

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

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NEWSLETTER

July 2008

Commission & District News

Scheduled Meetings. – The Technical Committee will meet at 1:30 p.m. Tuesday, September 9, 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, September 16, 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.

June Meetings. – The Technical Committee met at 1:30 p.m., Tuesday, June 10, 2008, at 3535 South Sherwood Forest Blvd., Suite 129, Baton Rouge, Louisiana.

Dale Campau, a chemist and Environmental Coordinator for East Baton Rouge Parish Public Works gave a presentation on the East Baton Rouge North landfill located west of Highway U.S. 61 just south of Irene Road. The landfill opened in 1993 and has handled 6.4 million tons of waste so far. The average input is

around 1,500 tons per day. The height of the landfill is restricted to a maximum of 301 feet.

A total of 19 monitor wells surround the landfill area. These wells are sampled periodically for volatile organics and metals. Monitoring up to the present has not shown any contamination. However, some wells have shown higher than expected levels of barium. In a reconnaissance study undertaken by the USGS to relate ground-water quality to land use, barium was higher than normal in the industrial area and may have been due to extensive oil exploration. (USGS, Water Resources Investigation Report 86-4325, 1987). Drilling mud is also used in water-well drilling and residual barium could be present in water samples.

The life expectancy of the landfill is about 30 years (2038). One prospect for a future landfill is the “red mud” site next door that was used by Kaiser Aluminum to dump spent bauxite. Curb recycling has been effective in removing a sizeable amount of waste material to the landfill. Improvement is needed in recycling commercial waste and waste from apartments.

At the old landfill (Devil’s Swamp) site, methane gas has become a profitable by-product. The gas is

collected, cleaned up and sold to a neighboring industrial plant. It is expected that the North landfill will be used in the same way with the rising cost of fuel.

Thinking Outside the Box

What was once unthinkable for water suppliers was the reclamation of water after having been once used. Waste water from industrial and public-supply uses was disposed of to be re-processed by nature’s hydrologic cycle. Now, as the world’s demand for usable water increases with increasing population, inevitably we have to look at new and innovative ways to maintain a sustainable source of supply.

At one time distillation of brackish water was the only “game in town”. Ships at sea and coastal areas without freshwater had to rely on it for potable supplies. Navy men will recall times when their ship’s operation mandated water restrictions or “water hours”, and unessential water use was shut down because the ship’s boilers had the highest priority. During such times saltwater showers were the rule. Because of the energy required to heat water, distillation has been largely replaced by reverse osmosis and newer procedures.

Early in my career, the term reverse osmosis was practically unknown except to a minority of research scientists. Now it is being used as a supplemental source of freshwater in many places. In coastal areas, conversion of seawater to freshwater is expanding rapidly.

The cost of producing freshwater is proportional to the dissolved solids content. Therefore, some inland areas (for example El Paso, TX) desalinate brackish ground water to supplement their water supply. Brackish water is in the range of 1,000 to 10,000 mg/L. Seawater has a dissolved solids content of about 35,000 mg/L. The diagram below shows how reverse osmosis works.

Can wastewater be reused for other than non-potable uses? The answer is yes. On the space station it is essential to reuse water over and over to maintain a water supply. Water vapor from breathing and perspiration is collected and condensed to counter the buildup of humidity. The mini-hydrologic cycle replenishes the water supply of the astronauts.

On the earth, the city of Singapore is using innovative technology to repurify water for potable use. With a population of 4.5 million people living in an area of 267 square miles, acquisition of reusable source water is at a premium. Waste water is run

through a membrane bioreactor (MBR) followed by reverse osmosis (RO) and finally, treated with ultraviolet disinfection. Another example is at Brisbane, Australia which has a severe water shortage caused by drought and population increase. Municipal wastewater will be used to provide about 82 mgd. Of this amount, 17.4 mgd will be sent to the advanced water treatment plant for further ultrafiltration and reverse osmosis. Completion is set for mid-2008.

