



Maintaining Debris Free Waterways

An overview of docks and piers recommendations, and an update on ADV removal efforts and program recommendations



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North Carolina
Coastal Federation
Working Together for a Healthy Coast

North Carolina Coastal Federation

Non-profit 501(c)(3) Organization

- Created in 1982
- Three regional offices
- 36 staff and 30 board members
- Protect and restore the coast

Goals

- Healthy **Water Quality**
- Promote **Living Shorelines**
- Restore **Oyster Habitat**
- Advocate for Responsible **Coastal Management**
- Reduce **Marine Debris**





North Carolina Marine Debris Action Plan 2020 - 2025

5 Goals

- Leadership
- Prevention
- Removal
- Prevent and Remove ADVs
- Research and Assessment

Since its establishment in 2020 approximately 76 % of actions outlined within the 5-year plan have been accomplished.

www.nccoast.org/project/north-carolina-marine-debris-strategy/



Threats Posed By Abandoned and Derelict Vessels (ADV's)

- Environmental
 - Hazardous materials
 - Critical Habitats
 - Entanglement
 - Debris
- Public safety and health
 - Navigation
 - Injury
 - Contamination
- Economic
 - Removal costs-public funding
 - Tourism
 - Recreation



ADV Authority

S.L. 1981, Chapter 710, S.B. 660: Town of Beaufort

S.L. 2019-108, S.B. 215: Town of Manteo

G.S. 2013, 153A-132: Local governments may adopt ordinances to manage and remove vessels, amended in G.S. 2015, 53A-153(i) to include all 20 coastal counties - Dare and Brunswick, Currituck, Hyde, City of Jacksonville, Wrightsville Beach, Carolina Beach

S. L. 2019-224 and 2020-74: NCWRC receives emergency authority and funding from the N.C. General Assembly to contact owners and remove vessels

S. L. 2023-27: Authority for cities and towns to develop and adopt ordinances to remove and dispose of abandoned vessels – Town of Surf City, Morehead City, Carteret, New Hanover, Pender



Hurricane Florence

Hundreds of Derelict Boats in Storm's Wake
11/14/2018 by Jennifer Allen



FEMA Emergency Support Function No. 10 (ESF-10) Oil and Hazardous Materials Response

- Unified Command (USCG, NCWRC, NCDEQ-DCM)
- Found and assessed 383 vessels for hazardous materials response
- Does not provide for wreck removal or vessel disposal



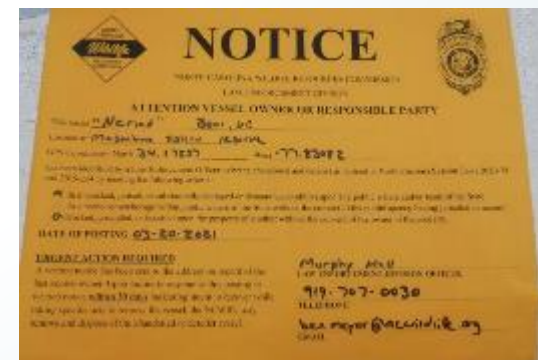
ESF-3: Public Works and Critical Transportation

- Provides support and resources for removal and clean up
- *North Carolina not eligible due to lack of existing permanent, coastwide ADV program*



ADV Removal Process

- **Original Database-** USCG Hurricane Florence
 - Collaboration between NCWRC, DCM, NCCF
 - Prioritization, funding criteria, public trust
 - Public ADV reporting- NCWRC website
- **Current Database – WRC**
 - Limited access, keeping it updated
- **Authority**
 - **NCWRC:** investigation, owner notification, waiting period, legal review (60-120 days)
 - Stickers, Certified Letter
 - **Local jurisdictions and vessel ordinances**
- **Removal and Disposal**
 - Coordination with regulatory agencies
 - DCM Guidance
 - Federal funding = NEPA
 - DCM and NOAA's Best Management Practices
 - Landfill cooperation



ADV Removal Partners



Local Governments

- Brunswick County
- New Hanover County
- Pender County
- Carteret County
- Dare County
- Hyde County
- Town of Beaufort
- City of Jacksonville
- Town of Surf City
- Morehead City
- Carolina Beach
- Wrightsville Beach



