



LOUISIANA DRINKING WATER PROTECTION PROGRAM



2013 newsletter

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SEEING RED: BAYOU LAFOURCHE RUNS RED FOR STUDY

The Louisiana Department of Environmental Quality's (LDEQ) Aquifer Evaluation and Protection Unit (AEPU) and Water Surveys Section in coordination with the Bayou Lafourche Freshwater District conducted a time-of-travel study for Bayou Lafourche. Results of the study will be used to predict how the bayou will respond during major storm events when the pumping station at Donaldsonville, which supplies freshwater from the Mississippi River to Bayou Lafourche, is shut down. In particular, it will demonstrate how long it would take fresh water to reach public supply intakes in Bayou Lafourche. The data can also be used for public supply system notifications for public health advisories.

The first phase of the study included two separate events utilizing two of the three pumps at the Mississippi River pump station with the weir downstream in Thibodaux closed. For the first event, nontoxic rhodamine dye was injected into the bayou below the pump station in Donaldsonville. Instruments were placed at strategic locations to measure dye concentrations, with the farthest downstream instrument placed near the intake at Napoleonville. For the second event, dye was injected downstream of the intake at Napoleonville and instruments were strategically placed below the injection point, downstream to LaFort Canal near the Schriever public supply intake.

Instruments recorded time and dye concentration indicating initial arrival of the dye, peak dye concentration and the endpoint at which dye was no longer detected. The second phase of this study will be conducted on the same two reaches of the bayou, with all three pumps operating.



Red dye flows through Bayou Lafourche in Donaldsonville.



LDEQ environmental scientist Jackie Millet prepares to deploy a monitor.

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DRINKING WATER PROTECTION PROGRAMS 2012 - 2013



Team member Tiffani Cravens demonstrates how water wells can become contaminated at Delhi Middle School.

The Drinking Water Protection (DWP) Team of LDEQ recently completed protection programs in Franklin, Richland, Catahoula and Livingston parishes. They assisted water systems to develop contingency plans, update source water assessments and introduced the model ground water protection ordinance to government officials.

Franklin/Richland. Work in Franklin and Richland parishes began in June 2012. LDEQ's DWP Team consolidated outreach efforts in these parishes due to their close proximity. There are eight public water systems in Franklin parish and 11 in Richland parish. The town of Rayville and the village of Mangham have adopted the ground water protection ordinance. In addition 30 educational visits to owners and operators of businesses identified as potential sources of contamination were completed. A community meeting was held Nov. 1, 2012. Attendees were informed about the source of their drinking water and what they can do to protect it. Drinking water protection presentations were also given at several local schools.



Volunteers suited up and ready to work at the Catahoula Parish Household Harzardous Waste Collection Day.

Catahoula. Catahoula Parish was moved ahead in the schedule to take advantage of work that was already underway. At the request of local citizens, the DWP Committee along with the Louisiana Rural Water Association (LRWA) and local officials organized a household hazardous waste (HHW) collection day. The LRWA enlisted assistance and requested financial support from various companies and governing bodies while LDEQ assisted LRWA in obtaining grant money for the project. LRWA held a community meeting in January 2013 to enlist volunteers. More than 45 volunteers participated in the event held March 2 and collected over 1,700 pounds of waste.

In addition, the village of Harrisonburg and the town of Jonesville adopted the ground water protection ordinance. Nineteen owners and operators of businesses identified as potential sources of contamination were informed on how to protect their drinking water sources.



Wastes collected at the Household Harzardous Waste Collection Day included paint, electronics, used oil, pesticides, batteries, fluoescent light bulbs, and expired medication.

Livingston. Work began in Livingston Parish in July 2012. Livingston Parish has 45 public water systems. A community meeting to introduce the program and seek volunteers to form a committee was held on Oct. 18, 2012. A committee of 22 local citizens and officials met and worked with LDEQ on drinking water protection activities. These activities included visiting and informing 77 owners and operators of significant potential sources of contamination on protecting drinking water sources and planning meetings to launch a HHW collection day for the parish. The committee will reconvene once a funding source is identified. In addition, the city of Denham Springs, the village of Killian, the village of Albany, the town of Livingston, and the city of Walker adopted the ground water protection ordinance.