At the recent Ground Water Management Districts Association (GMDA) meeting in El Paso, the attendees visited the new desalination plant located some 20 miles out in the desert. The RO plant completion was a joint effort between the federal and local government. Nearby Ft. Bliss is expected to grow in population over the next few years, and was looking to increase its water supply. The resulting desalination plant, which began operation in 2007, was a win/win situation for both entities.

Brackish water volume in the Hueco bolson near El Paso exceeds potable water by 600%. The use of this water serves two purposes: (a) it saves the freshwater from being overpumped and (b) it protects the fresh ground water by controlling encroachment of brackish water toward areas where

freshwater is pumped. The concentrate (brine) is injected into deeper subsurface units.

In the future, such a procedure could very well be feasible in the Baton Rouge area. Our brackish ground water resources are almost unlimited. The benefits derived would be the same as noted in (a) and (b) above.

Pumpage in 2007

The total average pumpage for 2007 was about 2.2 million gallons per day less than in 2006 in the Capital Area District. Totals for the past three years are shown as follows:

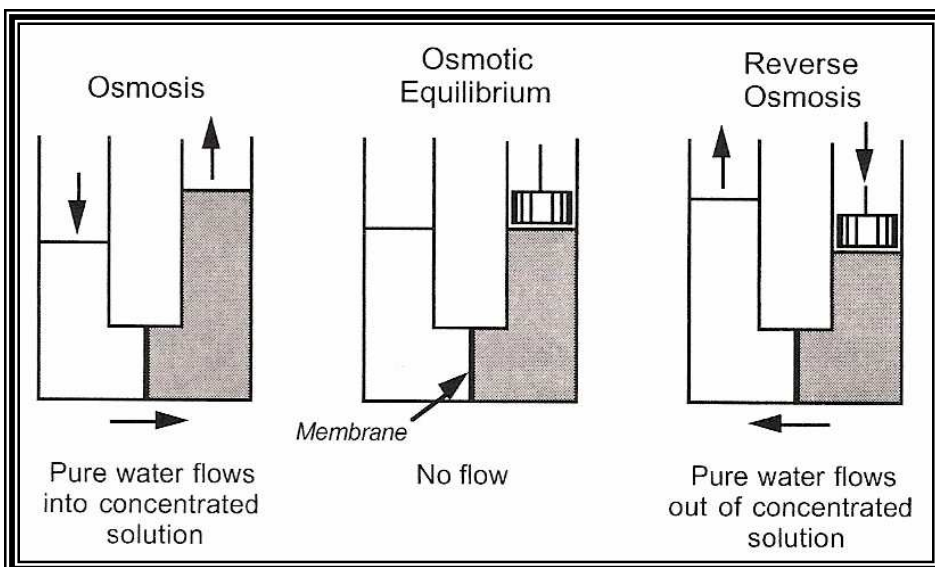
Year	Industrial (mgd)	Public Supply (mgd)	Total (mgd)
2005	82.498	86.769	169.267
2006	81.712	91.975	173.687
2007	83.453	88.017	171.470

Public supply usage surpassed industrial usage beginning in 2004. The spike in 2006 public-supply usage is likely due to the abrupt population growth following Hurricane Katrina. As shown in the table, the public-supply usage in 2006 increased about 4.4 million gallons per day (mgd).

Leo Bankston Award to Georgia-Pacific

Georgia-Pacific Corporation has been named the recipient of the 2007 Leo Bankston Ground Water Conservation Award. The award was presented at the June meeting of the Capital Area Ground Water Conservation Commission by Chairman John Steib. Joey Hebert of Georgia-Pacific was present to receive the award.

