

Marine Debris

ATLANTIC

Debris Accumulation, Removal and Impact Assessment (DARIA)

Home to the largest shallow lagoonal estuary in the United States, North Carolina coastal waters contain Primary Nursery Areas as well as hard bottom habitats that are important for many commercially valuable species. These coastal areas and inshore waters of North Carolina are being exposed to increasingly high levels of marine debris. Derelict monofilament line is a cause for concern as the number of recreational fishers continues to increase in North Carolina's prolific waters. Derelict line has been reported to cause tissue abrasion and death to many sessile invertebrates, that are a critical component to Essential Fish Habitat (EFH). In addition to monofilament line, other forms of marine debris that may impact EFH include plastics, styrofoam, metal, derelict traps/pots, and woody debris. These debris types have been observed to accumulate readily in salt marshes where they are trapped by the plants.



Staff at CCFHR remove debris at a salt marsh located near the Center for Coastal Fisheries and Habitat Research (CCFHR) campus. *Photo courtesy of Shay Viehman, NOAA/CCFHR.*

In this study we will implement a Debris Accumulation, Removal, and Impact Assessment (DARIA) to investigate current debris status, accumulation rates and environmental impacts in subtidal and intertidal habitats in North Carolina. This comprehensive approach will provide baseline information and methods needed for a formal underwater marine debris removal program in North Carolina, as well as providing scientifically determined accumulation rates and environmental impacts of debris in critical marsh and nearshore habitats.

WHAT IS MARINE DEBRIS?

Marine debris is any manufactured or man-made solid material that enters the coastal or marine environment. It may enter directly when it is lost or dumped from a ship, or indirectly when debris washes out to sea via rivers, streams, and storm drains.

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, S.362
- 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.

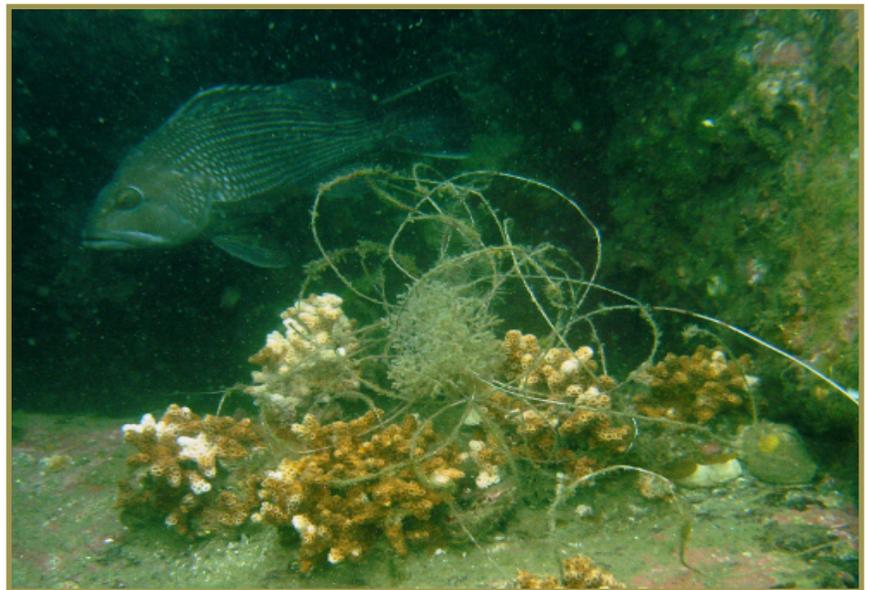
BENEFITS OF THE PROJECT

- Characterize and assess the magnitude, extent, accumulation rates, and environmental impacts of debris in various nearshore habitats.
- Reduce marine debris, including monofilament, plastics, and derelict fishing gear in coastal waters and landfills by establishing a model protocol for debris removal.
- Lessen impact of marine debris to critical habitat and commercially valuable species.
- Provide opportunity for NOAA to exemplify to state agencies its commitment to reduce threats and protect coastal resources.

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Monofilament fishing line is often found entangling marine sessile invertebrates such as the hard coral, *Oculina diffusa*. Black sea bass (pictured here) and other fish species appear to be attracted to lures that remain attached to the line. *Photo courtesy of Amy Uhrin, NOAA/CCFHR.*

This project is funded through NOAA's National Ocean Service, Office of Response & Restoration, Marine Debris Program. The NOAA Marine Debris Program works with other NOAA offices, as well as other federal, state, and local agencies and private sector partners to support national, state, local and international efforts to protect and conserve our nation's natural resources, oceans, and coastal waterways from the impacts of marine debris.