Tuesday, September 6, 2016

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Barton Springs/Edwards Aquifer Conservation District

National Protect Your Groundwater Day

The National Groundwater Association's National Protect Your Groundwater Day helps focus attention on how important groundwater is as a shared resource and encourages everyone to do their part to help protect groundwater resources. The District agrees!

Everyone can and should do something to protect groundwater. Why? We all have a stake in maintaining its quality and quantity. Here are a few statistics and details from the National Groundwater Association...

- For starters, 99 percent of all available freshwater comes from aquifers underground. Being a good steward of groundwater just makes sense.
- Not only that, most surface water bodies are connected to groundwater so how you impact groundwater matters.
- Furthermore, many public water systems draw all or part of their supply from groundwater, so protecting the resource protects the public water supply and impacts treatment costs.
- If you own a well to provide water for your family, farm, or business, groundwater protection is doubly important. As a well owner, you are the manager of your own water system. Protecting groundwater will help reduce risks to your water supply.

For more information about local groundwater resources, tips and tricks for well maintenance, water quality information, treatment options, and other well owner resources, check out the District's Well Owner Guide.

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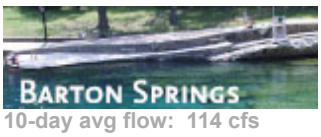
Storms, Spills, and Wells

While water quality in the District's aquifers is generally very good, keep an eye on your well water. Large rain events lead to lots of runoff, lots of runoff can cause infrastructure problems (sewer system overflows, septic system issues, erosion, etc) or mobilize

IN THIS ISSUE

Current Drought Stage: NO DROUGHT

The District uses two drought triggers to manage pumping and coordinate conservation.



10-day avg flow: 114 cfs

Water level: 544ft above msl

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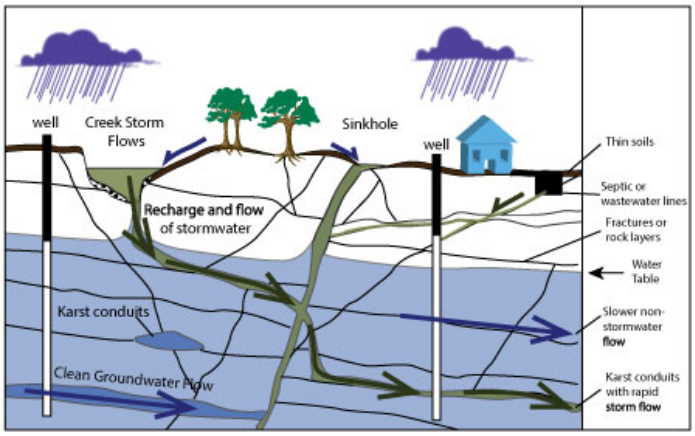
there is little opportunity for soils or rock layers to filter water entering the aquifer. Storm water can wash in bacteria and contaminants.

Schematic Cross Section of the Edwards Aquifer during Storm Events



The recent rains caused a sewer overflow (near Frate Barker and Brodie, details) that was detected, stopped, and recovered before the overflow entered the recharge zone creek system. While we don't believe this affected water quality, it's important to know that with storms comes recharge. And with recharge, contaminants can be present. If you ever notice a change in taste, odor, or appearance of your water, switch to drinking bottled water or boil before drinking.

A great question on many well owner's minds is when and/or if they should shock their wells to eliminate contaminants washed in by the storm. During rains, water can enter the well system in a number of different ways. Here they are in order of speed 1) directly from the surface from a cracked slab or damaged casing; 2) through the groundwater system if the well is directly on a conduit that receives recharge; or 3) the well is in the matrix of the aquifer.

Because karst aquifers (like the Edwards and portions of the Trinity) receive rapid recharge with little filtration, many well owners use UV systems or chlorination to ensure no bacteria affect their drinking supply. Those who don't should be extra cautious even weeks after rain events.

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Aquifer Tests Frequently Asked Questions

We've received lots of good hydrogeologic questions lately. A few have been related to Middle and Lower Trinity aquifer tests and how they're influenced by weather patterns.

Question:
Would drought or high water levels bias aquifer test results?

Answer:

> Aquifer tests in confined aquifers, like the Middle and Lower Trinity Aquifers, measure aquifer characteristics (like porosity and permeability) that do not change whether we're in drought or high water level situations. The aquifer test measures the effect on water levels and the response of the aquifer to pumping. The measured response can be used to calculate the aquifer parameters that will enable the District to run predicative simulations to assess the projected effects under all conditions including drought.

