



Improving Water Quality in Dickinson Bayou A Project to Protect Recreational Uses

High concentrations of indicator bacteria in Dickinson Bayou may indicate a health risk for people who swim or wade in the water body—activities called “contact recreation” in the state’s standards for water quality.

Fecal 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.

TCEQ conducted a total maximum daily load (TMDL) project to determine the measures necessary to restore water quality in the Dickinson Bayou. The goal of a TMDL is to determine the amount (or load) of a pollutant that a body of water can receive and still support its designated uses. The allowable load is then allocated among the categories of sources within the watershed, and stakeholders develop measures that reduce pollutant loads in an Implementation Plan (I-Plan).

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

Dickinson Bayou Watershed

Dickinson Bayou is located in the San Jacinto-Brazos Coastal Basin. It originates near the city of Alvin, south of Houston, and flows east through the city of Dickinson before joining Dickinson Bay. The bayou has two segments—the tidal portion, Segment 1103, and the portion above tidal influence, Segment 1104. The initial TMDL project addressed both segments and three of the bayou’s tributaries—Bensons Bayou (1103A), Bordens Gully (1103B), and Giesler Bayou (1103C). In 2016, two additional tributaries, Gum Bayou (1103D) and Cedar Creek (1103E), were added to the TMDLs, along with an assessment unit (AU) of Dickinson Bayou Tidal (AU 1103_01) that was not addressed in the initial TMDL project.

Upstream of the tidal influence, Dickinson Bayou (Segment 1104) is a small coastal prairie stream. The tidal segment (1103) ranges from a relatively narrow, forested stream in its upper reaches to a very wide and relatively deep tidal stream downstream from the city of Dickinson.



Dickinson Bayou is used by local residents for recreational boating, fishing, water skiing, canoeing, and other activities. The lower tidal portions support some commercial shrimp boats and barge traffic. Rice fields in the upper watershed receive irrigation water via canals from beyond the watershed. The irrigation water returns to Dickinson Bayou as irrigation return flows. Although the return flows contributed substantially to flow in the bayou in the past, rice farming has diminished significantly in the upper Dickinson watershed since the mid-1970s.

The watershed of Dickinson Bayou includes portions of Brazoria and Galveston counties and the cities of Alvin, Santa Fe, Dickinson, and League City.

Public Participation

In all its projects, TCEQ seeks to gather opinions and information from people who represent local government, permitted facilities, agriculture, business, environmental interests, and community and private interests in the watershed.

Public participation in this project was coordinated through the Galveston Bay Estuary Program and Texas AgriLife Extension Service. The steering committee of

¹ <https://www.tceq.texas.gov/publications/gi/gi-351>

the Dickinson Bayou Watershed Partnership advised TCEQ on development of the TMDL and during the development of the I-Plan. Stakeholders in the watershed formed the Partnership to implement activities that will improve water quality in Dickinson Bayou.

Project Development

TCEQ adopted the first TMDLs on February 8, 2012, and EPA approved them on June 6, 2012. The Commission approved the final I-Plan on January 15, 2014. In July 2016, TCEQ added TMDLs for Gum Bayou, Cedar Creek, and the first assessment unit (AU) of Dickinson Bayou Tidal through an update to the state's Water Quality Management Plan. EPA approved the TMDL additional TMDLs on September 30, 2016.

For More Information

Visit the project webpage at:

www.tceq.texas.gov/waterquality/tmdl/80-dickinson-bayoubacteria.html

Find out more about I-Plan and other activities to improve water quality on the Dickinson Bayou Watershed Partnership's webpage at:

agriflife.org/dickinsonbayou/

TMDL Dates

Start Date: 2005

TMDL Adoption: 02/08/12

EPA Approval: 06/06/12

TMDL Addendum Approved: September 30, 2016

I-Plan Dates

I-Plan Approval: 01/15/14

Highlights

- This TMDL project began in August 2005.
- Stakeholders formed the Dickinson Bayou Watershed Partnership in December 2005.
- The Commission adopted the final TMDLs for bacteria in Dickinson Bayou on February 8, 2012. EPA approved them on June 6, 2012.
- Stakeholders completed the I-Plan 2013. The Commission approved it on January 15, 2014.
- TCEQ developed three additional bacteria TMDLs for three AUs and submitted them to EPA in July 2016 through an update to the state's Water Quality Management Plan. EPA approved the additional TMDLs on September 30, 2016.

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