

protecting
Our **Natural Environment**

Hilton Head Island is home to over 37,000 permanent residents who live and do business here. It's also home to endangered sea turtles and a myriad of magnificent birds and other wildlife and marine life. Hilton Head Island is a relaxing vacation destination for over 2 million annual visitors.

Like most beaches, Hilton Head Island constantly faces the inevitable forces of erosion. The hilly sand dunes studded with sea oats provide limited natural protection. Unlike most beach communities, the Town of Hilton Head Island has taken a proactive approach to manage beach erosion by independently funding an ongoing beach management program which includes periodic renourishment to maintain a healthy beach system.

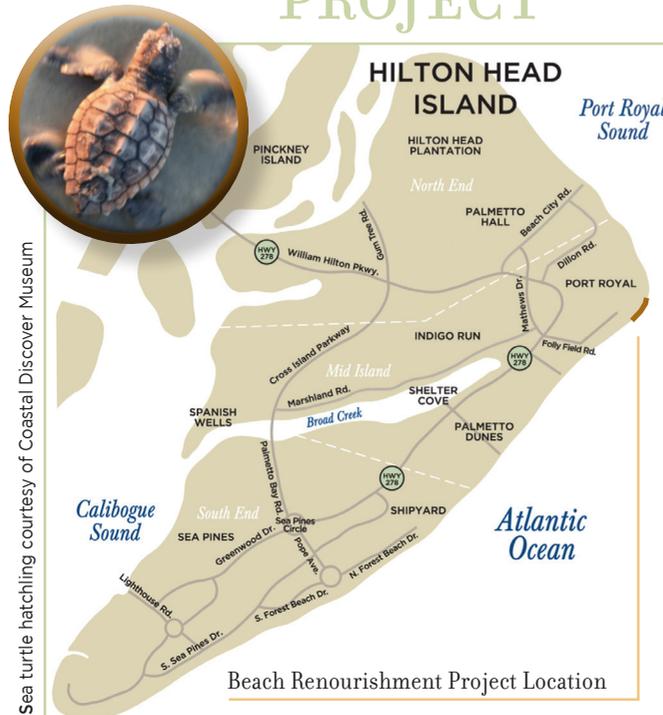


In order to preserve our beautiful Island and to continue to provide our visitors with a unique wide stretch of sandy shoreline, a Beach Renourishment project will take place in our off-season of 2011-12. The project is sponsored and funded by the Town of Hilton Head Island and S.C. Department of Health & Environmental Control; the project engineer is Olsen Associates, Inc., of Jacksonville, FL; and the project contractor is Great Lakes Dredge and Dock Company, LLC, of Oak Brook, IL.

For more information about the 2011-12 Town of Hilton Head Island beach renourishment project, please visit www.hiltonheadislandsc.gov

2011-2012

beach
Renourishment
PROJECT



Sea turtle hatchling courtesy of Coastal Discover Museum

Beach Renourishment Project Location

The beach renourishment project starts
November 2011 and concludes by early Spring 2012.

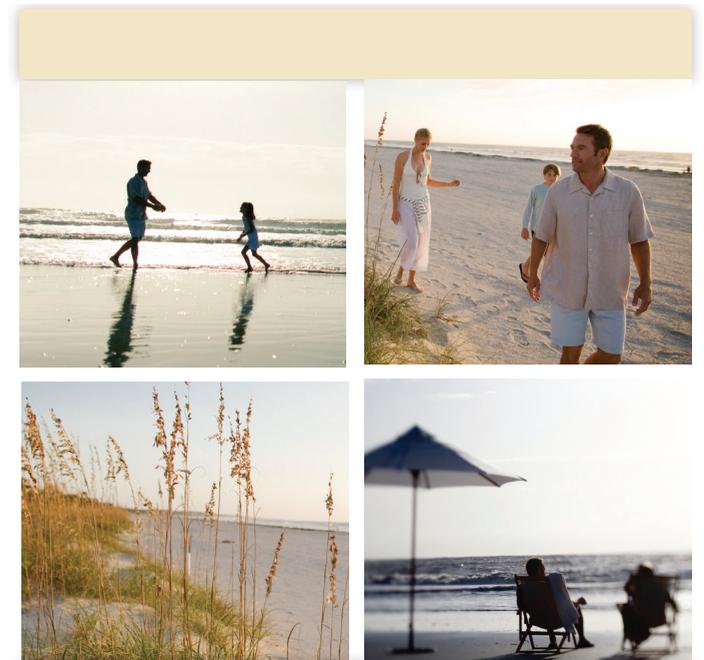


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2011-2012

beach
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Protecting & Sustaining

OUR BEACHES

Hilton Head Island

beach Renourishment Q & A

Why is beach renourishment important?

