Section 319
NONPOINT SOURCE PROGRAM SUCCESS STORY
Louisiana

Pollution Source Tracking and Education and Outreach Helped Reduce Bacteria in the Yellow Water River

Waterbody Improved

Sewage leaking from improperly managed septic systems led to fecal coliform bacteria impairments in the Yellow Water 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) and secondary contact recreation (SCR) designated uses because of high bacteria levels. Beginning in 2007 the LDEQ contracted with the Lake Ponchartrain Basin Foundation (LPBF) to implement 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 SCR; as a result, LDEQ removed the waterbody's SCR bacteria impairment listing from the state's 2012 Integrated Report (IR). The Yellow Water River remains listed as impaired for PCR (bacteria).

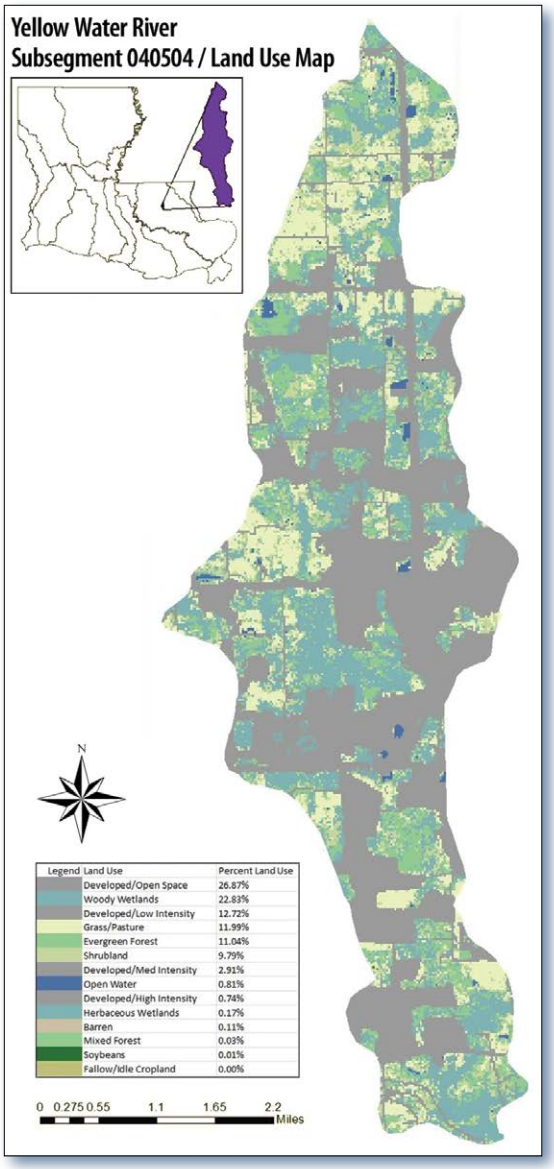

Figure 1. The Yellow Water River is in eastern Louisiana.

Problem

The Yellow Water River watershed drains approximately 11,047 acres. It contains wetlands, and stream flow is heavily tidally influenced. The watershed has experienced rapid development in the last decade. Primary land use in the watershed is developed/open space, woody wetlands and developed/low intensity (Figure 1).

Subdivisions and mobile home parks with improperly managed septic systems caused high bacteria loadings to the Yellow Water River. Louisiana's water quality standards for PCR require that no more than 25 percent of the fecal coliform samples collected on a monthly or near-monthly basis from May to October may exceed a fecal coliform density of 400 colonies per 100 milliliters of water (col/100 mL). For SCR, no more than 25 percent of the fecal coliform samples collected on a monthly or near-monthly basis may exceed a fecal coliform density of 2,000 col/100 mL year-round. Between 1991 and 2002, 42 of 71 sampling events exceeded 2,000 col/100mL. On the basis of these data, LDEQ added the Yellow Water River to its 2002 CWA section 303(d) list of impaired waters for not fully supporting the water quality standard for PCR and SCR due to fecal coliform bacteria.

Subsequent IRs listed the suspected cause of the bacteria impairment in the river as on-site treatment systems (septic systems and similar decentralized systems). Problems from on-site treatment systems include poor installation or maintenance. Due to a court ordered mandated schedule, a total maximum daily load (TMDL) was not developed until 2012. The TMDL report indicated that bacteria needed to be reduced by 86.7 percent in the summer and 93.3 percent in the winter.

