Improving Water Quality in Dickinson Bayou

One TMDL for Dissolved Oxygen

Water Quality in Dickinson Bayou

The state of Texas requires that water quality in Dickinson Bayou Tidal (Segment 1103) be suitable for swimming, wading, fishing, and a healthy aquatic ecosystem. However, water quality testing found that dissolved oxygen levels in the water are occasionally low. 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.

In response to these conditions, a total maximum daily load (TMDL) project has been initiated to evaluate the effects of low dissolved oxygen on aquatic life and to determine the actions necessary to maintain water quality in the tidal portion of 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. This allowable load is then allocated among all the potential sources of pollution within the watershed. Measures to reduce pollutant loads are then developed as necessary.

Learn more about water quality standards and monitoring by reading *Clean Water for Texas: Working Together for Water Quality*. For general information about how TMDL projects are structured, read *The TMDL Process in Texas: What You Need to Know*. Both documents are available on the Web at *www.tnrcc.state.tx.us/water/quality/tmdl/*.

Description of Dickinson Bayou

Dickinson Bayou is located in the San Jacinto-Brazos Coastal Basin. It originates near Alvin, south of Houston, and flows east through Dickinson before terminating in Dickinson Bay. Dickinson Bayou has two designated segments, representing the Tidal (Segment 1103) and Above Tidal (Segment 1104) portions. Above 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 deep tidal stream 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 Dickinson Bayou watershed includes portions of the following political jurisdictions:

Counties: Brazoria, Galveston
Cities: Dickinson, Friendswood, League City

Public Participation Process

The TCEQ conducts public meetings to coordinate project activities with interested parties and to solicit advice, comments, or ideas from the public. This project is being conducted in coordination with the Galveston Bay Estuary Program, the Houston-Galveston Area Council, and the Texas Sea Grant College.

For More Information

For information on upcoming meetings, contact the Regional Coordinator or TCEQ contacts listed below.

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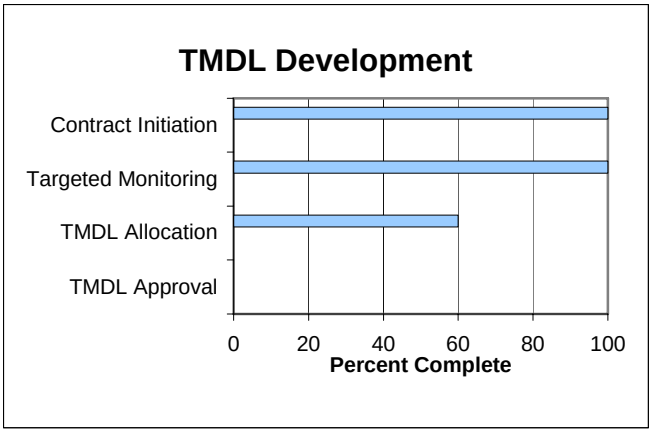
TMDL Development Status

Start Date: 2000
Projected End Date: December 2005
TCEQ Adoption:
Submitted to EPA Region 6:
EPA Region 6 Approval:



TMDL Project Highlights

- Twelve months of water quality sampling spanning 2000 and 2001 were completed in August 2001.
- Biological sampling was completed in September of 2002.
- A TMDL watershed steering committee was formed in September 2004 to advise the TCEQ on the TMDL project.
- TMDL development is underway. A watershed model has been developed and calibrated to support the TMDL.
- The results of the watershed model were presented at a meeting of the Dickinson Bayou TMDL watershed steering committee on February 24, 2005.
- Development of a hydrodynamic and water quality model to support the TMDL is underway.
- Information on future steering committee meetings can be found on our Web site at *www.tnrcc.state.tx.us/water/quality/tmdl/tmdl_calendar.html*.

Visit our Web site at: http://www.tnrcc.state.tx.us/water/quality/tmdl/index.html