ADV Removals



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ADV Disposal

- Dependent on ADV condition, contractor, project timing/deadline
- Metal can be recycled, takes time, build into contract
- Landfill restrictions, fees
- Need lay down yard/break down sites
- Follow BMPs at haul out and demo sites



Abandoned and Derelict Vessel Removal Progress

ADVs Removed since 2021:

- NC WRC - ~ 200
- NCCF - 140 ADVs (34 in 2024)
- DCM - 2 ADVs
- Local Governments - ~40

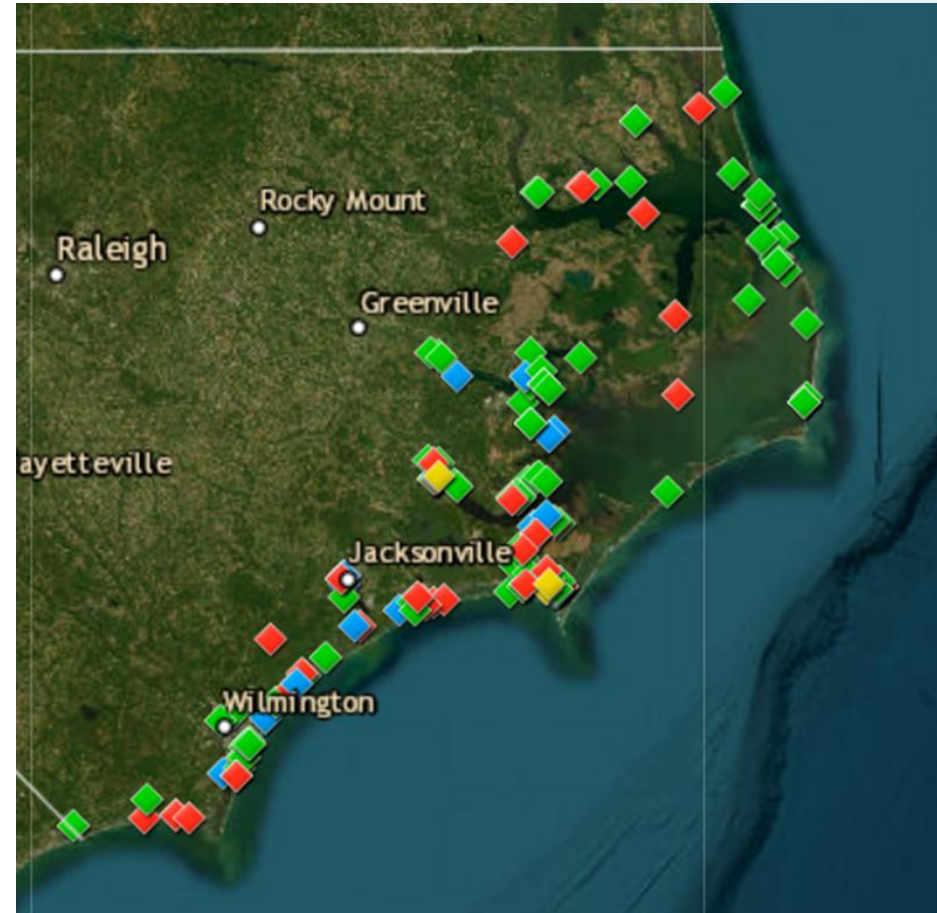
TOTAL – ~ 381 ADVs Removed

Vessel Removal Info:

- ~600 tons or 1.2 million lbs.
- Range in weight from 450 lbs. to 145,000 lbs.
- Removal/disposal costs range from \$4,000 - \$120,000
- NCCF \$2.2m in direct removal and disposal costs



WRC Mitigation of Abandoned and Derelict Vessels



<https://www.ncwildlife.org/Boating/Abandoned-and-Derelict-Vessel-Program>

Challenges and Lessons Learned

- Length of time from assessment to removal, no discretionary authority for agencies
- Finding owners, transfers, no bill of sale
- Vessel “dumping” – owners and/or marinas
- Limited resources for enforcement, penalties, removal cost recovery
- Moving vessels between jurisdictions to avoid penalties and/or enforcement
- Shared, accessible vessel database
- Coordination with multiple local governments, agencies, military
- Dedicated ADV mooring or storage areas; regional haul out and demo yards



