

Application Story

PROJECT SHAMROCK ISLAND, TEXAS
Product Geotube® Marine Structures Technology
Application Wetlands Creation

Location Shamrock Island, Texas
Installation 1999

The Challenge:

Shamrock Island, located along the eastern shoreline of Corpus Christi Bay, serves as an ecologically important preserve for many nesting bird species and features coastal wetlands of marshes, mangroves, and seagrasses. The island faced the constant threat of beach erosion and wetlands loss. In fact, from 1950 to 1997, Shamrock Island lost approximately 17 acres or about 25% of its surface area.

Due to natural and man-induced causes, the northern half of the island was subject to significant erosion that affected critical beach, marsh, and upland habitats. Without proactive measures, the continued erosion threatened to swallow the valuable wildlife habitats on the island.

The Solution:

With the support of the National Coastal Wetlands Grant Program, a shoreline stabilization project was undertaken to address the ongoing erosion and to stabilize the northern section of Shamrock Island. Components of this project included Geotube® marine containment technology, beach renourishment, and marsh creation.

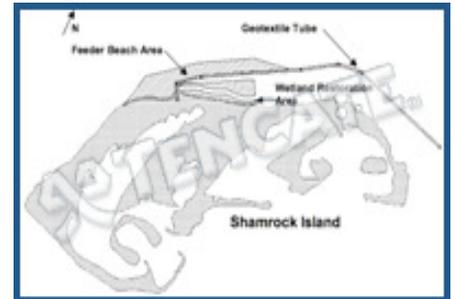
A line of Geotube® containers (3,000 linear feet) was installed offshore to serve as a breakwater structure sitting slightly above the normal water surface. Sand was dredged from the adjacent ship channel and pumped into the Geotube® units. Once the units were in place, sand was pumped

behind the Geotube® structures to develop new wetlands. Marsh grass was also planted to help establish a migratory bird sanctuary (see third photo on right.)

The Results:

By disrupting and calming the wave action before it reaches Shamrock Island, the Geotube® units have protected the remaining marshes and shoreline habitats. And this area of protected coastline is no longer eroding. (Finished structure shown in fourth photo on right.) Geotube® marine containment technology continues to benefit one of the most productive colonial waterbird nesting areas on the Texas coast.

This project worked so well that it has been recognized across Texas and the U.S. as an outstanding example of environmental success. In fact, this Shamrock Island restoration project was the recipient of the 1999 Coastal America Partnership Award.



Contact Information:

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