



Improving Water Quality in Texas Bays and Estuaries

Assessing the Oyster Waters Use

Water Quality in the Bays and Estuaries

The state of Texas requires that bay and gulf waters be suitable for producing and harvesting edible species of clams, oysters, or mussels, and for various other uses. However, data assessed in 2002 showed that 14 bay segments in three geographic regions (see maps) are not suitable for harvesting shellfish because of elevated bacteria concentrations. The use of waters for oyster harvesting, also called the oyster waters use, is the most commonly impaired use among Texas bay and gulf waters.

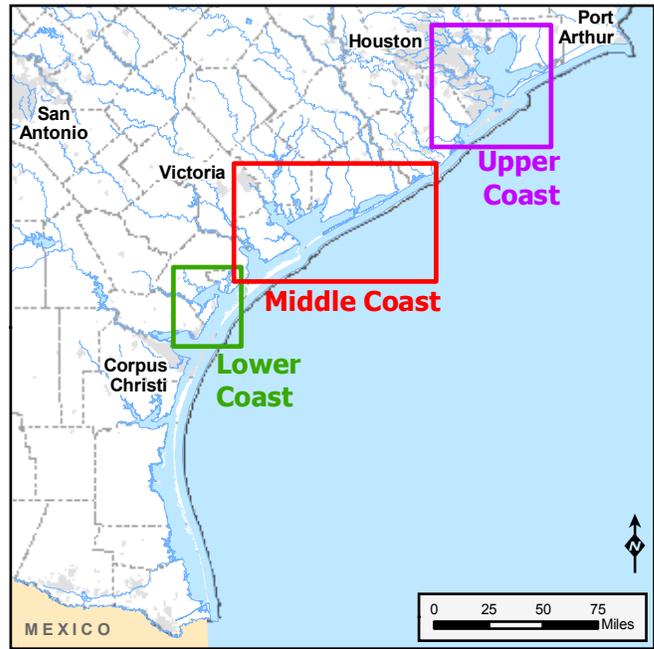
Bacteria from human and animal waste may indicate the presence of disease-causing microorganisms that pose a threat to public health. Bacteria from the water can accumulate in the tissue of oysters and other shellfish, making them unsafe to eat, especially since some shellfish are often eaten raw.

To address the impaired oyster waters use, the Texas Commission on Environmental Quality (TCEQ) initiated a project to evaluate the affected waters and develop a strategy to restore water quality in the 14 impaired segments. The project was completed in 2006 by the TCEQ's Total Maximum Daily Load (TMDL) Program.

How the Use Is Assessed

Fecal coliform is the indicator bacteria used by the TCEQ to assess the oyster waters use. The bacteriological criteria states that the median fecal coliform concentrations in bay and gulf waters shall not exceed 14 colonies per 100 milliliters of water, with not more than 10 percent of all samples exceeding 43 colonies per 100 milliliters of water. The TCEQ also imposes a 1,000 foot buffer zone, measured from the shoreline at ordinary high tide, where the fecal coliform criteria mentioned above do not apply.

Assessment of the oyster waters use is coordinated with the Seafood Safety Division of the Texas Department of State Health Services (DSHS). The DSHS is responsible for monitoring and classifying shellfish harvest areas into four categories for harvesting: approved, conditionally approved, restricted, or prohibited. These classifications are published as shellfish classification maps on the DSHS Web site at www.tdh.state.tx.us/bfds/ssd/clasmap.html. The maps, along with DSHS water quality data and sanitary surveys, serve as the basis for the TCEQ's assessment of the oyster water use.



Learn more about water quality and TMDLs by reading *Clean Water for Texas: Working Together for Water Quality on the Web* at www.tceq.org/goto/tmdl/.

Project Development

The project convened an interagency work group comprised of state and federal government agencies and non-governmental organizations. Participants included representatives of the DSHS, the Texas General Land Office (TGLO), the Texas Parks and Wildlife Department, the Galveston Bay Estuary Program (GBEP), the US Environmental Protection Agency (EPA), and the Coastal Bend Bays and Estuaries Program (CBBEP). Next, the workgroup identified funding sources for the project and prioritize the use of those funding sources.

The bays were divided into three regions and projects were initiated reflecting the different needs in each region. These projects gathered additional data and information that was needed to better understand the factors affecting the oyster waters use.

- After analysis, the work group determined that TMDLs were needed for this group of bays. The Upper Coast Oyster Waters TMDL project was begun in 2006.