The award is given annually to recognize and encourage good stewardship in the use of ground-water



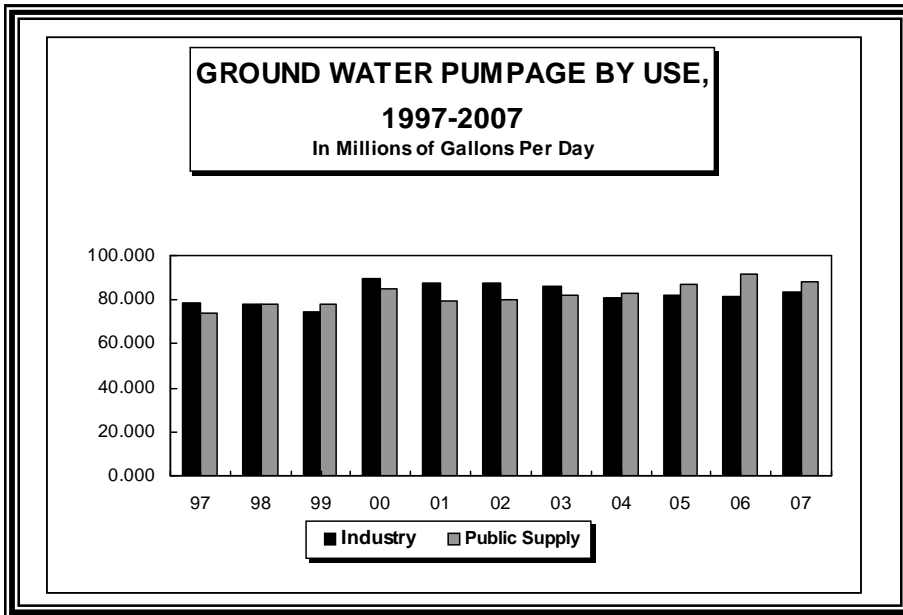
PUMPAGE BY AQUIFER 2007 (MGD)						
Aquifer	East Baton Rouge	East Feliciana	Pointe Coupee	West Baton Rouge	West Feliciana	Totals
Shallow	0.048					0.048
400 ft	3.604					3.604
400/600 ft	13.223					13.223
600 ft	6.408					6.408
800 ft	3.822			1.179		5.001
1,000 ft	6.528			1.24		7.768
1,200 ft	22.019	0.016	0.731	1.27	0.001	24.037
1,500 ft	15.979	0.096	0.217	3.03		19.322
1,500/1,700 ft	7.664					7.664
1,700 ft	6.492		0.293	0.192		6.977
2,000 ft	21.244	0.02	0.343		2.417	24.024
2,400 ft	19.444	0.378	0.391		1.070	21.284
2,800 ft	27.394	1.603	1.274		1.050	31.321
Catahoula		0.789				0.789
Totals	153.869	2.903	3.249	6.911	4.538	171.470

ground-water flow in the shallow sands. The model will allow Georgia-Pacific to increase its sustainable water production in the shallow sands in place of the deeper sands in accordance with the goals of Capital Area Ground Water Conservation Commission.

Pumping Fee Increase

Pumping invoices being mailed to water users on July 1st will have an attached reminder that the pumping fees will be at the rate of \$4.00 per million gallons. The Board of Commissioners voted unanimously to increase the fee to keep pace with rising costs of supplies, rent and employee benefits. This is the first adjustment of pumping rates since 1995.

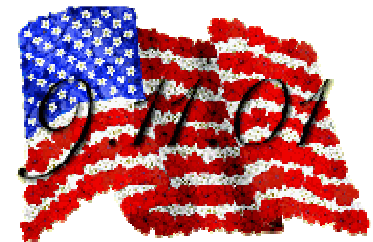
The Commission has only two paid employees, a Director and an Administrative Assistant. We would like to encourage water users in the District to make payment within 30 days so that we can save postage and extra paperwork. After 30 days we have to send out reminders of delinquent payments.



resources. Georgia-Pacific installed technology improvements at 20 water wells to provide instantaneous flow and motor amp readings from all wells and for flow rates at key pipe locations. The information allows better response time to well malfunctions or excessive flow, and it

produces more accurate flow totals including automatic start/stop based on water storage levels. The result will be a reduction in total ground-water use.

The plant at Port Hudson also completed a computer model of



WE THE PEOPLE of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this constitution of the United States of America.