



NONPOINT SOURCE SUCCESS STORY

Louisiana

Implementing Conservation Practices in Boston Canal Reduces Turbidity

Waterbody Improved

Sediment from agricultural runoff led to a turbidity impairment in the Boston Canal (Subsegment 060910). The Louisiana Department of Environmental Quality (LDEQ) determined the waterbody was not supporting its fish and wildlife propagation (FWP) designated use because of high turbidity concentrations in its 2010 Clean Water Act section 305(b) assessment. Beginning in 2013, LDEQ worked with the Louisiana Department of Agriculture and Forestry (LDAF), the U.S. Department of Agriculture Natural Resources Conservation Service, and the Vermilion Soil and Water Conservation District to address the impairment through monitoring water quality, conducting outreach, and implementing best management practices (BMPs). These efforts prevented the erosion and runoff of an estimated 3,000+ tons of soil; as a result, in 2020, LDEQ removed the waterbody's turbidity impairment in the state's Clean Water Act 305(b) water quality assessment.

Problem

Boston Canal lies in southwestern Louisiana in the Vermilion-Teche River Basin. The basin contains one 12-digit hydrologic unit code (HUC-12) watershed, 080801030204. Of the approximately 16,000 acres within the Boston Canal watershed, roughly 8,000 acres are classified as agricultural use; the remaining acreage is coastal marshland (Figure 1).

Louisiana's water quality standard for turbidity states that no more than 30% of the samples collected during a sampling year can exceed the water quality standard of 50 nephelometric turbidity units (NTU) per sample. If more than 30% of the samples collected during a sampling year exceed the standard, the waterbody is considered impaired.

The state's 2010 assessment indicated the FWP use in Boston Canal was impaired because of high sediment loading and turbidity concentrations. The assessment listed the suspected source of this sediment as agriculture. Soil erosion in sugarcane production areas was suspected to be contributing to the turbidity issues.

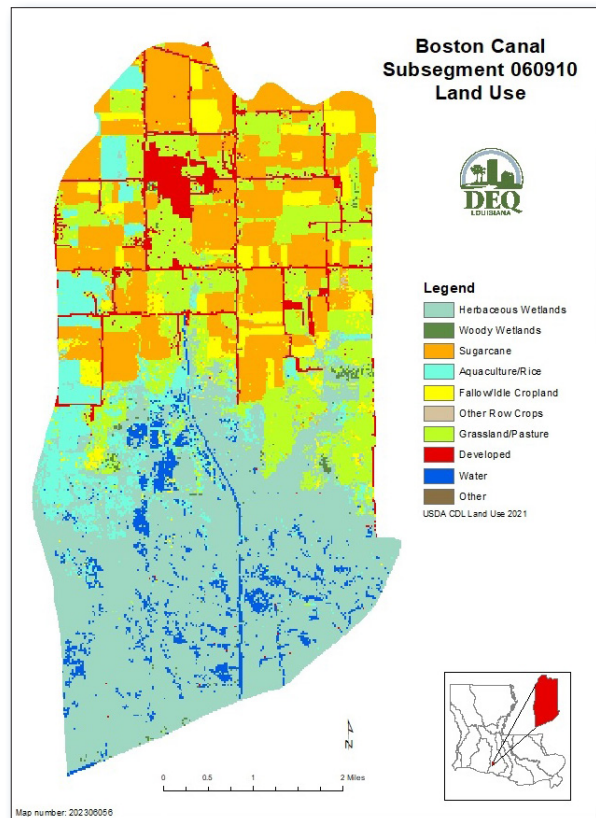


Figure 1. Boston Canal is in southwest Louisiana.

Story Highlights

From 2013 through 2018, partners worked in the Boston Canal watershed to identify areas of high sediment loading, conduct outreach to agricultural producers, and garner participation in BMP implementation. LDAF initiated conservation plan sign-ups, technical assistance, cost-sharing contracts, and BMP execution through Clean Water Act section 319 funding. The Vermilion Soil and Water Conservation District conducted on-site waste water system pump-outs. The Natural Resources Conservation Service participated in agricultural BMP implementation through its Environmental Quality Incentives Program funding. BMPs implemented in the Boston Canal watershed include over 3,600 acres of conservation crop rotation; 238 acres of cover crops; over 890,000 linear feet of field borders; 1,800 acres of nutrient management; 48 on-site wastewater system pump outs; and 1,800 acres of pest management.

Results

Conservation practices implemented in the Boston Canal watershed reduced the amount of soil eroding and leaving the fields by 3,049 tons over the 2014–2018 period (2014: 674 tons, 2015: 966 tons, 2016: 572 tons, 2017: 522 tons, and 2018: 315 tons). Turbidity water quality criterion excursion rates also declined.

The 2020 water quality assessment was based on monthly ambient monitoring in Boston Canal from October 2017 through September 2018. Of the 12 sampling events, there was only one exceedance in February 2018 (130 NTU). This 8% exceedance rate fell below the 30% rate allowed by the water quality criterion—and far below the 52% exceedance rate found during the 2014–2015 water year. As a result of this water quality improvement, LDEQ removed FWP as a turbidity-impaired use in the Boston Canal in its 2020 assessment.

Partners and Funding

Partners responsible for making this project successful included the U.S. Environmental Protection Agency, the U.S. Department of Agriculture, LDEQ, LDAF, and the Vermilion Soil and Water Conservation District. Funding includes LDEQ Clean Water Act Section 319 Program funds (federal: \$260,550; match: \$173,700); LDAF section 319 project funds (federal: \$484,007; match: \$408,971); and the Natural Resources Conservation Service (federal: \$108,164). The total project cost for addressing the turbidity in Boston Canal was \$1,435,392 (federal: \$852,721; match: \$582,671).



U.S. Environmental Protection Agency
Office of Water
Washington, DC

EPA 841-F-24-001C
February 2024

For additional information contact:

Aimee Preau
LDEQ
225-219-3357 • aimee.preau@la.gov