?

Rainwater harvesting is the collection and storage of rain from roofs or from surface catchment for future use. The water is stored in tanks to be saved or directed into mechanisms used for groundwater recharge.

Why install a system?

In most communities, about 35 percent of water use is applied to landscape irrigation. Using a rainwater harvesting system can help reduce demand on our water supply as well as reduce water bills.

Rainwater harvesting can also help prevent flooding and erosion, reduce contamination of run-off, and turn storm-water problems into a usable water supply.

Example of simple home rainwater harvesting system. You can find something similar to this for around \$100.



Approximately 0.62 gallons per square foot of collection surface per inch of rainfall can be captured. This tends to vary because some water is lost in the first flush of the system, splash-out or overshoot in hard rains, or possible leaks. Some rainwater can be lost if the tank is full. Smooth run off surfaces provide a more efficient method for capturing rainwater during intense rainfalls.

What supplies will you need?

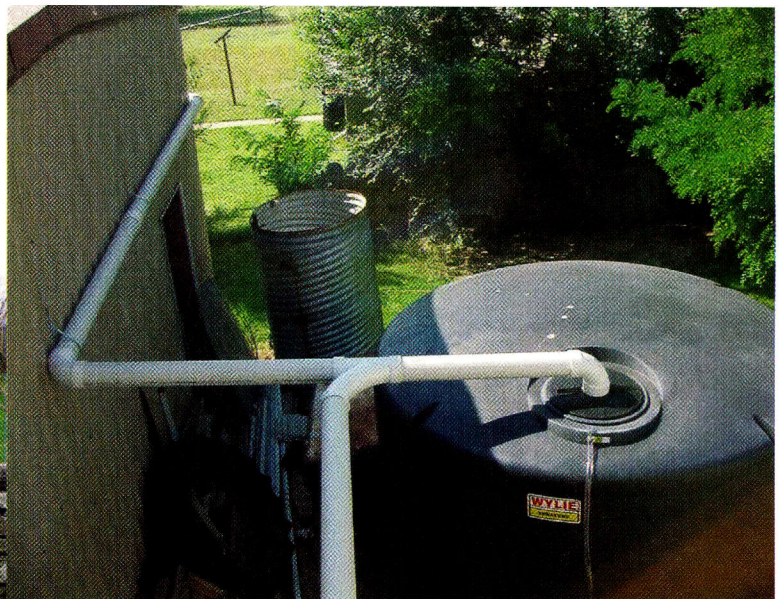
- Catchment surface
- Gutters and Downspouts
- Leaf screens
- Storage tanks
- Delivery system

Treatment/Purification

Cost of installation

The cost of a rainwater harvesting system can be as small or large as you choose to make it. There are various types of materials that can be used in each stage of the system. You can choose these pieces according to your budget. The size of storage tank and choice of potable or non-potable water will be the main expenses in your system. Below are examples of a simple and a more complex rainwater harvesting systems.

For more information view our rainwater harvesting page at www.pgcd.us.



PGCD's rainwater harvesting system on the office building. The tank holds 2,500 gallons and can be filled from just one inch of rain. Approximate cost was \$2,000 for pipe, tank and pump (when installed).



Study Shows Program Increases Economic Value

Panhandle Groundwater Conservation District's Precipitation Enhancement Program was recently included in a benefit-cost analysis study of Texas weather modification activities completed by Dr. Jason L. Johnson, associate professor at Texas A&M University and extension economist for Texas A&M AgriLife Extension Service. The study considers what impact an additional inch of rain will have on dryland crop acreage, irrigated crop acreage and grazing lands, and what economic gain this will provide to the areas of study and throughout the state. Besides PGCD's Precipitation Enhancement Program two other programs were a part of the study including West Texas Weather Modification Association in San Angelo, Texas, and South Texas Weather Modification Association in Pleasanton, Texas.

According to Johnson, "The purpose of this analysis was to provide the framework for an economic assessment to agriculture of a hypothetical one inch of additional rainfall in counties participating in selected weather modification programs." PGCD provided operating cost data which enabled a benefit-cost ratio to be calculated so the potential return on investment from increased agriculture production could be considered. Counties included in the study are those counties located within the PGCD district boundaries and includes portions of Armstrong, Potter and Hutchinson counties and all of Carson, Donley, Gray, Roberts and Wheeler counties.

