Texas Commission on Environmental Quality
Total Maximum Daily Load Program
GI-547

Improving Water Quality in the Neches River Tidal Watershed

A Project to Protect Recreational Uses

In the Neches River Tidal (Segment 0601), bacteria concentrations are sometimes higher than the criteria set to protect the safety of recreation. High concentrations of bacteria, which are found in both human and animal waste, may indicate a health risk to people who swim or wade in the water body—activities called "contact recreation" in the state's standards for water quality.

Bacteria are commonly found in the intestines of warm-blooded organisms such as humans, livestock, poultry, cats, and dogs. Bacteria from human and animal waste often indicate the presence of disease-causing microorganisms, which can pose a health threat to people who engage in contact recreation.

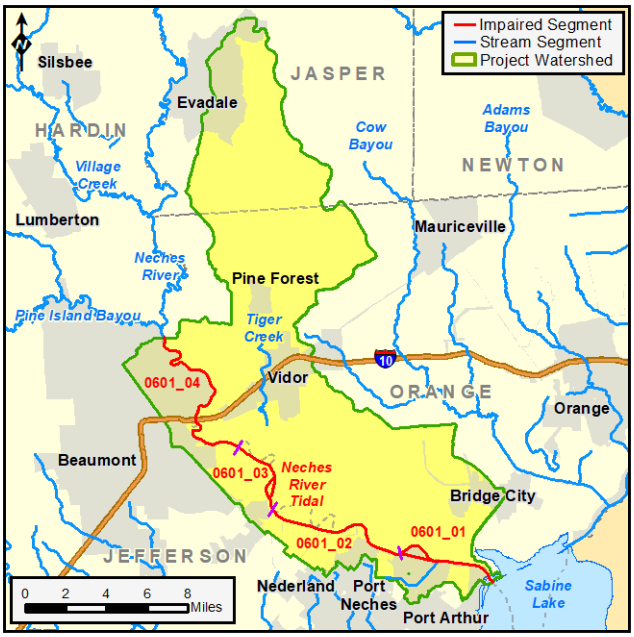
To address these concerns, people who have a stake in the watershed are working with TCEQ to develop a total maximum daily load (TMDL) and a plan to implement it (I-Plan). A TMDL is like a budget—it determines the amount (or load) of bacteria that the bayou can receive and still support recreational safety. The allowable load is then allocated among categories of sources within the watershed. The I-Plan outlines the measures that will be used to reduce pollution.

Learn more about water quality standards, monitoring, and TMDLs by reading Preserving and Improving Water Quality[1], available on our website or in print.

The Neches River Tidal Watershed

The watershed lies in the gulf coast region of east Texas in the Neches River Basin. The Neches River Tidal is a twenty-seven-mile tidal stream that flows from the confluence with Sabine Lake in Orange County to the Neches River Saltwater Barrier, about one-half mile downstream of the confluence of Pine Island Bayou in Orange County. The Neches River Tidal segment consists of four stream assessment units (AUs). All four AUs are impaired for the contact recreation use due to elevated levels of indicator bacteria.

- **Neches River Tidal** (Segment 0601)
  - **AU 0601_01** — Lower boundary to top of first oxbow, above Bird Island Bayou confluence
  - **AU 0601_02** — Top of first oxbow to top of U.S. Nat'l Defense Reserve Fleet Basin



  - **AU 0601_03** — Top of U.S. Nat'l Defense Reserve Fleet Basin to top of last oxbow below Kansas City Southern Railroad bridge
  - **AU 0601_04** — Top of last oxbow below Kansas City Southern Railroad bridge to saltwater barrier

The Neches River Tidal watershed is about 211 square miles. The dominant land cover includes woody wetlands (24%), developed (20%), forest (17%), and open water (12%). The cities of Beaumont, Vidor, and Port Neches are located in the watershed, which includes portions of Jefferson and Orange counties.

Project Development

TCEQ began this project in 2018. The Texas Water Resources Institute (TWRI) is providing support for both public engagement and the technical aspects of the project. TWRI completed a technical report in 2020 that compiled and analyzed all available bacteria data and considered sources of the bacteria and their relative contributions.

TCEQ and TWRI are developing a draft TMDL, which will be released for public comment sometime in 2022.

[1] https://www.tceq.texas.gov/publications/gi/gi-351

TWRI and stakeholders have begun developing the I-Plan.

Public Participation

In all its projects, TCEQ seeks to gather opinion and information from people who represent government, permitted facilities, agriculture, business, environmental, and community and private interests in the watershed. TCEQ solicits advice from the public at meetings and through print and electronic media notices.

TWRI is coordinating stakeholder participation in the project. Stakeholders are advising TCEQ on the TMDL allocations and developing the I-Plan.

For More Information

Contact the project manager listed below, or visit the project webpage at:

www.tceq.texas.gov/waterquality/tmdl/nav/118-nechestidal-bacteria

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TMDL Development Status

Start Date: 2018
TCEQ Adoption:
EPA Region 6 Approval:

I-Plan Development Status

Start Date: 2018
TCEQ Approval:

Project Highlights

- A workshop called "Managing Our Stormwater from Gutter to Stream" was held on April 16, 2019 in Beaumont to discuss nature-based techniques to clean and conserve stormwater.
- Two stakeholder meetings were held August 22, 2019; identical information was presented at the 3:00 p.m. and 6:00 p.m. meetings.
- Stakeholders met virtually on April 9, 2020 to discuss progress on TMDL development and to begin developing the I-Plan.
- TWRI completed their technical support document in July 2020.
- Stakeholders met online again on August 14 and August 19, 2020 to discuss TWRI's technical support document and the regulated stormwater and wastewater treatment plant TMDL allocations.
- The I-Plan Coordination Committee met with TCEQ and TWRI on May 17, 2021 to continue developing the I-Plan.