Permanent ADV Program Recommendations

2019 NCWRC Study and ADV Workgroup

Legislative:

- Support NCWRC to maintain permanent state level ADV program including public-private partnership
- Provide liability protections for agencies
- Revise legal definitions and update G.S. to provide agencies more flexibility, coordination and efficiency

Funding:

- Request recurring funding from NCGA
 - Administration and integrated data base
 - Removals through public-private partnership
- Ensure eligibility for FEMA ESF-3 support and resources



Permanent ADV Program Recommendations

2019 NCWRC Study and ADV Workgroup

Programmatic:

- Integrate federal, state, local programs - mutual support, efficiency, coordination and cooperation
- Maintain data base accessible to federal, state, local and accredited entities
- Establish land/water based regional ADV mooring/storage areas
- Support a proactive and storm ready program



Prevention:

- Insurance requirements
- Vessel transfer, bill of sale requirement
- Update registration requirements and fees
- Voluntary Vessel Turn In Program (VTIP)
- Fines, penalties, restitution
- Outreach and education



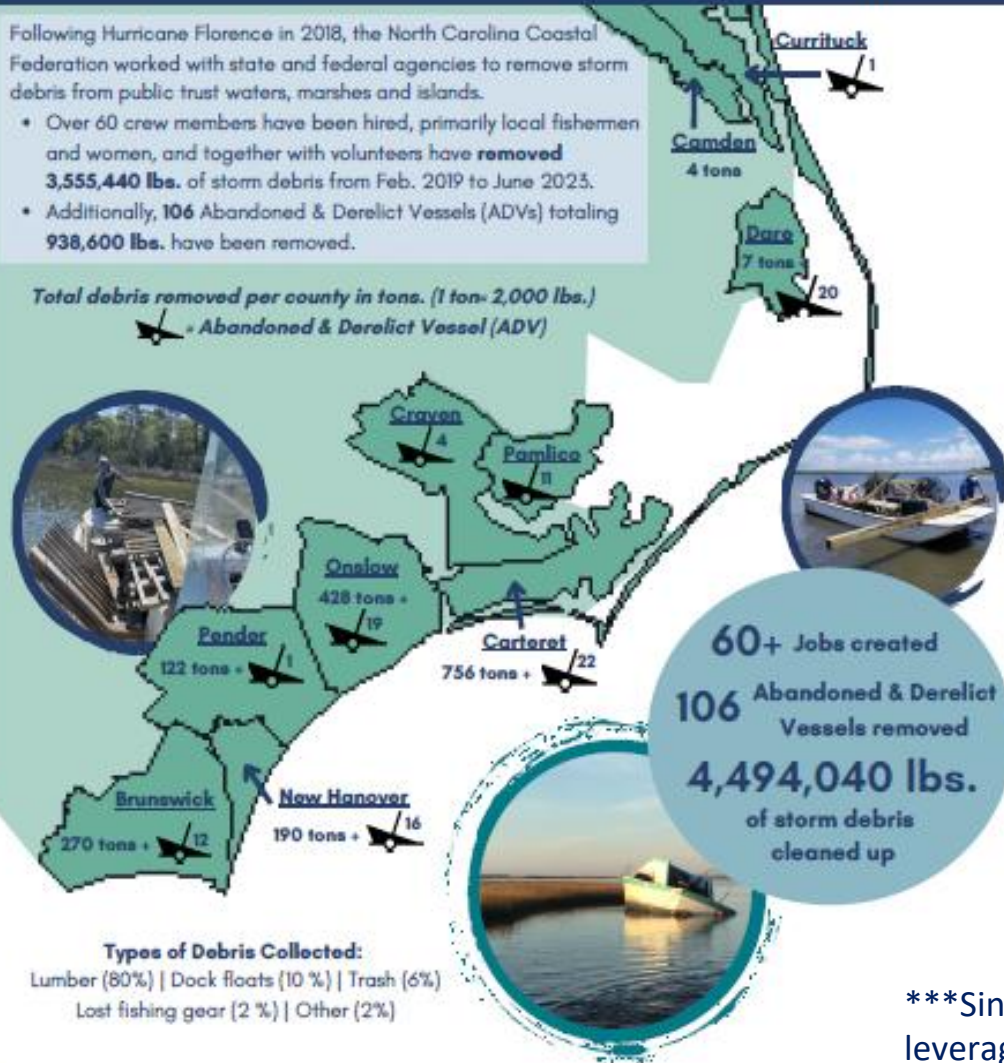
Large Scale Marine Debris Removal

Hurricane Marine Debris Cleanup

Following Hurricane Florence in 2018, the North Carolina Coastal Federation worked with state and federal agencies to remove storm debris from public trust waters, marshes and islands.

