Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Louisiana

Fixing On-site Sewage Systems Restores Popular New Orleans Area Rivers

Waterbody Improved

High bacteria counts in the Tchefuncte River and its tributary, the Bogue Falaya River, prompted the Louisiana Department of Environmental Quality (LDEQ) to add a segment of each waterbody to Louisiana's 1992 Clean Water Act (CWA) section 303(d) list of impaired waters. LDEQ and the Lake Pontchartrain Basin Foundation (LPBF) formed partnerships with St. Tammany Parish and surrounding communities to implement education and corrective programs. Bacteria counts decreased, and LDEQ removed both segments from the 2008 CWA section 303(d) list of impaired waters for fecal coliform.

Problem

The 29-mile-long Bogue Falaya River flows into the 34-mile-long Tchefuncte River, one of the largest contributing rivers of the Lake Pontchartrain basin in southeast Louisiana (Figure 1). Together, the rivers drain a 192.26-square-mile watershed that drains both upland pine savannahs and large wetland (bottomland hardwood forest) floodplains. The Louisiana Department of Wildlife and Fisheries lists the Tchefuncte and Bogue Falaya rivers as scenic streams, and the LDEQ lists them as Outstanding Natural Resource waterways.

Significant urban growth and out-migration from greater New Orleans is rapidly converting the area from rural to residential and business land use. Primary land cover includes evergreen forest covers (44.1 percent), pasture and hay (22.5 percent), deciduous forest cover (19.7 percent) and urban/developed area (4.4 percent). Because much of the growth has been outside the area that is connected to community sewer systems, individual home septic systems and small package wastewater systems have become a major source of bacterial pollution in the parish. Other sources, including inflow and infiltration of municipal systems, small community wastewater package plants, urban stormwater runoff, and occasional horse farms and pastureland runoff contribute as well.

The cumulative effect of those sources led fecal coliform bacteria counts in the rivers to regularly far exceed the state's water quality standard for primary contact recreation. That standard requires that fecal coliform counts be less than 200 most probable number (MPN)/100 milliliters (mL) of water. Data collected in the early 1990s show that the bacteria counts were greater than 10,000 MPN/100 mL, causing the rivers to be placed under swimming advisories and ultimately listed on Louisiana's CWA section 303(d) list of impaired waters for fecal coliform bacteria in 1992.

Figure 1. Andrea Bourgeois-Calvin collects a water sample on the Bogue Falaya River.

Project Highlights

In response to the high bacteria counts on the Tchefuncte river system, the LPBF and St. Tammany Parish began their Sub-Basin Pollution Source Tracking Program in 2002 to identify and correct pollution sources in watersheds through intensive water quality monitoring, inspecting/upgrading home septic systems, educating the public, and cooperating with local and state agencies. The LPBF implemented the tracking program in the Bogue Falaya River watershed in 2002 and then expanded it to include the larger Tchefuncte/Bogue Falaya watershed in 2003. Intensive water sampling and source

tracking occurred through 2004, and monitoring and tracking activities continue to the present.

LPBF then partnered with LDEQ's Small Business Assistance Program to document how to operate and maintain small package waste treatment systems and to provide free assistance for the owners/operators (Figure 2). The focused effort included direct contact and one-on-one educational outreach with area residents, small-business operators and community groups.

Figure 2. Andrea Bourgeois-Calvin (left) and Ronny Carter, LPBF Wastewater Specialist, help an owner of an on-site sewage treatment system.

St. Tammany Parish entered into a cooperative agreement with LDEQ to inspect many of the estimated 35,000 on-site sewage disposal systems using CWA section 319 funds. In addition, the parish used CWA section 319 funds to hire two supplementary environmental inspectors and to implement a parish-wide educational program on septic system maintenance and repair. The parish took further action, passing an ordinance requiring that on-site sewage disposal systems be inspected before a residential certificate of occupancy could be awarded and electrical power connections activated. The parish worked with the LPBF to develop television advertisements, press releases, educational pamphlets and newspaper articles on the home septic system project.

Results

By actively addressing the failing home septic systems and small package wastewater treatment system sources, local stakeholders have significantly reduced fecal coliform sources. Bacteria counts in the rivers have declined significantly and now meet standards for primary contact recreation limits. As a result, LDEQ removed the Bogue Falaya and the Tchefuncte rivers from the 2008 CWA section 303(d) list of impaired waters for fecal coliform.

LDEQ, LPBF, St. Tammany Parish and the Louisiana Department of Health and Hospitals offer educational seminars for businesses operating individual, small package wastewater treatment systems. LPBF has initiated work on a Watershed Protection Plan in conjunction with and funded by LDEQ to prioritize future best management practice implementation in the Tchefuncte River watershed.

Partners and Funding

St. Tammany Parish and LDEQ used section 319 funds from 2002 to 2006 as part of the parish's cooperative agreement to implement the home sewage inspection program. Approximately $354,073 in federal funds also supported this program, with the parish providing $181,983 in matching funds for a total project cost of $545,859. The parish entered into a second cooperative agreement for a watershed coordinator, which used $84,800 in CWA section 319 funds and $57,500 in matching parish funds (total project cost of $142,300). St. Tammany Parish also implemented a comprehensive watershed project for the Tchefuncte and Bogue Falaya rivers, which used $663,000 in CWA section 319 funds and $442,000 in matching parish funds (total project cost of $1,105,000).

LPBF secured financial support from multiple sources including CWA section 319 funding through LDEQ and funding from the U.S. Environmental Protection Agency's Gulf of Mexico Program. LPBF convened the St. Tammany Task Force in 2002. This group meets monthly to discuss environmental issues and implement programs in St. Tammany Parish. Members of the task force include LDEQ; St. Tammany Parish's Environmental and Engineering Departments; Louisiana Department of Health and Hospitals; Louisiana Sea Grant; Louisiana State University Agricultural Center; Natural Resource Conservation Service; the cities of Convington, Mandeville and Slidell; and other state, parish and local entities.

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For additional information contact:

Andrea Bourgeois-Calvin, Ph.D.
Lake Pontchartrain Basin Foundation
504-836-2235 • andrea@saveourlake.org

Jan Boydstun
Louisiana Department of Environmental Quality
225-219-3606 • jan.boydstun@la.gov