

Capital Area Ground Water Conservation Commission

Watching out for A Treasured Earth Resource 

Dedicated to the conservation, orderly development and protection of quality of ground water in the Capital Area

Volume 34, Number 2

NEWSLETTER

October 2008

Commission & District News

Scheduled Meetings. – The Technical Committee will meet at 1:30 p.m. Tuesday, December 2, 2008 in the conference room of the U.S. Geological Survey at 3535 South Sherwood Forest Boulevard, Baton Rouge, Louisiana. The regular meeting of the Board of Commissioners will be held at 9:30 a.m., Tuesday, December 9, 2008 in the conference room of the U.S. Geological Survey. The Administrative Committee will meet at 8:30 a.m. in the Commission office, Suite 129, 3535 South Sherwood Forest Boulevard, one hour before the regular meeting.

September Meeting – Because of the destruction and accompanying hardships following hurricane Gustav, the Technical Committee meeting scheduled for September 9th and the Commission meeting scheduled for September 16th were both canceled. The Commission meeting was rescheduled for October 7th.

At the October 7th meeting, the nominating committee recommended Jerry Klier for Chairman, Jake Causey for Vice-Chairman and John Hashagen for Treasurer for the coming

year. They were approved by the Board without opposition. Three Commissioners, Barry Brewer, John Steib and Keith Stoma are finishing their second terms effective December 1, 2008. The staff and Board of Commissioners are appreciative of their faithful six years of service to the Commission.

Aftermath of Hurricane Gustav

September came in like a lion and roared through the Capital Area on the 1st (Labor Day). In its wake were damaged and ruined homes, trees blown down by the thousands and a

mangled power infrastructure. At least one shining light in all this misery was a reliable water supply when everything else was shut down. We owe a debt of thanks to our suppliers who kept our water systems operable.

We made a survey of the municipal systems and water districts in the area and found that they were well equipped to deal with the power outage that lasted for days, and in some cases, weeks. Water wells are equipped with generators or diesel engines with gear drives for emergencies. A summary of backup power for some public and private systems is shown below.

Supplier	Wells with Generator Backup	Wells with Diesel Engine/Gear Drive
Baton Rouge Water Company	4 site generators run 19 wells	23
Baker	4	
Zachary	5	
St. Francisville	1(for chlorinator)	2
New Roads	Local power plant	
Port Allen	1	
West Baton Rouge (All Districts)		6
East Feliciana Water System	7	
West Feliciana District #13	5	

West Feliciana Water Levels

In this issue we will review the water levels in the aquifers most used in West Feliciana Parish. Water use data show that water is primarily drawn from three aquifers that are common to the Baton Rouge area. In 2007, the average pumpage from these aquifers is indicated in the table. Hydrographs are shown in Figure 1.

"2,000-foot" sand	2.417 mgd
"2,400-foot" sand	1.070 mgd
"2,800-foot" sand	1.050 mgd

Also, of importance to the Feliciana Parishes is the shallow terrace sands and gravels that are pumped for domestic household use, livestock and hunting and fishing camps. These wells are exempt from pumpage fees. Water levels since 1995 for well WF-158 are seen in figure 1. The water-level trend in WF-158 is downward since 1999. Figure 2 shows the amount of rainfall at St. Francisville from 1995 through 2007. The years 1998 through 2000 had an average rainfall of 47 inches, whereas the period of record from 1995-2007 averaged 60 inches. Eight of the 13 years are below average, and may have contributed to the slight water-level decline.

In East Feliciana Parish, the "2,800-foot" sand and Catahoula aquifer, which contains fresh water, are the two main sources of ground-water pumpage.

"2,800-foot" sand	1.603 mgd
Catahoula aquifer	.789 mgd

Vignettes

Arsenic Removal. – Removal of arsenic by filtration through iron oxide coated sand has long been demonstrated to be effective in removing arsenic and other metals from drinking water. More recent experiments with fibrous materials such as fiberglass were evaluated for their ability to retain iron coatings to absorb and remove arsenates. Fiberglass and cellulose coated with iron oxide had the highest arsenate absorption densities, suggesting that these materials may offer advantages over iron oxide coated sand. (AWWA Journal, April 2008)



Ground Water Velocity. – There are two common questions we receive occasionally from the public. The first is: where does our ground water come from and secondly, how long will it take to travel from the recharge area to the major zone of pumping in Baton Rouge? The diagram on page 3 is a hypothetical rendering showing a vertical slice through the surface and down to the underlying aquifers. Recharge to discharge can occur in a relatively short time (years or decades) or a much longer period (centuries or millennia). The source of water is precipitation that percolates downward into the sands.

