



NONPOINT SOURCE SUCCESS STORY

Louisiana

Inspecting Home Septic Systems and Educating Homeowners Help Reduce Bacteria in the Amite River

Waterbody Improved

Bacteria from improperly maintained septic systems led to a fecal coliform bacteria impairment in the Amite River (subsegment 040301 – Mississippi state line to LA-37). The Louisiana Department of Environmental Quality (LDEQ) added the waterbody to the state’s 2016 Clean Water Act (CWA) section 305(b) assessment as not supporting its secondary contact recreation (SCR) designated use because of high bacteria levels. Beginning in 2018, the LDEQ contracted with Capital Resource Conservation and Development Council (CRC&D) to implement a series of initiatives such as home septic system inspections, education, and water quality monitoring in the Amite River subsegment. 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 2020 305(b) water quality assessment.

Problem

The upper Amite River watershed (subsegment 040301 – Mississippi state line to LA-37) drains approximately 131,095 acres of largely rural land. According to data from the U.S. Department of Agriculture’s Cropland Data Layer (CDL), primary land cover in the watershed is forest, rangeland, and forested wetlands (Figure 1).

Rural areas in Louisiana often depend on on-site sewage disposal systems (OSDS) in the absence of municipal or other public wastewater treatment systems. Improperly maintained OSDS caused high bacteria loadings to the Amite River.

For SCR to be supported, no more than 25% of the fecal coliform samples collected on a monthly or near-monthly basis may exceed a fecal coliform density of 2,000 colonies (col)/100 milliliters (mL) year-round. Between October 2014 and September 2015, five of 11 sampling events (45%) exceeded 2,000 col/100mL. Based on these data, LDEQ indicated subsegment 040301 in the 2016 CWA section 305(b) assessment as not supporting the designated use SCR due to fecal coliform bacteria. The 2016 and 2018 305(b) assessments showed the suspected cause of the bacteria impairment in the river as on-site treatment systems (septic systems and similar decentralized systems).

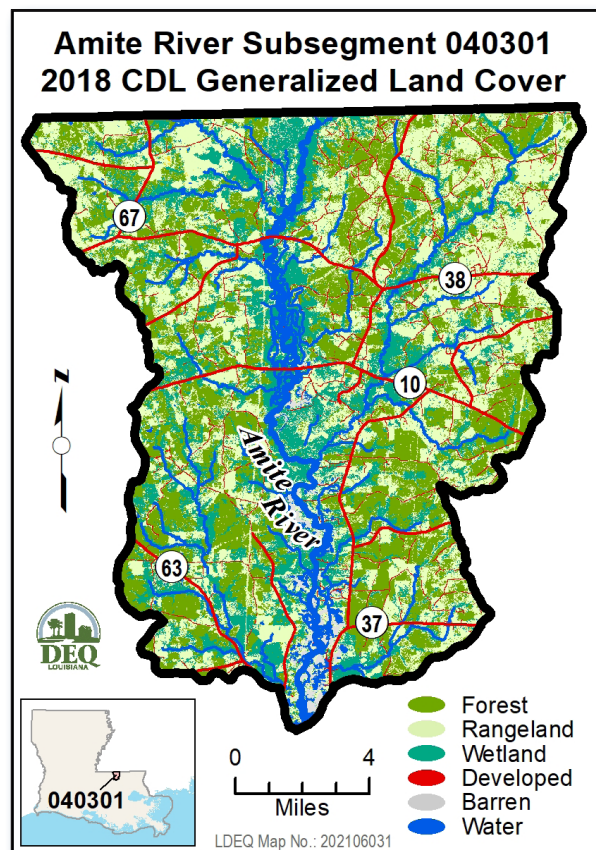


Figure 1. Amite River subsegment 040301 land cover.

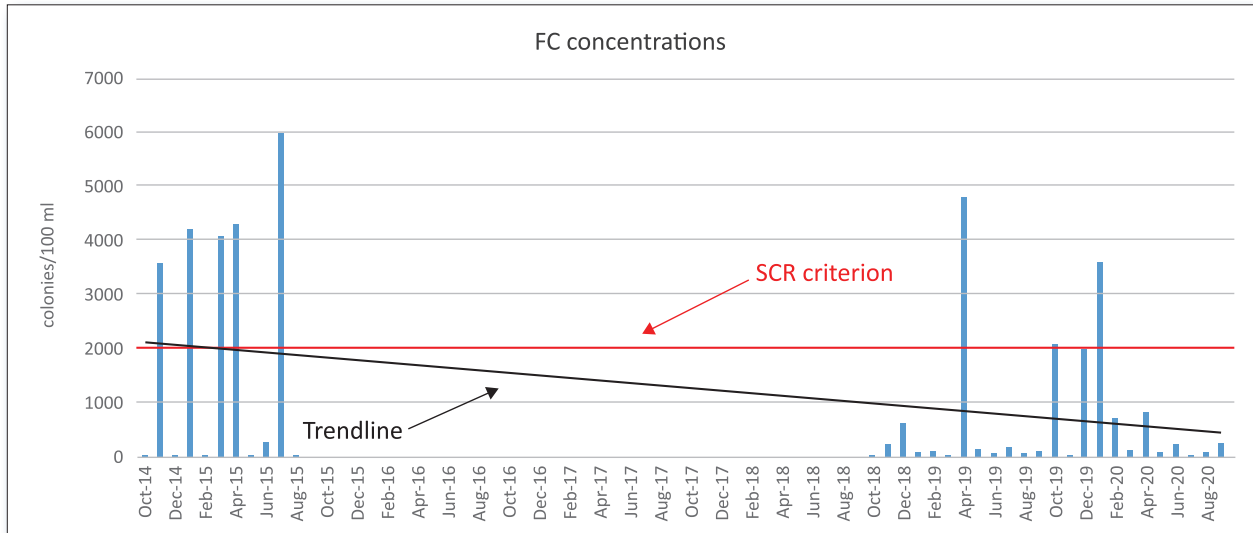


Figure 2. Fecal coliform concentrations in the Amite River declined over time (2014–2020).

Story Highlights

From 2018 through 2020, work occurred in the Amite River watershed to inspect home septic systems, educate homeowners and monitor water quality. CRC&D inspected 790 systems and found that 297 were not functioning properly. LDEQ has contracted with CRC&D to hire a watershed coordinator since 2008. The watershed coordinator’s job is to facilitate and conduct watershed use support restoration activities in southeast Louisiana, with a goal of reducing nonpoint source pollution to ultimately improve surface water quality, restore designated use support and maintain healthy waters. CRC&D identified and assisted in the repair of 188 of the 297 systems that were not functioning properly.

Results

Water quality data show improvements as a result of OSDS repairs. From October 2018 to September 2019, only one fecal coliform sample out of 12 exceeded 2,000 col/100 mL (i.e., an eight % annual exceedance rate). From October 2019 to September 2020, only two fecal coliform samples out of 12 exceeded 2,000 col/100 mL (i.e., a 17% annual exceedance rate). These data indicate that the Amite River supports its SCR designated use (Figure 2). Based on this data, LDEQ removed SCR as a bacteria-impaired designated use for subsegment 040301 in 2020.

Partners and Funding

Partners responsible for making this project a success include the U.S. Environmental Protection Agency, LDEQ, and CRC&D. From November 2017 to December 2020, LDEQ used \$89,533 in CWA section 319 funds to contract with CRC&D to fund a watershed coordinator position, septic system inspections and water quality monitoring.



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