LOUISIANA DRINKING WATER PROTECTION PROGRAM

BAYOU LAFOURCHE SEWAGE PROJECT

Bayou Lafourche in south Louisiana, which is the source of drinking water for six public water systems serving a population of over 200,000, is replenished from the Mississippi River by a pump station at Donaldsonville. Last year, the AEPU continued its efforts to reduce fecal coliform levels in the bayou.

A portion of Bayou Lafourche from Donaldsonville to the Intracoastal Waterway in Larose is listed in Louisiana's Water Quality Inventory as impaired for not meeting its swimming standard for fecal coliform. Much of the fecal coliform data collected from Bayou Lafourche shows levels over the swimming standard of 400 colonies/100 ml as well as several instances where the levels were over the boating/fishing and drinking water supply standard of 2,000 colonies/100 ml. In accordance with the federal Clean Water Act, a total maximum daily pollutant load was developed for this portion of the bayou requiring a reduction of fecal coliform in the bayou.

The presence of fecal coliform, a type of bacteria found in warm-blooded organisms, indicates raw sewage. Sewage in water can create several health issues, such as diarrhea and infections that are short-term with no lasting effects. Sewage in water can also cause long term illness and possible death, especially in children, the elderly and those with weakened immune systems. Sewage may also contain pharmaceuticals which can be detrimental to human health and aquatic wildlife.

Public water systems treat water supplied to consumers and regularly test it to ensure its safety. The presence of fecal coliform in the water requires more treatment in the form of disinfection and subsequent removal of disinfection by-products. The additional treatment increases the cost of supplying safe drinking water to the public.

To identify potential causes of elevated fecal coliform concentrations in the bayou, LDEQ solicited input from local citizens and officials. The input received overwhelmingly identified malfunctioning individual home sewage systems as the probable cause. Also noted was new development in areas that have no community sewage systems. Based on input, LDEQ's surveillance staff performed inspections on 780 non-residential sewage systems along the bayou (Louisiana Department of Health and Hospitals (LDHH) performs inspections on residential sewage systems). Samples were also collected from the bayou to determine current concentrations of fecal coliform. Approximately half of these samples indicated concentrations above the swimming standard. Also, a number of samples indicated concentrations over the boating/fishing/drinking water supply standard. LDEQ then contracted with Nicholls State University (NSU) to locate areas that are potential sources of fecal coliform in the bayou.



Location of Bayou Lafourche



Discharge pipe from onsite sewage treatment system.



NSU graduate student Stacy Martinez collects a water sample from a culvert.

LOUISIANA DRINKING WATER PROTECTION PROGRAM

NSU identified culverts, ditches and canals that could be conduits of sewage to Bayou Lafourche. Fecal coliform, optical brightener (to detect detergent) and human microbe samples were collected from these areas on a rotating basis for over a year. As a result, 23 locations between Donaldsonville and Valentine were identified as contributing significant amounts of sewage to the bayou.

LDEQ conducted visual inspections of each location to identify possible sources of sewage. Findings were reported to the LDHH, LDEQ’s surveillance staff and local officials for further actions. LDEQ conducted follow-up inspections to ensure compliance with water quality regulations.

Fecal coliform data from LDEQ’s Water Quality Monitoring Network will be tracked and additional in-stream sampling will be performed to determine if efforts to lower fecal coliform levels have been successful. LDEQ will coordinate with LDHH to address malfunctioning individual home treatment systems. Plans to repair/replace malfunctioning individual on-site sewage systems are also being explored with LDEQ, LDHH and the Barataria-Terrebonne National Estuary Program. Coordinating with local governments to inspect home sewage systems at the local level is also being considered.

