

Oyster Reef Restoration: St. Louis Bay, Mississippi

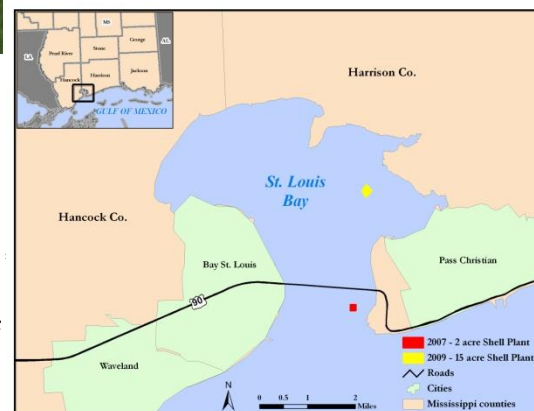
Mississippi Coastal Program



Native Reef Restoration

The Nature Conservancy (TNC) is conducting a subtidal oyster reef restoration project in St. Louis Bay, adjacent to Pass Christian, Mississippi, in collaboration with the Mississippi Department of Marine Resources (MDMR) and the University of Southern Mississippi (Gulf Coast Research Laboratory), and with support from DuPont Chemical and BP. The goal of the project is the restoration of 15 acres of oyster reef habitat to St. Louis Bay. We are restoring oysters to gain the wide range of ecological benefits associated with healthy oyster reefs.

The native eastern oyster played a major role in the overall ecology of Mississippi Sound. Decades of incompatible harvest and major storms have contributed to the decline of oyster populations throughout Mississippi Sound, including St. Louis Bay. The dramatic decline of oyster reefs has focused attention on the need to restore healthy oyster reefs because of their critical role in the life cycle of many finfish and shellfish species, maintaining water quality, removing nitrogen pollution, as well as benefits to benthic and shoreline stability. The creation of reefs using oyster shell and other materials provides important habitat for the natural setting of oyster larvae. There are enough surviving oysters to provide larvae for settlement. The construction of the reef structure will provide substrate for spat to settle on and initiate reef growth and recovery in St. Louis Bay, along with the additional advantage of enhanced fish and wildlife benefits. This project adds to the successful 2-acre oyster restoration project that was completed in 2007, and significantly expand TNC's restoration efforts in St. Louis Bay.



Fast Facts

- A mature eastern oyster can filter over 40 gallons of water per day- removing microscopic algae, nutrients and inorganic particles from the water.
- Oyster reef is critical habitat for many juvenile fish that are important to fisheries
- Many food species essential for fish and birds rely on oyster reefs.
- Healthy intertidal oyster reefs protect shorelines from erosion

As part of the restoration, oyster shells were sprayed off of a barge across the 15 acre area to create clusters of shell piles. Including three dimensional piles of shell will allow us to test the vertical distribution of spat settlement. The site design is intended to provide habitat for fish as well as oysters, and will allow us to begin to address what restoration techniques work best in this area in regard to not only oyster productivity, but also in terms of the secondary fin fish and invertebrate production associated with 3-D relief (habitat).

The monitoring associated with the restoration is being conducted by the University of Southern Mississippi. The aim is to measure fish diversity and abundance (juvenile and adult), spat settlement, mean oyster size, and water quality. The goal of the monitoring is to determine the trajectory of oyster growth and survival, and colonization of resident fishes on constructed subtidal reefs compared with natural reef, and to access the overall success of the restoration efforts.



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The mission of The Nature Conservancy is to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

for more information:

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NOAA

The National Partnership between the NOAA Community-based Restoration Program and The Nature Conservancy implements innovative conservation activities that benefit marine, estuarine and riparian habitats across the United States. The NOAA Restoration Center has worked with community organizations to support locally-driven projects that provide strong on-the-ground habitat restoration components that offer educational and social benefits for people and their communities, as well as long-term ecological benefits.