After considering the increased dryland crop revenues, the cost savings to irrigated acreage and increased grazing land revenues from an additional inch of rainfall for the District the direct local economic impact is \$4,877,938. In addition to the local economic impact, Johnson also calculated an estimate state economic impact using Impact Analysis for Planning output multipliers. These secondary impacts can help with increased economic stability and growth in the state and are not confined to the agricultural community. The estimated state impact for an additional inch of rainfall in the PGCD's district is \$9,407,140. After comparing these economic gains to the cost of the program the benefit-cost ratio for the PGCD's Precipitation Enhancement Program is a \$22.20 return on every \$1.00 invested.

PGCD participated in this study to provide an educational resource to the District to help assess potential benefits versus cost of the program now and in the future. Johnson states that he used a very conservative stance during the study to avoid any overstate of potential benefits, and noted that if an additional inch of rainfall can be realized, the benefits will meet or exceed expectations. "Clearly this study shows that our program is a cost effective program and a prudent use of our tax dollars," stated C.E. Williams, PGCD General Manager.

PGCD's precipitation enhancement program started back up April 1 for its 16th year.

PGCD Management Plan Amendments

On March 13, 2015, Panhandle Groundwater Conservation District (PGCD) held a public hearing for non-substantive and non-required proposed amendments to PGCD's current management plan. PGCD's current management plan was adopted in 2012 and remains effective until 2017.

During the hearing the proposed amendments were approved by the PGCD board. The amendments will next be sent to Texas Water Development Board for final approval.

Go to <http://pgcd.us/boardmeeting/> to view a copy of the amendments. If you have any questions please call us at the office at (806) 883-2501.

Ag Loans Available

Panhandle Groundwater District is accepting loan applications from District producers for center pivot sprinklers, drip irrigation systems, soil moisture probes, and other water saving equipment.

The loan is available to producers at an interest rate of 1.12 percent and an eight year payback term. Approximate funds remaining are \$676,000.

For more information about our ag loan program contact Julie Bennett at the District office at (806) 883-2501.

50/50 Meter Cost Share

A recently approved grant from the Texas Water Development Board has allowed Panhandle Groundwater Conservation District (PGCD) to 50/50 cost share meters with District producers.

The opportunity to receive a meter from PGCD at a 50/50 cost share is available **until May 1, 2015**. All wells drilled after December 2004 that are 4" or greater in diameter and all wells in a designated study area are required to have a meter in place.

For more information about purchasing or installing a meter, please contact the District office at (806) 883-2501.

PGCD Election Cancelled

The election scheduled for May 9, 2015 has been cancelled in accordance with the Texas Election Code, Sec 2.053(a). The following candidates, who will be sworn in at a date yet to be determined, have been certified as unopposed and are hereby elected:

- Joy Shadid — Director, Precinct 2**
- Charles Bowers — Director, Precinct 4**
- Jim Thompson — Director, Precinct 6**
- Danny Hardcastle — Director, Precinct 8**



Lawn Sprinkler Gauges Available

The greatest percentage, up to 35 percent, of water we use for non-agricultural use goes to watering our lawns. Your lawn only needs water once to twice a week and less if it rains. Over-watering our lawns can not only be costly and wasteful, but can also cause damage to the roots of healthy grass. Knowing how much to water your lawn will diminish these issues that many face in the summertime and help conserve water.

To help you know how much water your lawn is getting, we recommend that you accurately measure using a lawn gauge provided by Panhandle Groundwater Conservation District, which can be picked up at numerous locations around the district (see right).

Using the Lawn Sprinkler Gauge

◆ Randomly place sprinkler gauge on your lawn and run the sprinkler for 15 minutes. Record the amount of water collected in the gauge.

◆ Repeat and take measurements at three or four different locations around the lawn.

◆ Calculate the average of all measurements and multiply average by four.

This will tell how many inches per hour your sprinkler applies to your lawn; e.g., if your sprinkler waters 1/8 inch in 15 minutes, the hourly rate is 1/2 inch, which is the ideal rate for proper soil absorption.

How Much to Water

Apply enough water to wet soil to a depth of 4-6 inches. After watering your lawn, determine the depth the water reaches by using a soil probe or screwdriver. Even during the hottest months, one inch of water per week is usually adequate.

When to Water

Stress for your lawn is natural, especially during the summer. When your lawn is ready for water, it will have a grayish cast and footprints will remain in the turf. Wait for these signs of stress to appear before watering. Avoid watering on a windy day, and only water in early morning or late evening to reduce evaporation.

