Improving Water Quality in the Cotton Bayou Watershed
A Project to Protect Recreational Uses

Segment 0801C, Cotton Bayou in the Trinity River Basin, was first identified as impaired for bacteria in 2010. 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.

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 its implementation plan (I-Plan) for the watershed. A TMDL is like a budget—it determines the amount (or load) of bacteria the bayou can receive and still support the contact recreation use. 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 and in print.

The Cotton Bayou Watershed

Cotton Bayou, Segment 0801C, is located near the western boundary of Chambers County, near the Texas Coast. Only assessment unit (AU) 0801C_01 is impaired due to bacteria concentrations. Cotton Bayou has a watershed area of 16.5 square miles. The headwaters of Cotton Bayou start north of the city of Mont Belvieu. From there, the bayou flows southeast to Cotton Lake, which drains into Trinity Bay. Hackberry Gully is the principal tributary to Cotton Bayou and enters the bayou from the west.

Though a great portion of the Cotton Bayou watershed is either undeveloped grassland, forest, shrub, or land cultivated for agriculture, the Mont Belvieu community, as well as expanding areas of urban sprawl, are more developed. Interstate Highway 10 runs through the watershed from east to west.

Project Development

TCEQ began this project in 2019. The Houston-Galveston Area Council (H-GAC) is providing support for the technical aspects of the project and stakeholder engagement. H-GAC is compiling and analyzing all available bacteria data and considering
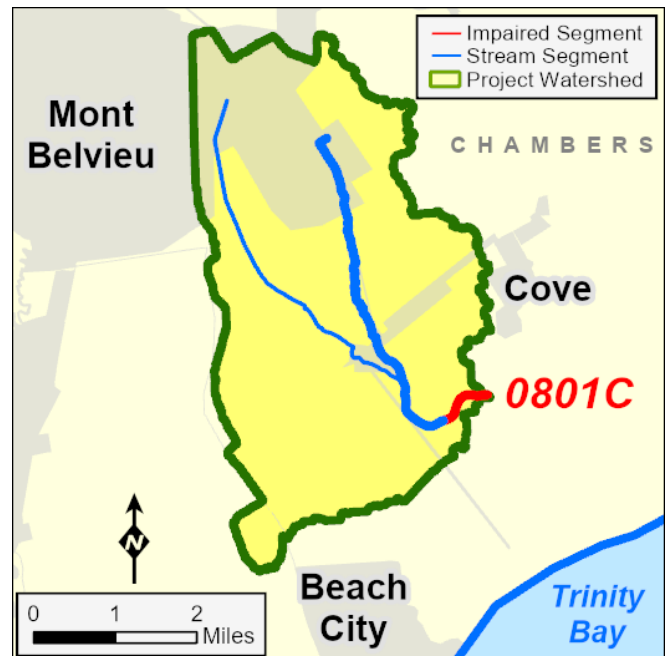
sources of the bacteria and their relative contributions and will produce a technical support document for the TMDL based on their investigations.

H-GAC has reviewed and summarized bacteria information in a watershed characterization report to provide an overall assessment of the watershed, along with its impairments and potential sources of pollutants. H-GAC is now creating a technical support document that will support development of the TMDL.

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.

H-GAC is coordinating stakeholder participation in this watershed. Stakeholders are a key part of developing solutions for Cotton Bayou. They will advise

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

TCEQ on development of the TMDL and will create the I-Plan to reduce bacteria loads.

Stakeholder meetings began in April 2020.

TMDL Development Status
Start Date: April 2020
TCEQ Adoption:
EPA Region 6 Approval:

I-Plan Development Status
Start Date:
TCEQ Approval:

Project Highlights
- Public meetings began in 2020.
- H-GAC completed a watershed characterization report in 2020, which was subsequently approved by TCEQ.
- H-GAC is currently creating a technical support document that will support development of the TMDL.