A long term plan being considered is the feasibility of connecting areas with on-site sewage systems to existing community sewage systems or building new centralized systems. Many neighborhoods bordering Bayou Lafourche have a narrow frontage on the highway adjacent to the bayou with streets leading away from it. This geographic layout lends itself well to centralized sewage systems. Sewage could be treated at a centralized facility and discharged away from the bayou. With community-based treatment systems, regulatory compliance could more easily be achieved, reducing fecal coliform discharge to the bayou.



Example of on-site sewage treatment system inspection from a previous project in Northwest Louisiana.



Geographic layout of neighborhoods bordering Bayou Lafourche.

Public education is essential to the success of these plans; citizens must be knowledgeable in the proper maintenance and operation of their sewage treatment systems. Accordingly, in the future additional public education outreach will be planned.

There are several benefits to addressing the fecal coliform level in Bayou Lafourche which will result in better environmental conditions benefiting human health, fish and wildlife.

LOUISIANA DRINKING WATER PROTECTION PROGRAM

COMMUNITY OUTREACH ACTIVITIES



Susan Robbins, Louisiana Rural Water Association Source Water Protection Specialist, gives a presentation at the Catahoula Parish Drinking Water Protection Committee meeting in Harrisonburg, LA.

Tiffani Cravens, DEQ Geologist, demonstrates the aquifer model at the Harry Hurst Wetland Watchers celebration at the Bonne Carre Spillway. Over 1,600 students, volunteers and educators attended this annual event.



Tiffani Cravens, Marissa Jimenez, Mary Gentry, the alligator and Linda Brown, all DEQ employees (except the alligator) at the DEQ booth at the 28th Annual Louisiana Rural Water Association Conference in Lake Charles

LOUISIANA DRINKING WATER PROTECTION PROGRAM

DID YOU
know?

For every
\$1 spent on
environmental
protection
we get a \$30
health benefit.

Source:
*Lisa Jackson, former
EPA Administrator*

VILLAGE OF HARRISONBURG WINS LOUISIANA RURAL WATER ASSOCIATION AWARD

The village of Harrisonburg water system was the winner of the LRWA 2013 Source Water Protection System of the Year Award. The award was presented on July 10th at the LRWA's 28th annual training and technical conference in Lake Charles. The LRWA is a nonprofit organization established to aid small water and wastewater systems through training and on-site technical assistance. The LRWA awards program recognizes the outstanding efforts of rural water and wastewater systems and their personnel. The village of Harrisonburg helped establish and hosted the first household hazardous materials collection day for Catahoula Parish in 2013. They also adopted a ground water protection ordinance to protect their drinking water supply. Congratulations to the village of Harrisonburg on this achievement in protecting our environment and water resources!

WEST MONROE HONORED FOR SPARTA REUSE PROJECT

The city of West Monroe has been the recipient of three prestigious awards recognizing its efforts to conserve the region's drinking water through its Sparta Reuse Project. The Sparta Reuse Project is a comprehensive plan to reduce water usage from the Sparta aquifer, a major source of drinking water for municipalities and water systems in the West Monroe area. The \$20 million project allows Graphic Packaging, the area's largest water consumer, to use recycled wastewater in its production process to eliminate its use of the aquifer. The city of West Monroe was the recipient of the U.S. Environmental Protection Agency PISCES Award for the project in April 2011, followed by the Penton's American City and County Magazine "America's Crown Community" award in January 2013 and the Louisiana Rural Water Association Outstanding Achievement Award in Water Conservation in July 2013. Mayor Dave Norris was also honored at the White House by the Champions of Change program, which recognizes leaders for creating jobs and using innovative techniques to improve the country's infrastructure with funding assistance from the American Recovery and Reinvestment Act. Congratulations to the city of West Monroe on these achievements in conserving our water resources!

The Drinking Water Protection Team is a part of the Aquifer Evaluation and Protection Unit within the Business Community Outreach and Incentives Division. This Division is under the Office of the Secretary at the Louisiana Department of Environmental Quality. Drinking Water Protection Team members educate the public about the importance of protecting drinking water sources. The team plays a vital role in working with Louisiana communities to establish local drinking water protection programs. The team is available to give presentations on water protection issues to your school or organization. Please call 225-219-3510 for more information.