Type of Grass

When choosing what type of grass to plant, it is best to choose a type that is best suited for our area.

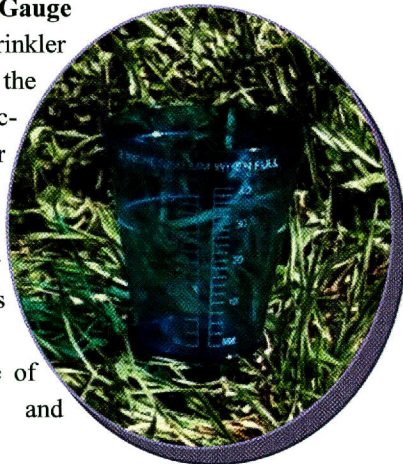
◆ **Best Choice:** Buffalo grass-normally remains green on as little as 1.5 inches of water per month, even during the summer. Due to deep root systems, 2 or 3 soakings a summer may be

sufficient.

◆ **Good Choice:** Bermuda grass-requires about one watering a month during the winter and may require 1 to 2 inches per week during the summer.

◆ **Not Recommended:** Fescue-this type of grass may require as much as 3 inches a week during the summer and 1 inch per week during the winter.

Choosing low-water or native grasses will save water as well as many hours behind the lawn mower. You can find these grasses and other low-water hybrid grasses at your local lawn and garden center.



Lawn Gauge Distributors

Amarillo	Coulter Gardens	Gebo's
	Home Depot-Soncy	Lowes-Tascosa Rd
	Home Depot-Georgia	Pete's Greenhouse
	Potter Co AgriLife	Pride Home Center
	Sutherland's	Walmart-Grand
	Walmart-Tascosa Rd	
Clarendon	J&W Lumber	Lowes/Ace Hardware
Claude	Keith's Service Center	
Groom	Groom Hardware	
Miami	Roberts Co AgriLife	
Pampa	B&G Rental-Hobart	Bartlett's Hardware
	D&C Greenhouse	Frank's Hardware
	Gebo's	Gray Co AgriLife
	Walmart	
Panhandle	Lane's	
Shamrock	Bartlett's Hardware	
Wheeler	Hefley's Hardware	
White Deer	Freeman's Grocery	Joel's NAPA
	White Deer Supply	PGCD Office

84th Legislative Session Update

The 84th Regular Legislative Session just passed the half way point. There were more than 6,000 bills filed in the House and Senate. C. E. Williams, along with several other water stakeholders, spent most of the 18 month interim working on consensus language for a number of groundwater issues. "We worked hard prior to session thinking it would make it easier, but boy was I ever wrong," stated Mr. Williams.

He is tracking over 200 bills that have varying degrees of importance to the District. Issues that will possibly affect the District include taxes, open government, elections, operations, conservation and of course groundwater.

"This session is turning into one of the busiest ever or maybe I'm just moving slower," stated Williams. Stay tuned for more updates on the Session.

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Blue Legacy Award Winners Announced

The Water Conservation Advisory Council announced the winners of the 2015 Blue Legacy Awards in municipal, agricultural, and manufacturing water conservation. On March 26, 2015 the winners were honored during Texas Water Day at the Capitol hosted by the Texas Water Foundation. The winners within each category are:

Agricultural

Dr. Shad Nelson - non-producer
Tim Miller of Millberg Farm - producer

Manufacturing

Cargill Meat Solutions Corporation in Friona

Municipal

Fort Davis Water Supply Corporation - population less than 10,000
Interstate Municipal Utility District - population between 10,000 and 50,000
The Woodlands Joint Powers Agency - population between 50,000 and 100,000
City of Frisco - population between 100,000 and 500,000
City of Austin - population more than 500,000

River Authority or Regional Water District

North Texas Municipal Water District

To learn more about this year's winners, visit www.savetexaswater.org or contact Mindy Conyers, council support staff, at mindy.conyers@twdb.texas.gov or (512) 463-5102.

The Water Conservation Advisory Council provides a professional forum for the continuing development of water conservation resources, expertise, and progress of the highest quality for the benefit of Texas. (Partial article provided by Water Conservation Advisory Council)



C.E. Williams and Carole Baker with Blue Legacy award winners Cargill Meat Solutions Corporation in Manufacturing.