The velocity at which ground water moves is dependent on the sand's permeability, porosity and the hydraulic gradient. The gradient is not constant but increases as the water moves from the recharge to the discharge (pumping) area. Using the "2,000-foot" sand as an example, the average velocity from recharge to

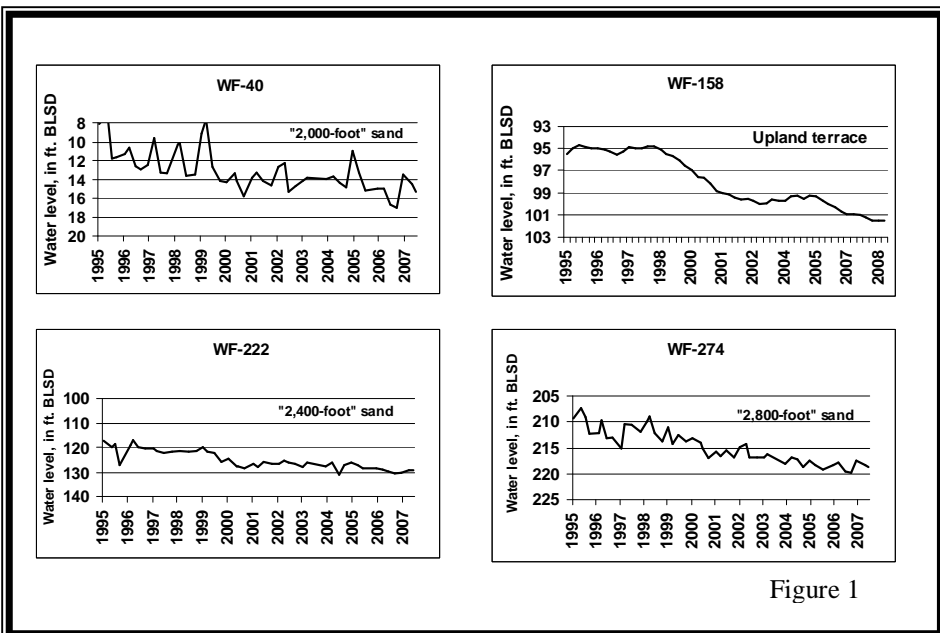


Figure 1

discharge area is around 200 ft/yr with a time-of-travel of about 1,000 years. This can only be considered a rough estimate because permeability and porosity are assumed to be constant throughout the aquifer.



Abandoned Wells

Occasionally we need to remind well owners of their responsibility to plug abandoned wells on their property. It's the law. In an era when agricultural land is being replaced by urban development, the real estate transaction of land transfer overlooks checking for the presence of abandoned wells. Many of these wells may pre-date the enactment of the state's first registration law in 1975.

Abandoned wells pose two hazards: (1) they could be a source of contamination of underground aquifers (2) they may become a safety hazard around the wellhead. Not only is the abandoned equipment around the well an eyesore, but caving may occur around the borehole causing it to be a safety hazard.

Twenty one years ago in Midland, Texas, the eyes of the nation were riveted on the drama of a toddler trapped at the bottom of a well. Rescue units worked nonstop by drilling a parallel shaft and tunneling over to the well where she was trapped. Her rescue was emotional, as rescuers and onlookers wept for joy. The press dubbed her "baby Jessica", and that moniker is still used today. That little girl is now 23 and has a one year old son.

