



# NONPOINT SOURCE SUCCESS STORY

## Louisiana

### Pollution Source Tracking and Education Equal Water Quality Success for the Natalbany River

#### Waterbody Improved

Sewage leaking from improperly managed septic systems led to fecal coliform bacteria impairment in the Natalbany River. The Louisiana Department of Environmental Quality (LDEQ) added the waterbody to the state’s 2002 Clean Water Act (CWA) section 303(d) list for not supporting its primary contact recreation (PCR) designated use because of high bacteria levels. Beginning in 2005, partners implemented a series of initiatives such as pollution source tracking, education and intensive water quality monitoring. Recent data indicate that the river no longer exceeds the fecal coliform standard for PCR; as a result, LDEQ removed the water body’s PCR bacteria impairment listing from the state’s 2016 Integrated Report (IR).

#### Problem

The Natalbany River is approximately 54 miles long. The watershed includes portions of a few small towns, including Albany and Springfield. Primary land cover in the watershed is woody wetlands, shrubland, and evergreen forest (Figure 1).

Homes with improperly managed septic systems caused high bacteria loadings to the Natalbany River. Louisiana’s water quality standard for PCR requires that no more than 25 percent of the fecal coliform samples collected on a monthly or near-monthly basis from May 1 to October 31 may exceed a fecal coliform density of 400 colonies per 100 milliliters of water (col/100 mL). During the 2001 sampling year, three out of six events at Ambient Water Quality Monitoring Network (AWQMN) site 0298 exceeded the standard of 400 col/100 mL. On the basis of these data, LDEQ added the Natalbany River to its 2002 CWA section 303(d) list of impaired waters for not fully supporting the water quality standard for PCR due to fecal coliform bacteria.

Subsequent 303(d) lists stated the suspected cause as on-site treatment systems (septic systems and other decentralized systems). Due to a court-ordered schedule, a total maximum daily load (TMDL) was not developed for Natalbany River until 2012. The TMDL report indicated a 50 percent reduction was needed in the summer months (May through October), and an 87.5 percent reduction was needed in the winter months (November through April).

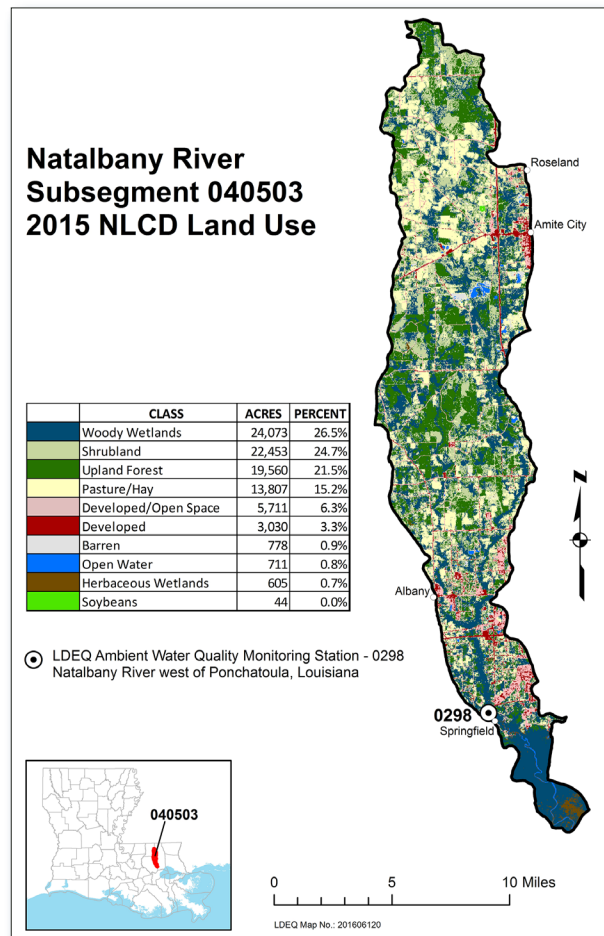


Figure 1. Land use in the Natalbany River watershed in southeast Louisiana.