This newsletter and all previous issues are available online at: <http://www.deq.louisiana.gov/aepsnews>. Please visit this site regularly for future newsletter delivery options.

CONTINGENCY PLANS RECEIVED/WELLHEAD PROTECTION PROGRAMS APPROVED

OCTOBER 2012 - SEPTEMBER 2013

Town of Livingston
Ward 2 Water District (Livingston)
Fourth Ward Waterworks (Livingston)
City of Denham Springs

City of Walker
Town of Albany
Village of Port Vincent
Town of Jonesville
Enterprise Water System

Black River Water System
Village of Harrisonburg
Maitland Water Works District
Grambling State University

LOUISIANA DRINKING WATER PROTECTION PROGRAM

THE DRINKING WATER PROTECTION TEAM SALUTES MUNICIPALITIES AND PARISH GOVERNMENTS WHO HAVE ADOPTED A GROUND WATER PROTECTION ORDINANCE:

Acadia Parish

Acadia Parish Police Jury
Town of Church Point
City of Crowley
Town of Iota
City of Rayne

Avoyelles Parish

Avoyelles Parish Police Jury
City of Marksville
Town of Mansura
Town of Moreauville
Town of Simmesport

Beauregard Parish

City of DeRidder
Town of Merryville

Bossier Parish

Town of Haughton
Town of Plain Dealing
Bossier Parish Police Jury

Calcasieu Parish

City of Westlake
City of DeQuincy
Town of Vinton

Caddo

Village of Rodessa
Town of Vivian
Village of Ida

Catahoula

Village of Harrisonburg
Town of Jonesville

Concordia

Town of Clayton
Concordia Parish Police Jury
City of Vidalia

East Feliciana Parish

Village of Norwood
Town of Wilson

Grant Parish

Town of Pollock

Iberia Parish

Village of Loreauville

Iberville Parish

Town of Maringouin
Village of Rosedale
Town of White Castle

Jefferson Davis Parish

Jeff. Davis Parish Police Jury
Town of Welsh
Town of Lake Arthur
City of Jennings

Lafayette Parish

City of Youngsville
Town of Duson
City of Carencro

LaSalle Parish

Town of Jena
Town of Olla

Lincoln Parish

City of Grambling
Lincoln Parish Police Jury

Livingston Parish

City of Denham Springs
Village of Killian
Village of Albany
Town of Livingston
City of Walker

Morehouse Parish

City of Bastrop
Village of Bonita

Natchitoches Parish

Village of Goldonna

Ouachita Parish

City of West Monroe

Rapides Parish

Town of Lecompte
Village of Cheneyville
Village of McNary
Town of Glenmora
Town of Woodworth

Richland Parish

Town of Mangham
Town of Rayville

St. Landry Parish

City of Eunice
Town of Melville
City of Opelousas
St. Landry Parish Council
Town of Washington

Tangipahoa

Village of Tickfaw
City of Ponchatoula
Town of Amite
Town of Kentwood
Village of Tangipahoa

Tensas

Town of St. Joseph

Vermilion Parish

City of Abbeville
Town of Delcambre
Town of Erath
Town of Gueydan
Town of Kaplan
Town of Maurice
Vermilion Parish Police Jury

Vernon Parish

Village of Anacoco
Town of Hornbeck
Vernon Parish Police Jury
City of Leesville
Town of Rosepine
Village of Simpson

Washington Parish

Town of Angie

Webster Parish

Webster Parish Police Jury
City of Minden
Town of Sibley
Town of Cullen
City of Springhill

West Baton Rouge Parish

Town of Addis

West Feliciana Parish

Town of St. Francisville



Aquifer Evaluation and Protection Unit
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LOUISIANA DRINKING WATER PROTECTION PROGRAM



2013 *newsletter*

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WE LOOK FORWARD TO HELPING YOU PROTECT YOUR COMMUNITY'S DRINKING WATER!

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