Lighter Side

A government man arrived at a farmer's house and announced that he was there to inspect the property. He showed the farmer his identification card and the farmer said go ahead but don't go into the south pasture. The arrogant government man said,

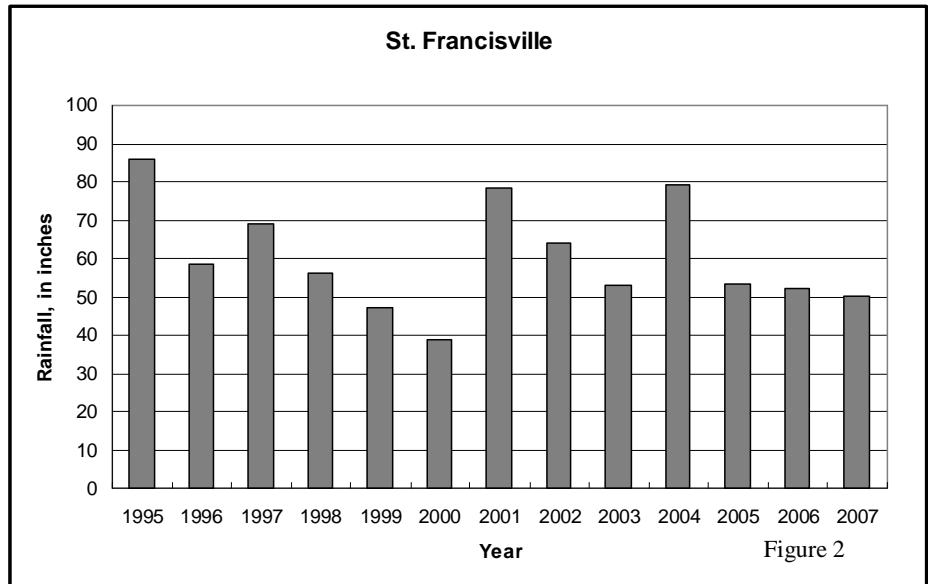


Figure 2

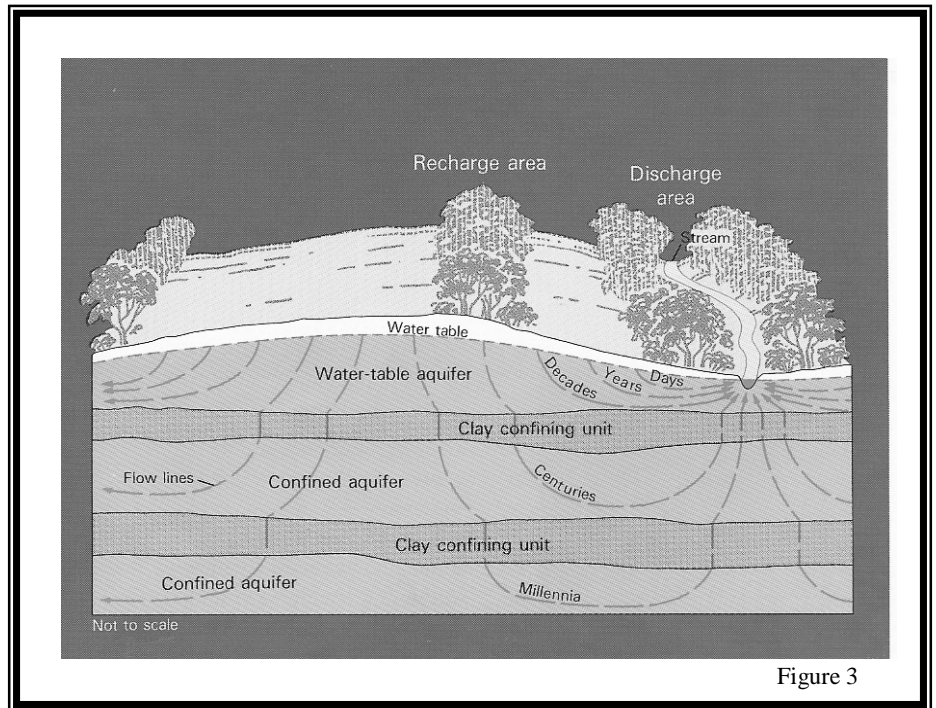


Figure 3

“Mister, I’m a Government Agent and I have the right to inspect wherever I want.” The farmer didn’t answer and went about doing his chores. In a little while he heard screams coming from the south pasture and looking up he saw his bull in full pursuit of the government man. The bull was gaining. The farmer quickly ran to the

fence and shouted to the man, “SHOW HIM YOUR CARD, SHOW HIM YOUR CARD!”