Project Highlights

From 2005 through 2010, work began in the Yellow Water River watershed to track fecal pollution sources within the Pontchartrain Basin. LPBF and LDEQ inspected 117 waste water treatment plants from January 2005 through June 2007, and found that most were not properly permitted or functioning correctly. Through LPBF and LDEQ's Small Business Assistance Program's partnership, plant owners and operators were educated on the operation and maintenance of small package systems.

From 2008 through 2014, LDEQ's Nonpoint Source Pollution Section contracted with LPBF and the Capital Resource Conservation and Development Council (CRC&D) to fund watershed coordinators to conduct additional watershed restoration activities (e.g., educational outreach, sewage inspections, water quality monitoring). This outreach work has been aided by a 2009 cooperative agreement between LDEQ and LPBF, "Water Quality Monitoring and Education in North Shore Watersheds," to locate and track pollution sources through a water quality and land use analysis. As a result of the outreach conducted across the watershed, many homeowners in the Yellow Water River repaired their failing septic systems.

In recent years, work has continued, with LDEQ, LPBF, CRC&D, Tangipahoa Parish, and the Louisiana Department of Health and Hospitals (LDHH) offering educational seminars for businesses operating small treatment systems. This coordinated effort is facilitated by monthly meetings of the Tangipahoa Task Force. In addition, from 2013 through 2015, CRC&D and LPBF worked closely with Tangipahoa Parish Department of Health and Hospitals (TDHH) staff to conduct individual home sewage inspections. CRC&D, along with LPBF, have inspected approximately 1,060 home waste systems.

Results

Water quality data show improvements as a result of septic system repairs. Fecal coliform data from October 2009 to September 2010 exceeded 2,000 col/100 mL only 10 percent of the time (i.e., a 10 percent annual exceedance rate), well below

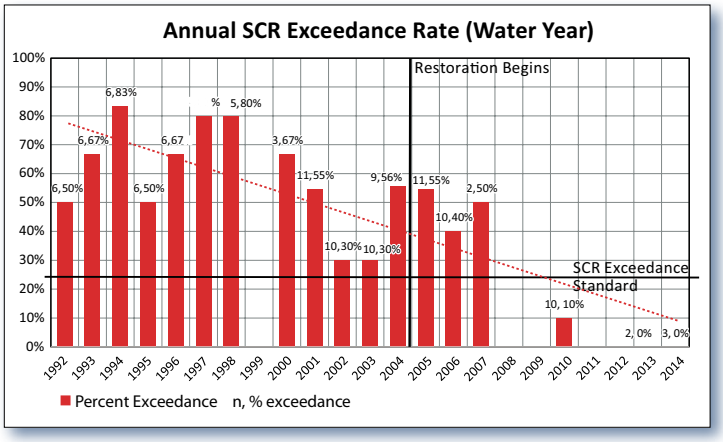

Figure 2. Fecal coliform levels decreased in the Yellow Water River after stakeholders implemented watershed restoration and education projects.

the 25 percent annual exceedance rate limit noted in the water quality standard. These data indicated that the Yellow Water River supports its SCR designated use (Figure 2).

On the basis of these data, LDEQ removed SCR as a bacteria-impaired designated use for the Yellow Water River in 2012. The river remains listed as impaired for failing to support its PCR designated use because of elevated bacteria. It also fails to support its fish and wildlife propagation designated use because of low dissolved oxygen levels.

Partners and Funding

Partners responsible for making this project a success include USEPA, LDEQ, TDHH, CRC&D, city of Hammond, LPBF, the Louisiana State University AgCenter, Louisiana Sea Grant, city of Pontchatoula and Keep Hammond Beautiful. From 2011 through 2015, stakeholders have used $453,945 in CWA section 319 funds (grant number C9-996102-16, federal fiscal year 2009) for the project, "Water Quality Monitoring and Education in North Shore Watersheds." From 2008–2014, another $540,374 in CWA section 319 funds were used to fund restoration activities. From 2013–2015 LDEQ used $538,092 in CWA section 319 funds to contract with CRC&D to fund a watershed coordinator, septic system inspections and water quality monitoring.

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