



ATLANTIC

## *Marine Debris Characterization in Salt Marsh and Submerged Habitats in Coastal North Carolina*

In North Carolina coastal waters, intertidal salt marshes and subtidal rock ledges, wrecks, and jetties provide important habitat and nursery areas for many commercially and recreationally important fish species. The extent to which these habitats are exposed to marine debris has not been previously characterized, but coastal development and fishing pressures continue to increase.

This project investigates the current spatial and temporal distribution of marine debris, accumulation rates, and environmental impacts in coastal salt marshes and subtidal habitats near Beaufort, NC using surveys, mapping, and collections. Initial results show that debris types reflect human uses. Derelict monofilament from hook and line fishing and anchors and line from boating have been found in many subtidal sites at various depths. Commercial derelict fishing gear (e.g. pound nets and poles, clam nets, crab traps) has been documented at marsh sites near commercial fishing areas, whereas marsh sites near residential areas have shown larger amounts of wood used in construction (e.g. docks, boardwalks), plastic and other debris reflective of recreational use.

Manipulative experiments to determine the effects of debris upon salt marsh communities are in progress. In addition, the perceptions of both recreational users of the Rachel Carson National Estuarine Research Reserve and of commercial fishermen regarding marine debris causes, environmental impacts, and suggestions for methods for reduction will be surveyed using specifically designed social science surveys.



Using GPS to establish the area of salt marsh impacted by derelict fishing gear. Photo courtesy of S. Viehman.

### WHAT IS MARINE DEBRIS?

*Marine debris is any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes.*

### MARINE DEBRIS SOURCES

*Sources of marine debris include land-based sources, such as littering, dumping, and industrial losses. Ocean-based debris can come from fishing vessels, cargo ships, stationary platforms, and other vessels.*

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## MANDATES

Mandates supporting NOAA's marine debris efforts include the following:

- Marine Debris Research, Prevention, and Reduction Act of 2006, 33 U.S.C. §§ 1951 et seq.
- U.S. Ocean Action Plan
- Coral Reef Conservation Act
- Marine Plastic Pollution Research and Control Act, 33 U.S.C. §§ 1901 et seq.
- Marine Protection, Research, and Sanctuaries Act, (Title II) 33 U.S.C. §§ 1401 et seq.
- Clean Water Act, 33 U.S.C. §§ 1251 et seq.

## CURRENT PARTNERS

- Rachel Carson National Estuarine Research Reserve
- NOAA Coastal Services Center
- Washington College
- University of Northern British Columbia

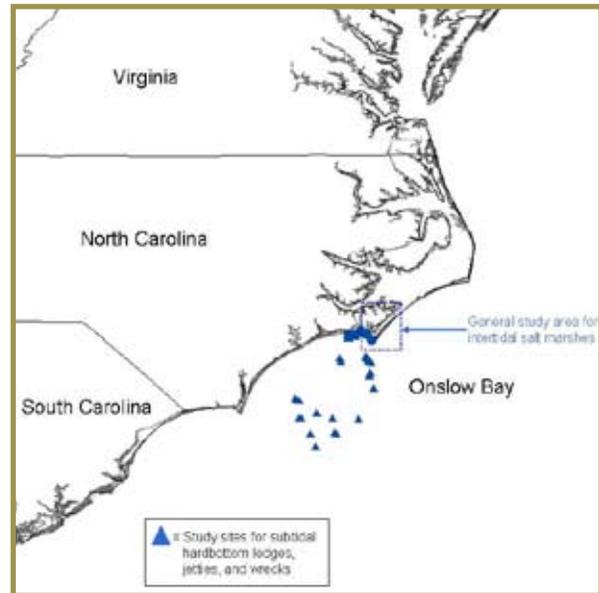
## BENEFITS OF THE PROJECT

- Assessment of marine debris spatial and temporal distribution, accumulation, and impacts to coastal salt marshes and to subtidal hardbottom, ledges, jetties, and wrecks of North Carolina
- Contribute data to assist in current and future management decisions in marshes and subtidal habitats
- Increased public awareness of marine debris

## CONTACTS

Shay Viehman  
NOAA, National Ocean Service, National Centers for  
Coastal Ocean Science  
Center for Coastal Fisheries and Habitat Research  
(252) 728-8744  
Shay.Viehman@noaa.gov

Paula Whitfield  
NOAA, National Ocean Service, National Centers for  
Coastal Ocean Science  
Center for Coastal Fisheries and Habitat Research  
(252) 728-8714  
Paula.Whitfield@noaa.gov



Map of subtidal and salt marsh survey sites in coastal North Carolina.



Removing derelict line from an underwater site. Photo courtesy of B. Harrison.

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