

application

Shoreline Erosion

location

Sundown Island - Matagorda, TX

product

Mirafi® Geotubes®

THE CHALLENGE

Sundown Island Sanctuary, also called Bird Island, is a lowlying, 20-acre island constructed from dredged material in 1962. The site is located near where the Matagorda Ship Channel and the Gulf Intracoastal Waterway cross in Matagorda Bay, east of Port O'Connor and southeast of Port Lavaca, in Texas' Coastal Bend.

Bird Island is leased from the General Land Office and managed by the National Audubon's Society's Texas Coastal Sanctuaries program. The island is set aside as a sanctuary for many birds, common and endangered, including the Brown Pelican.

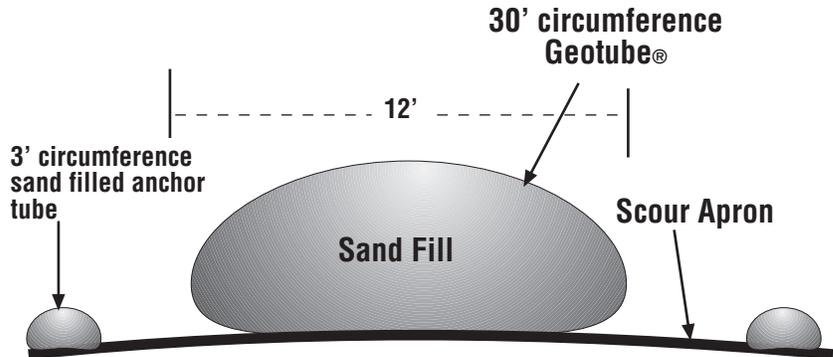
High velocity tidal current plus wave action from marine traffic was causing considerable shore-

line erosion of beach area critical to some bird populations and diminishing the island's size.

THE DESIGN

As part of their ongoing program for protecting and enriching the

environment, Formosa Plastics Corporation's engineers, working with King Fisher Marine Services, Inc., Port Lavaca, Texas, designed a Geotube® erosion protection plan utilizing three 5-foot high Geotubes® in a finger jetty layout. TC Mirafi was selected to furnish the Geotubes®. Tube lengths were 250, 300 and 375 feet. Formosa Plastics funded construction, with King Fisher Marine as the installing contrac-



tor. Construction began in late February, 1995 and was completed in four days. The Mirafi® Geotubes® were filled with dredged sand located offshore of Bird island.

CONSTRUCTION

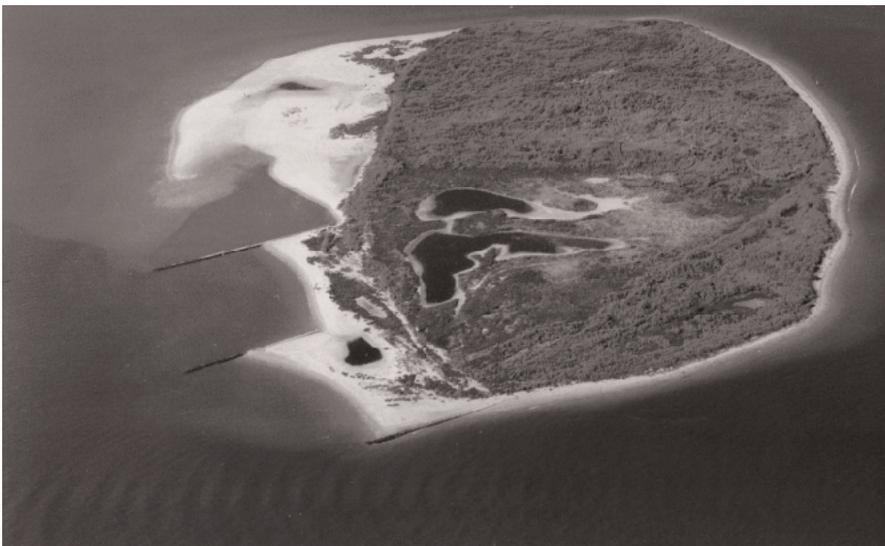
CONSTRUCTION

The Geotubes® were laid approximately 50 feet onto the beach in shallow trenches with the balance of the tube extending into the bay. Spacing between tubes was approximately 300 feet.

JOB OWNER
**National Audubon Society
Texas Coastal Sanctuary**

ENGINEER
Formosa Plastics Co.

CONTRACTOR
**King Fisher Marine
Services, Inc.**



Aerial view of Matagorda Bay with Geotubes® in place at the west side of the island.

Material selected for use was high strength woven polypropylene fabric specially designed for use in Geotube® installations. The unusually high seam strength achieved with this material provides greater confidence that Geotube® filling will progress uninterrupted.

This Geotube® erosion control plan was worked out in consultation with the Environmental Protection Agency, Texas Natural Resource Conservation Commission, Texas General Land Office, Texas Parks and Wildlife Department, Corps of Engineers, National Audubon Society and US Fish and Wildlife.

PERFORMANCE

To date, the project has been an unqualified success. Not only has erosion ceased, but in fact, beach accretion has occurred. Further tube protection at the northeast side of the island is being planned. As for the Geotubes®, the birds love them!

Installation of Mirafi® Geotube® and scour apron. February, 1995



Geotube® six months after installation, August, 1995



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