

- Who owns groundwater?
- Shale gas plays extend over a wide area of South Texas.
- PCCD Site #8 Repair Project

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## Groundwater Ownership

Who owns the groundwater?

Surface water is owned by the State of Texas.

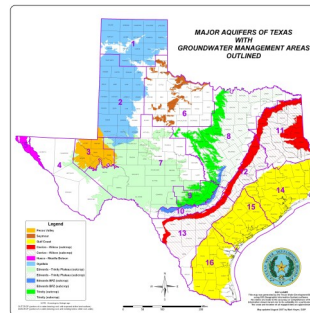
Many landowners believe they own the groundwater.

That question is now being raised and debated in the present 82nd legislative session.

One of the main questions is the term “vested”. Vested implies groundwater is real property in deference to

personal property if it is captured.

Groundwater moves



beneath the surface of the land and therefore is not attached to the land.

Oil, gas, gravel, coal and other minerals are attached to the land.

Groundwater moves over a range of feet per day to miles per day.

SB-332 is now being debated in the House after passing the Senate.

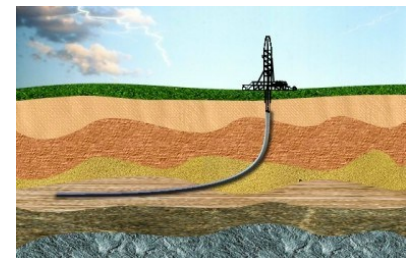
It is unknown at the time of this posting whether or not the groundwater ownership issue will be settled in this session.

## Shale Gas & Horizontal Drilling

Shale gas horizontal drilling, with hydrofracking, is rapidly moving across South Texas.

Each new well utilizes about 3-5 million gallons

of fresh water on a one-time basis. Wells are drilled on 160– acre spacing. The South Texas plays cover approximately 17 million acres.



# PCCD Well Registration Requirements

**Have you  
Registered your  
Water Well with  
the Plum Creek  
Conservation  
District ?**

Is your water well registered with the PCCD? Under PCCD's rules, all water wells must be registered. To register your water well, simply go to our website [www.pccd.org](http://www.pccd.org), click on the registration button, fill out the online form, and hit submit. It is that simple. You can also either, download the form, fill it out, and send it in, or come into our office and fill one out. There is not any cost to register your well. It is FREE.

What is the purpose of registering a well and what benefit is it to the landowner? The purpose of registering a well is primarily to have documentation of all the water wells in PCCD. This gives us valuable information as to where the water wells are located, the total depth, screen settings, casing specifications,

water pump information, well logs and etc. All of the information we gather from these wells is intricately linked with aquifer conditions and is a necessary component in aiding PCCD in fulfilling its legislative mandate of conservation, preservation, protection, recharging and prevention of waste of groundwater.

One of the advantages of a landowner registering his or her well is that any registered well in the vicinity of a proposed production water well must be recognized in the water well production permit application. For example, If there is an application for a large production well that comes before the PCCD Board to be permitted, only the REGISTERED and PERMITTED WELLS on adjacent and near-

by properties are considered and examined for possible impacts. For any Tier II well (producing over 300 acre feet per year) that is permitted by PCCD, there also must be an accompanying mitigation plan. A mitigation plan helps to resolve issues when or if a landowner's registered well is adversely impacted by a permitted well. If a well is not registered, there is minimal protection under our rules. Last, registered water well information can be a valuable resource for landowners wishing to drill a new water well on their property. It can provide answers to the water quality in the area, how deep one may have to drill to reach water and much more. The staff at PCCD is more than happy to assist you in registering your well or providing information that can assist you in drilling a new well.

Site #8 damaged slide area.

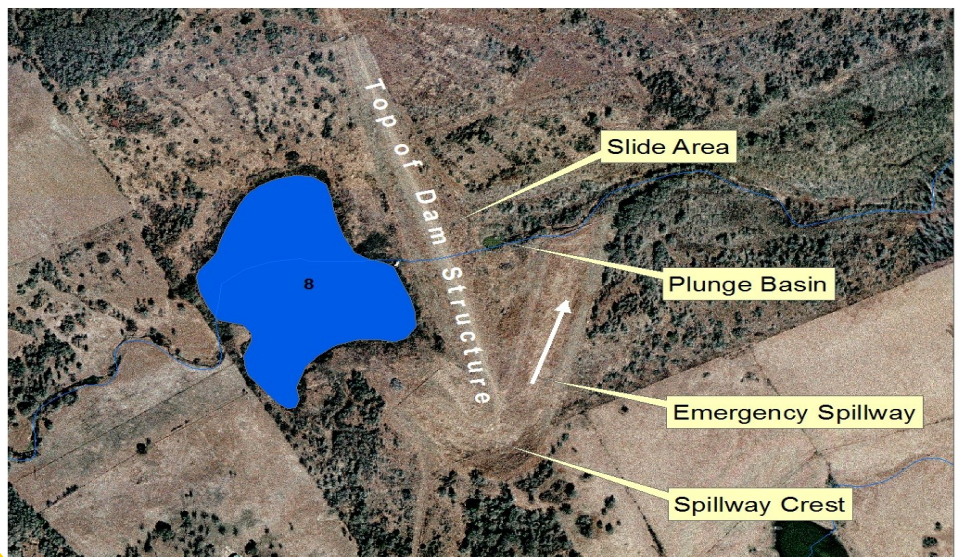


Site #8 after Repair Work



## Site #8 Repair Project

Back in 1998 Site #8 experienced a slide on the back side of the dam. Site #8 is located off of FM 2720 in northern Caldwell County. After the slide, plans were made to repair the dam. In 2008, revenues to repair the dam became available through the American Recovery & Investment Act. The cost for the project was approximately \$ 900,000 dollars. The repair involved removing the dam in layers and then rebuilding the structure using earthen materials mixed with lime to act as a stabilizing agent. Currently, the last step in completion is to reseed the dam with grass. Having a good turf is important in preventing erosion and allowing the structure to do its job for flood control.