Beach renourishment is an environmentally sensitive and educational opportunity that benefits both residents and visitors to the Island. A wider beach ensures a protected and sustained natural environment for the endangered sea turtles and sea birds that make their homes or nest on our beaches. A wider beach provides extended storm protection for oceanfront homes, villas and businesses. A wider beach also maintains the recreational berm that allows beach-goers to spread out, play paddle board, ride bikes, fly kites, and bask in the sun.

Why is beach renourishment needed on Hilton Head Island?

Hilton Head Island is the second-largest barrier island on the East Coast. Most beach erosion on Hilton Head is a naturally occurring phenomenon. Geologically, the Island is a “transgressive” relic coastal barrier, which has migrated landward over the last several centuries. Beach sand moves from the center of the Island toward its end. The ultimate fate of this sand is dictated by Port Royal Sound to the north and Calibogue Sound to the south. The daily ebb and flow of water through these two tidal inlets moves sand on and off the adjacent shorelines and continually affects the configuration of the inlets’ tidal shoals.

How often is beach renourishment needed?

A beach renourishment is necessary every seven to ten years, depending on weather conditions and storms passing through the area. Hilton Head Island has completed three large scale beach renourishment projects, in 1990, 1997 and 2007. The 2011-12 beach renourishment project is a smaller scale project and will expand and build up the beach from just north of The Westin Resort to the Beach House in Port Royal Plantation.

What is the beach renourishment process?

- Before the large dredge begins, coastal engineers conducted a sand search to locate a grade of sand that is the same size, color, and texture to match the existing beach. They also studied shoreline conditions to determine where sand placement is needed most.



- A dredge will excavate from one offshore borrow site in Port Royal Sound.
- New sand is pumped through an extensive pipeline, running both under and above water, that dumps the sand from the shoal directly onto the beach.
- Once the sandy-watery mixture is dumped onto shore, the water runs back out into the ocean.
- Bulldozers and other heavy construction machinery construct the elevation and form of the beach with new sand.
- Active site: 1,000-ft. section at any given point. This site will be closed for a time, but temporary beach access ramps will accommodate visitors to the beach. As soon as a section is built up, it is immediately reopened.

What equipment will be used during the process?

The process will employ the use of a dredge and many miles of pipeline through which the sand will be pumped, along with attendant tug boats and barges. The land-based equipment includes numerous bulldozers to shape the new sand, survey equipment, and support vessels to quantify the material that is placed.

How much sand will be moved onto the beaches?

The \$9.8 million dollar project includes two principal parts:
1. Placement of about 1.0 million cubic yards of sand along

Sand is dredged from off shore and pumped onto the beach through miles of pipeline.



protecting And Sustaining OUR BEACHES

- 1.0 miles of Atlantic shorefront—from just north of the Westin Resort to the Beach House in Port Royal Plantation.
2. Construction of a 700 foot long, rubble mound terminal groin at the northeastern end of the project. The groin will be low crested and mostly buried upon completion of the project.

How will beach renourishment affect beach-goers?

Although certain inconveniences are unavoidable, the project will be conducted as quickly and efficiently as possible. Construction will take place 24 hours a day, and the active site will be about 1000 feet along the shoreline. This site will be closed for a time, but temporary beach access ramps will accommodate visitors to the beach. As soon as the section has been built up, the equipment will slide down the beach and the newly renourished section will be immediately accessible. As with previous projects, the nourishment sand will be excavated by hydraulic dredge from offshore shoal features. The dredge picks up small amounts of shell and mud with the sand. For that reason, newly placed sand at first often appears quite dark. Within a few days, however, the sun oxidizes the non-sandy material, and the beach eventually turns as light as it was before the project.

What happens after the beach renourishment project is complete?

Beach Renourishment is an ongoing process. The American Coastal Coalition named Hilton Head Island the *Top Restored Beach* for 2003. The award recognized that the Beach Renourishment on Hilton Head Island “has proven itself over a significant period of time.” There are more than 50 beach-monitoring stations that the Town of Hilton Head Island uses regularly to judge how much sand remains from the most recent Beach Renourishment project, and aerial photos are taken annually to monitor how the coastline changes.

