



## Improving Water Quality in Dickinson Bayou A TMDL Project for Bacteria

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.

The TCEQ conducted a total maximum daily load 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 and monitoring by reading Preserving and Improving Water Quality, available on the Web at [www.tceq.texas.gov/goto/tmdl/](http://www.tceq.texas.gov/goto/tmdl/).

### 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 its 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 a portion of the Dickinson Bayou Tidal (AU 1103\_01), which was not previously addressed in the initial TMDL project.

Upstream of the tidal influence, Dickinson Bayou is a small coastal prairie stream. The tidal segment (1104) 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, the 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. This project was coordinated through the Galveston Bay Estuary Program and Texas AgriLife Extension Service.

The steering committee of the Dickinson Bayou Watershed Partnership advised the TCEQ on development of the TMDL and during the development of the TMDL I-

Plan. Stakeholders in the watershed formed the Partnership to implement activities that will improve water quality in Dickinson Bayou.

### Project Development

The TCEQ adopted the first TMDLs on February 8, 2012, and the EPA approved the TMDLs on June 6, 2012. The commission also approved the final I-Plan on January 15, 2014. In July 2016, the TCEQ incorporated, into its Water Quality Management Plan, the addition of Gum Bayou, Cedar Creek and the first assessment unit of Dickinson Bayou Tidal as an addendum to the original TMDLs. The EPA approved the TMDL addendum on September 30, 2016

### For More Information

Contact one of the people listed below, or visit the project website at:

<[www.tceq.texas.gov/waterquality/tmdl/80-dickinsonbayoubacteria.html](http://www.tceq.texas.gov/waterquality/tmdl/80-dickinsonbayoubacteria.html)>

Or see the Partnership's website at:

<[agriflife.org/dickinsonbayou/](http://agriflife.org/dickinsonbayou/)>.

#### Dickinson Bayou TMDL I-Plan:

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### TMDL Development Status

**Start Date:** 2006

**TMDL Adoption:** 02/08/12

**EPA Approval:** 06/06/12

**I-Plan Approval:** 01/15/14

**TMDL Addendum Approved:** September 30, 2016

### Project Highlights

- The TMDL project began in August 2006.
- 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.
- The EPA approved the TMDLs on June 6, 2012.
- A TMDL Implementation Plan for bacteria was completed in 2013 and approved by the TCEQ on January 15, 2014.
- The TCEQ developed three bacteria TMDLs for two additional tributaries (three assessment units). The TMDL additions were submitted to the EPA in July 2016 and approved by the EPA on September 30, 2016.
- Information about the Dickinson Bayou Watershed Partnership Steering Committee is available on the Web at <[agriflife.org/dickinsonbayou/](http://agriflife.org/dickinsonbayou/)>.

Visit our website at: <[www.tceq.texas.gov/goto/tmdl/](http://www.tceq.texas.gov/goto/tmdl/)>