## Project Highlights

The Lake Pontchartrain Basin Foundation (LPBF) began sub-basin pollution source tracking in Tangipahoa Parish in 2005 under a Targeted Watershed Grant from the U.S. Environmental Protection Agency (USEPA). Through this grant, LPBF was able to assess water quality and begin pollution source tracking in the Tangipahoa, Tickfaw and Natalbany River watersheds. The results indicated that the urbanized areas along the Natalbany River and its tributaries Yellow Water River, Ponchatoula Creek and Ponchatoula River contained excessive amounts of fecal coliform bacteria.

From 2008 through 2014, LDEQ's Nonpoint Source Unit funded watershed coordinator (WSC) positions at LPBF and the Capital Resource Conservation & Development Council (CRC&D) to facilitate and conduct watershed use support restoration activities in the Lake Pontchartrain Basin. The goal was to reduce nonpoint pollution sources to ultimately improve surface water quality, restore designated use support and maintain healthy waters. LPBF developed a Watershed Implementation Plan (WIP) which included management measures recommended for the Natalbany River watershed.

In 2011 LPBF began a project with LDEQ—"Water Quality Monitoring and Education in North Shore Watersheds"—under the federal fiscal year 2009 CWA section 319 grant. The project's purpose was to locate and track pollution sources in the Tangipahoa and Tickfaw watersheds through water quality and land use analysis, educate and assist those causing the pollution, and educate the general public about environmental pollution issues, with all tasks performed in cooperation with state and local agencies.

In 2013 and 2014, LPBF worked closely with the Tangipahoa Parish Department of Health and Hospitals (TDHH) to conduct individual home sewage inspections. As of November 2014, 254 individual home wastewater systems had been inspected in the Natalbany River watershed.

## Results

Water quality data show improvement as a result of wastewater system repairs. Fecal coliform data from October 2013 to September 2014 showed that only one out of six events at AWQMN site 0298 exceeded the standard of 400 col/100 mL (i.e., a 16.7 percent annual exceedance rate, below the 25 percent annual exceedance rate limit noted in the water quality standard). This data indicated that the Natalbany River supports its PCR designated use (Table 1).

On the basis of these data, in 2016 LDEQ has indicated PCR is no longer impaired by bacteria, and the Natalbany River is fully supporting the PCR use. The river remains listed as impaired for failing to support its fish and wildlife propagation designated use because of mercury in fish tissue and low levels of pH and dissolved oxygen.

## Partners and Funding

Partners in this work included USEPA, LDEQ, LPBF, CRC&D, and TDHH. The "Water Quality Monitoring and Education in North Shore Watersheds" project used \$129,376 in CWA section 319(h) funds. LPBF entered into a cooperative agreement with LDEQ for a watershed coordinator from 2012 to 2014; \$205,920 of CWA section 319 funds were spent for WIP development and associated work. LPBF spent \$178,758 in CWA section 319 funds and \$119,172 in match for water monitoring, source tracking, and home wastewater activities. LDEQ also contracted with CRC&D to fund a watershed coordinator, septic system inspections, and water quality monitoring; \$15,279 in CWA section 319 funds and \$2,781 in match were expended for the Natalbany River during 2012 and 2013.

**Table 1. Data show that Natalbany River (site 0298) met the water quality standard<sup>1</sup> (WQS) for fecal coliform (FC) bacteria in 2014.**

	2001	2006	2009	2010	2014
<b>Average FC density (cfu/100 mL)</b>	2533.3	3319.9	251.3	376.4	152.9
<b>WQS exceedance (%)</b>	50.0%	66.7%	33.3%	33.3%	16.7%

<sup>1</sup>WQS: No more than 25% of samples collected on a monthly or near-monthly basis from May 1 to October 31 may exceed a FC bacteria density of 400 col/100 mL.



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