- In the middle Texas coast, the oyster reefs in Lavaca Bay have been mapped to determine the extent of the resource. TMDLs are needed, and will be started as soon as funding is secured.
- In the lower Texas coast, the project tracked the sources of bacteria causing the impairment in Copano/Port/Mission Bay. Project staff determined that a TMDL was needed for the bay; it was started in 2004.

Public Participation

The existing estuary program forums of the GBEP and the CBBEP, which are comprised of stakeholders representing a wide variety of interests, are the primary

means of public participation. Project presentations have been made at meetings of the GBEP Symposium and the CBBEP Committees. Project results have also been presented at scientific meetings and to the project's interagency work group.

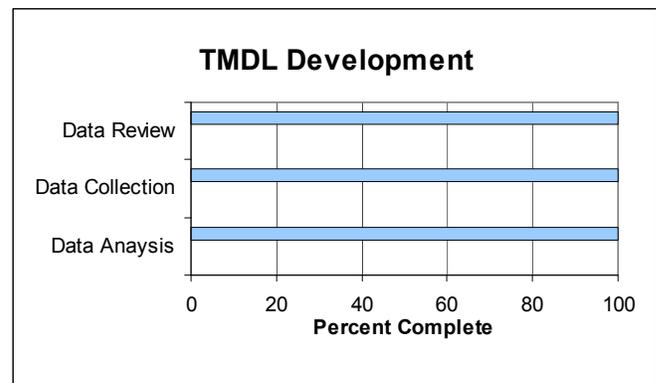
For More Information

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Project Status

Start Date: June 2001
End Date: August 2006



Project Highlights

Interagency Workgroup

- June 2001, the interagency work group convened. The work group met quarterly to refine and implement the Gulf Coast Oyster Water strategy.

Upper Coast

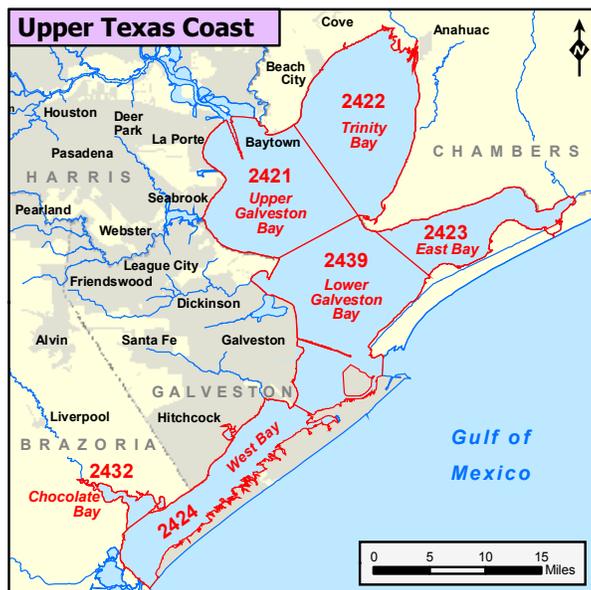
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Middle Coast

- In 2002 and 2003, the oyster reefs of Lavaca Bay were mapped to determine the extent of the resource.
- The final oyster reef mapping report submitted March 2005.

Lower Coast

- A TMDL project for Copano, Port, and Mission Bays began in 2004.



Project Watersheds

Upper Texas Coast

The work group studied six segments along the upper Texas coast:

- Upper Galveston Bay (2421)
- Trinity Bay (2422)
- East Bay (2423)
- West Bay (2424)
- Chocolate Bay (2432)
- Lower Galveston Bay (2439)

These segments lie within the Neches-Trinity Coastal Basin, Trinity River Basin, San Jacinto River Basin, and the San Jacinto-Brazos Coastal Basin.



Middle Texas Coast

The work group studied seven segments along the middle Texas coast:

- East Matagorda Bay (2441)
- Cedar Lakes (2442)
- Matagorda Bay/Powderhorn Lake (2451)
- Tres Palacios/Turtle Bay (2452)
- Lavaca/Chocolate Bay (2453)
- Carancahua Bay (2456)
- San Antonio/Hynes Guadalupe Bay (2462)

These segments lie within the Brazos-Colorado Coastal Basin, Colorado-Lavaca Coastal Basin, Lavaca-Guadalupe Coastal Basin, Lavaca River Basin, Guadalupe River Basin, San Antonio River Basin, and the San Antonio-Nueces Coastal Basin.



Lower Texas Coast

The work group studied one segment along the lower Texas coast:

- Copano/Port/Mission Bay (2472)

It lies within the San Antonio-Nueces Coastal Basin.