# How do you know when you're in a Drought?



There is not a clear cut universally accepted definition of a drought, so determining when you're in one and when you're not is somewhat of a difficult assessment. The assessment of a drought can be done using a number of different drought indices. These indices involve using various indicators such as precipitation, temperature, soil moisture and other variables in a prescribed formula to calculate levels of drought. Just as it is difficult to define a drought, it is also difficult to quantify the impacts of a drought. The effects of a drought can have far reaching implications and may have negative economic consequences for years to come. On any given year, there will be areas in the United States that will be experiencing a drought. Currently, as of May 1, 2011, a majority of Texas, including Caldwell County is in a drought. According to the U.S. Drought Monitor, Caldwell County is in an extreme drought. The weather forecast for Texas, which takes in consideration the La Niña, predicts continued below normal precipitation and above normal temperatures.

A drought can be classified into 3 basic types: Meteorological, Agricultural, and Hydrological.

**Metrological Drought:** *"Is a measure of the departure of precipitation from normal"*.

The **Percent of Normal Index**. Is an indices' which is well suited to look at meteorological drought. The *Percent of Normal* index is derived by dividing the actual precipitation by normal precipitation. The *Percent of Normal* can be calculated for any given period, whether it is over a week, month or year.

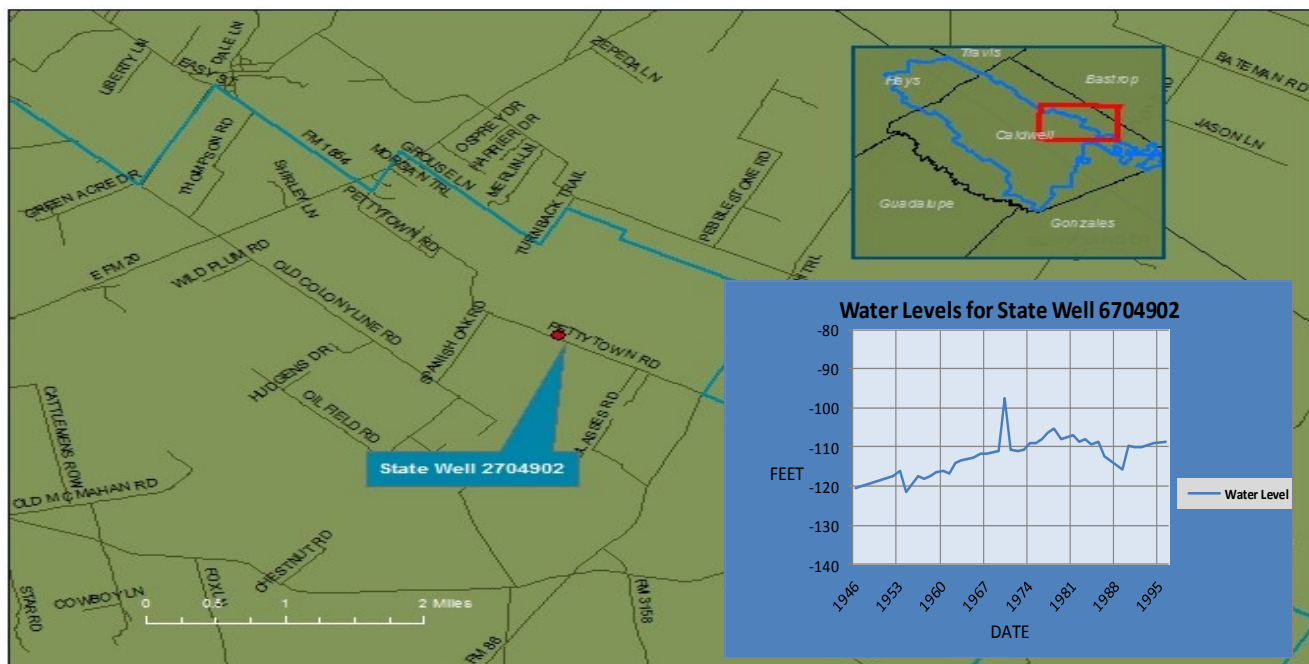
**Agricultural Drought:** refers to *"a situation when the amount of moisture in the soil no longer meets the needs of a particular crop"*.

The **Palmer Drought Severity Index (The Palmer; PDSI)** is a fairly good indicator when looking at agricultural drought. The PDSI is calculated based on precipitation and temperature data, as well as the local Available Water Content (AWC) of the soil. Many U.S. government agencies and states rely on the Palmer to trigger drought relief programs.

**Hydrological:** *"Occurs when surface and subsurface water supplies are below normal."*

Indicators of Hydrological drought conditions can come from USGS stream flow monitors, reservoir levels, and aquifer water levels.

As a groundwater conservation district we are concerned with all drought, but particularly hydrological drought in which aquifer water levels are impacted. Currently the district monitors water levels throughout the district. Below is one of the few wells that have been measured since the drought of the 1950's.



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The Plum Creek Conservation District's Newsletter is available via email. If you or someone you know would like to receive our Newsletter via email rather than US Mail then contact our office at (512) 398-2383.

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