

2022 Living Shoreline Accomplishments

by the North Carolina Living Shoreline Steering Committee

The North Carolina Living Shoreline Steering Committee brings together federal and state agencies, non-governmental organizations and universities to communicate and collaborate on education and outreach, research, and implementation of living shorelines.

Living shorelines are a suite of options for shoreline erosion control that maintain connections between upland, intertidal, and aquatic areas essential for water quality, ecosystem services, and habitat values.

IMPLEMENTATION



A total of **7,129 feet (1.35 miles)** of living shorelines were constructed at 35 different sites using granite rocks, 8,449 bags of recycled oyster shell, 1,676 marl bags, 17,432 QuickReef™ units, 240 ft. of vertical sill, and 747 ft. of OysterCatcher units.

At eleven sites, **21,804 plugs of salt marsh grasses** were planted.

Innovative options for living shoreline construction materials vastly expanded in 2022.

The Committee hosted several companies to present on their materials including:

Atlantic Reefmaker, ECONcrete, Living Shoreline Solutions/Sea & Shoreline, Native Shorelines, Natrx, Ready Reef, Rink2Reef, Sandbar Oyster Company and SoxErosion.

EDUCATION & OUTREACH

N.C. Coastal Reserve hosted "Promoting Living Shorelines for Erosion Control" for 97 real estate professionals.

- Presentations were led by representatives from the N.C. Coastal Reserve, N.C. Coastal Federation, N.C. Division of Coastal Management and New Hanover Soil & Water Conservation District.

Partners were interviewed for living shoreline features on AccuWeather, Carteret County News Times, Public Broadcasting Service (PBS), Port City Daily, Public Radio East, The Talk Station, WCTI, WECT, WITN, WNCT, and WRAL.

Hundreds of students and volunteers were involved in living shoreline plantings and construction events coastwide.

The N.C. Division of Coastal Management published the [2022-2026 Estuarine Shoreline Strategy](#).



POLICY UPDATE

Regulatory advancements from the N.C. Division of Coastal Management included the:

- Future shift to electronic permitting,
- Future extension of the duration of the Coastal Area Management Act General Permit for living shorelines from 120 to 180 days.

RESEARCH

A [collaborative project across the Southeast National Estuarine Research Reserves](#) used drones to monitor wetlands and develop a protocol for living shoreline implementation.

- It includes mission planning, image acquisition, processing, and analysis.
- The work is geared toward using standard RGB imagery with additional application of multispectral sensors. Image processing workflow is detailed for Pix4D and Drone2Map with post-processing analyses conducted within ArcGIS to examine elevation models, ecotone delineation, percent cover, and biomass.



A [National Oceanic and Atmospheric Administration led project](#) determined that Unoccupied Aircraft Systems (UAS) provide a low-cost approach to collecting high-resolution aerial imagery, making them an attractive option for detecting habitat change over time.

- The group used UAS-collected imagery to monitor changes in vegetated coastal wetlands and continue to work toward the production of a standardized protocol for augmenting on-the-ground data collection efforts with UAS imagery.

[A study](#) compared structural metrics on oyster reefs using drones and terrestrial laser scanning. It shows how drone imagery can reproduce 3D reef structure that is as good as or better than terrestrial lidar based products. This helps further validate this technique for broader implementation in coastal habitat monitoring.

N.C. LIVING SHORELINE STEERING COMMITTEE

