



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.

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 consume raw oysters or engage in contact recreation.

The TCEQ conducted a total maximum daily load project to determine the measures necessary to restore water quality in the 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 work with the state to develop measures that reduce pollutant loads.

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/.

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 Dickinson before joining Dickinson Bay. The bayou has two segments—the tidal portion, Segment 1103, and the portion above tidal influence, Segment 1104. This project addresses both segments and three of its tributaries—Bensons Bayou (1103A), Bordens Gully (1103B), and Giesler Bayou (1103C).

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.

The steering committee of the Dickinson Bayou Watershed Partnership advised the TCEQ on development of the TMDL and continues to advise the TCEQ during development of the implementation plan. Stakeholders in the watershed formed the Partnership to implement activities that will improve water quality in Dickinson Bayou.

Project Development

In a parallel effort, the TCEQ partnered with Texas AgriLife and the Dickinson Bayou Watershed Partner-

ship to develop a watershed protection plan (WPP) for Dickinson Bayou.

In May 2009, the TCEQ accepted the Dickinson Bayou Watershed Partnership's WPP and submitted it to the EPA for approval. The EPA recommended several revisions to the plan, but gave preliminary approval to implement several major projects included in the plan. The plan will be revised in 2012 and 2013 to address the EPA's concerns.

The TCEQ released a TMDL document for public comment in September 2011. The commission adopted the final TMDLs on February 8, 2012.

For More Information

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

<www.tceq.state.tx.us/waterquality/tmdl/80-dickinsonbayoubacteria.html>

Or see the Partnership's website at:

<www.dickinsonbayou.org>.

About the Dickinson Bayou WPP:

Charriss York, Watershed Coordinator
281-218-6329, cyork@tamu.edu

TCEQ Central Office:

Roger Miranda, TMDL Project Manager,
512-239-6278, roger.miranda@tceq.texas.gov

TCEQ Regional Office:

Linda Broach, Region 12 - Houston
713-767-3579, linda.broach@tceq.texas.gov

TMDL Development Status

Start Date: 2006

Projected End Date: 2012

TCEQ Adoption: 02/08/12

EPA Approval:

TMDL: Percent Complete

	10	20	30	40	50	60	70	80	90	100
Data Collection										
Assessment										
TMDL Development										
Stakeholder Review										
TCEQ Adoption										

Project Highlights

- The TMDL project began in August 2006. The TCEQ released a TMDL report for public comment in September of 2011. The commission adopted the TMDLs on February 8, 2012.
- Stakeholders formed the Dickinson Bayou Watershed Partnership in December 2005.
- The Partnership published a WPP in February 2009. The TCEQ accepted the WPP in May 2009 and is helping to implement several major activities associated with the plan.
- In September 2009, the EPA made recommendations for revising the WPP. The TCEQ is working with the Dickinson Bayou Watershed Partnership to revise the WPP and will resubmit the revised plan to the EPA.
- The process to develop a TMDL Implementation Plan for bacteria began in February 2011. Elements of the WPP may be used in the Implementation Plan and, in turn, the additional information gathered during the development of the Implementation Plan will be used to revise the WPP.
- The commission adopted the final TMDLs for bacteria in Dickinson Bayou on February 8, 2012.
- Information about meetings of the Dickinson Bayou Watershed Partnership Steering Committee is available on the Web at <www.dickinsonbayou.org> and at <www.tceq.state.tx.us/waterquality/tmdl/80-dickinsonbayoubacteria.html>.

Visit our website at: <www.tceq.texas.gov/goto/tmdl/>