



Sugarloaf Island shoreline erosion over time



1/1998



3/2019

## Sugarloaf Island Coastal Resiliency Restoration Project



## PROJECT SPOTLIGHT

**Project Location:** Morehead City, NC  
**Name of Owner:** Morehead City NC, NC Coastal Federation, and Sea & Shoreline  
**Construction Date:** 2022-2023

### Scope of work

1. Install offshore wavebreak
2. Install living shoreline
3. Plant seagrass

Wave Attenuation Devices stop wave energy from eroding the shoreline



Sand accretes behind WADs to increase beach

**Project Objectives:** This project seeks to increase the resiliency of Morehead City by protecting nearby Sugarloaf Island from continual erosion with a hybrid approach of utilizing offshore wave attenuation breakwaters, seagrass meadow expansion, and living shorelines.

**Background:** Sugarloaf Island is a vital destination site for many beachgoers and wildlife. Currently, the seaward shoreline of the Island is eroding, leaving uprooted trees and vegetation behind. In addition, wave exposure and swift currents are sweeping nutrient-rich sediment into the water column. The eroded sediments now released into the water are degrading water quality and visitor experiences to the Island.

**Restoration Methods:** Restoration methods for this project include reducing wave energy with an offshore living breakwater, planting seagrass behind the living breakwater, and planting a living shoreline on Sugarloaf Island. The living break water will not impede normal vessel traffic because it will be installed in areas too shallow for vessels to navigate safely at high speeds. The breakwater will also be staggered so that fishers can fish around them or pass through sections of the wave attenuators.

**Expected Results:** Protecting the Island with an offshore wavebreak will mitigate shoreline and coastal habitat erosion, enhance coastal resiliency, create seagrass habitat and increased fishing opportunities, improve water quality, enhance ecotourism by increasing the beach line, sequester carbon, and enhance shorebird nesting.