Question:

Answer:

According to continuously recording monitor wells in the area, water levels are going up in response to recent rains (recharge). The current trend in water levels is a factor that the hydrogeologists account for when they analyze the aquifer test results.

Summary:
In short, aquifer tests in confined aquifers, like the Middle and Lower Trinity Aquifers, measure characteristics that don't change over time. Monitor wells help define water level highs and lows and rates of natural water level change happening at the time of the aquifer test. And the model leverages all those data to examine the effects of different levels of pumping over time.

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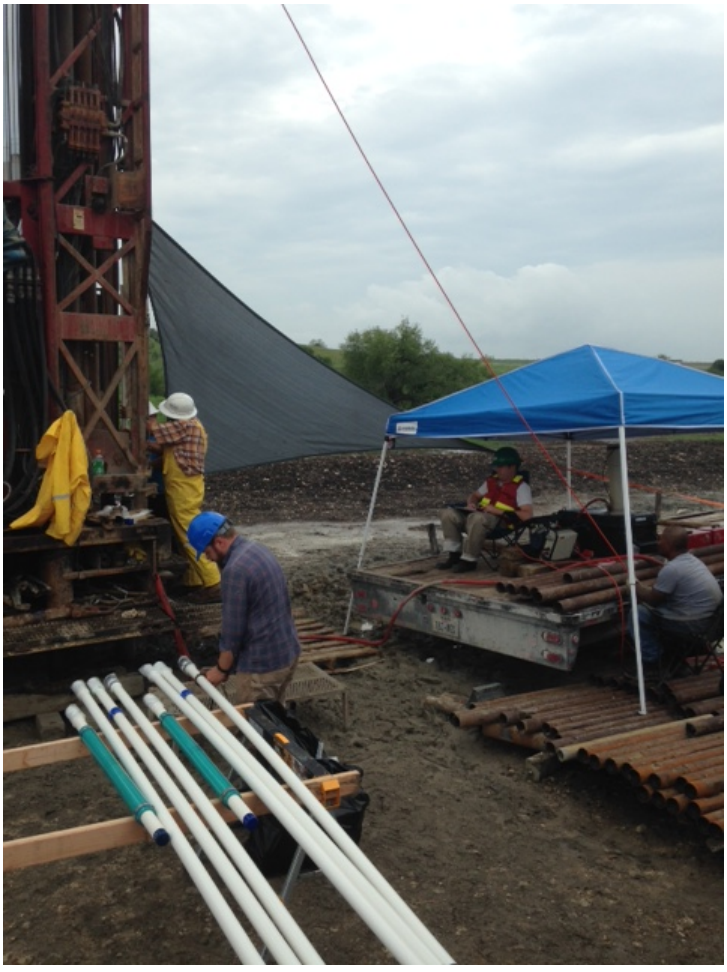
Saline Edwards Multiport Monitor Well

After years of planning and collaboration, and with support from Texas Disposal Systems, the Edwards Aquifer Authority, and a Regional Facilities Planning grant from the Texas Water Development Board, a multiport monitor well has now been installed in the saline Edwards Aquifer east of IH-35 near Creedmoor. District staff worked with experts from Westbay Instruments and the U.S. Geological Survey to log and equip the well. Drilling and well installation took place between August 3 and August 24.



The monitor well is 1,095 feet deep and goes from the Taylor Clay at the surface through the Edwards formations into the Upper Glen Rose formation. It was constructed to isolate 18 individual zones

This well is part of a broader study to evaluate the potential for desalination of the saline groundwater and for storage of freshwater as part of an aquifer storage and recovery (ASR) system. With limited water resources in the area, alternate sources of water are being investigated.

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Upcoming Events, Meetings, & Deadlines

Thurs., Sept. 1: **Permittee Meter Readings Due** (details)
Mon., Sept. 5: **Office closed for Labor Day**
Tues., Sept. 6: **Protect Your Groundwater Day** (details)
Thurs., Sept. 8: **BSEACD Board Meeting** (details)
Thurs., Sept. 22: **BSEACD Board Meeting**
Sat., Oct. 1: **Permittee Meter Readings Due** (details)
Thurs., Oct. 13: **BSEACD Board Meeting**
Thurs., Oct. 27: **BSEACD Board Meeting**

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