

The Nature Conservancy

South Carolina Living Shoreline Suitability Application

Coastal South Carolina



A synthesis of coastal energy sources provides a platform offering homeowners guidance for appropriate living shoreline techniques

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The publication of the South Carolina Department of Natural Resources' *Summary of Living Shoreline Research to Inform Regulatory Decision-Making in South Carolina* paralleled the SC Department of Health and Environmental Control's (DHEC) interest in clarifying their regulatory guidance and inspired statewide interest in living shorelines. The Nature Conservancy, as leaders in creating living shorelines in the state, contracted the Biohabitats team with Geosciences and Water Environment Consultants to develop the approach and underlying data layers for an app that allows coastal homeowners to easily access preliminary guidance on suitability for living shorelines and other nature-based solutions. The key data layers developed by the team were Wind Wave Energy, Boat Wake Energy, Maximum Fetch, and Distribution of Natural Habitats.

The Biohabitats team developed an application of the U.S. Geological Survey fetch and wave model to calculate the effective exposure and relative wave energy. Boat wake energy was modeled on 1) the potential density of the wakes, 2) generic operating conditions based on the width of the waterway, and 3) the distance the average wake travels. Specific factors incorporated into the wake analysis included channel locations, ship tracking (such as AIS software), boat launches, and private and public marinas. Finally, sites were considered more suitable if they were located near oyster beds, tidal mudflats, or existing salt marshes.

As SC DHEC progresses towards offering a clarified permitting pathway, this online application will provide a first cut evaluation of living shoreline suitability.