



Improving Water Quality in Dickinson Bayou A TMDL Project for Dissolved Oxygen

Assessment by the TCEQ indicates that dissolved oxygen concentrations in Dickinson Bayou are occasionally lower than recommended for providing an optimal environment for aquatic species. Oxygen, which dissolves in water, is essential for the survival of aquatic life. While the amount of dissolved oxygen in water fluctuates naturally, various human activities can cause unusually or chronically low dissolved oxygen levels, which may harm fish and other aquatic organisms.

The TCEQ is conducting 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 of oxygen-limiting pollutants 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.state.tx.us/goto/tmdl/.

Dickinson Bayou Watershed

Dickinson Bayou is located in the San Jacinto-Brazos Coastal Basin. It originates near 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.

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

The tidal portion of 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 boat 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 in the form of irrigation return flows. Although historically substantial in terms of flow contributions, 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 opinion and information from people who represent local government, permitted facilities, agriculture, business, environmental interests, and community and private interests in the watershed.

This project is being coordinated with the Galveston Bay Estuary Program and the University of Houston. The steering committee of the Dickinson Bayou Watershed Partnership is advising the TCEQ on development of the TMDLs. Stakeholders in the watershed formed the Partnership to implement activities that improve water quality in Dickinson Bayou.

Project Development

In a parallel effort, the TCEQ partnered with Texas AgriLife and the Dickinson Bayou Watershed Partnership 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 2011 and 2012 to address the EPA's concerns.

In June 2008, the TCEQ released a draft dissolved oxygen TMDL report for public comment. Based on comments, the TCEQ is conducting additional analysis and modeling and will revise the draft TMDL after the additional work is completed. The original project period was extended to allow completion of the revised TMDL.

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 2011 and 2012 to address the EPA's concerns.

For More Information

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

<www.tceq.state.tx.us/implementation/water/tmdl/17-dickinson.html>

Or:

<www.dickinsonbayou.org>

Watershed Coordinator:

Charriss York
(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

Galveston Bay Estuary Program:

Steven Johnston
281-486-1244, steven.johnston@tceq.texas.gov

TMDL Development Status

Start Date: August 2000

Projected End Date: December 2014

TCEQ Adoption:

EPA Region 6 Approval:

I-Plan Development Status

Projected End Date:

TCEQ 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 project to develop a TMDL to address low dissolved oxygen in Dickinson Bayou began in August 2000.
- The project to develop a watershed protection plan for Dickinson Bayou began in September 2005.
- Stakeholders formed the Dickinson Bayou Watershed Partnership in December 2005.
- A draft TMDL to address low dissolved oxygen was published for public comment in June 2008. The draft TMDL is being revised based on comments received from the EPA in July 2009.
- A Watershed Protection Plan (WPP) was published 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.
- Information about the meetings of the Dickinson Bayou Watershed Partnership Steering Committee is available on the Web at <www.tceq.state.tx.us/implementation/water/tmdl/17-dickinson.html> and at <www.dickinsonbayou.org>.

Visit our website at: <www.tceq.state.tx.us/goto/tmdl/>