- Over 60 crew members have been hired, primarily local fishermen and women, and together with volunteers have **removed 3,555,440 lbs.** of storm debris from Feb. 2019 to June 2023.
- Additionally, **106 Abandoned & Derelict Vessels (ADVs)** totaling **938,600 lbs.** have been removed.

Total debris removed per county in tons. (1 ton= 2,000 lbs.)
 * Abandoned & Derelict Vessel (ADV)



Types of Debris Collected:
 Lumber (80%) | Dock floats (10%) | Trash (6%)
 Lost fishing gear (2%) | Other (2%)



Current NOAA IRA-BIL Grant

- (5) Crews working
- 250 tons/ 500,000 lbs. since February 2024
- 85-90% of debris from docks
- Moving up rivers
- Working with underserved communities

***Since 2019, \$3.8 million N.C. General Assembly support leveraged additional \$8 million in federal grant funds

***NCCF: 90% of funding passed through to contractors

Resilient Docks and Piers



NOAA Florence Imagery



Area	Estimated Total Docks	Visibly Damaged Docks	Percentage Damaged
Harkers Island	143	103	72%
Taylor's Creek, Beaufort	159	37	23%
Bogue Sound (Mainland, AB bridge to EI bridge)	417	290	70%
Bogue Sound (Island, AB bridge to EI bridge)	638	440	69%
Cedar Point (EI bridge to twin bridges)	100	56	56%
Swansboro (twin bridges to Hammocks Beach State Park)	96	60	63%
New River, Sneads Ferry, Chadwick Bay	192	110	57%
Topsail Island (New River Inlet to Topsail Inlet)	608	205	34%
Corcus Ferry Road to Figure 8 Bridge	225	109	48%
Figure 8 Bridge to Masonboro Inlet (Wrightsville Beach)	600	260	43%
Masonboro Inlet to Snows Cut	320	175	55%
Snows Cut to Carolina Beach	338	158	47%

Field Crew Observations



- Debris is persistent, making progress since Florence, but cleaned areas consistently repopulated with additional/new debris
- Great number of dilapidated piers and docks remain, continually releasing additional debris into estuarine waters
- Marine construction treated wood “cut-offs” (old/new) pervasive
- Floating dock polystyrene/building siding Styrofoam pervasive and difficult to recover

Unencapsulated Polystyrene





ORDINANCE NO. 2022-002

AN ORDINANCE OF THE TOWN BOARD OF COMMISSIONERS OF THE TOWN OF TOPSAIL BEACH, NORTH CAROLINA, AMENDING THE TOWN CODE OF ORDINANCES, CHAPTER 6, BUILDINGS AND BUILDING REGULATIONS, ARTICLE III PIERS AND DOCKS, DEFINITIONS AND SECTIONS 98 AND 100, TO PROHIBIT UNENCAPSULATED POLYSTYRENE DOCKS.

WHEREAS, during a coastal debris cleanup sponsored by the Coastal Federation, large quantities of Polystyrene were found in all areas of our waters and marshlands along our coast. Polystyrene is a petroleum product, commonly known as Styrofoam. It is often used in dock floats because of its buoyancy; and

WHEREAS, polystyrene is neither readily recyclable nor biodegradable and takes hundreds of years to degrade in the environment. When exposed to the elements, it fragments into unsightly, small, nonbiodegradable pieces that may be ingested by marine life, wild and domestic water birds and other wildlife blocking the digestive system and killing them through starvation; and

WHEREAS, the deterioration of larger polystyrene floats into beads and smaller pieces create a pollution line along shorelines, intertidal land and other places where buoyant debris collects. Such pollution must be picked up and removed at the expense of the public and private citizens.

WHEREAS, to prevent such degradation, pollution and hazard to water dependent mammals and birds, polystyrene floats should be encapsulated in a hard polyethylene shell, which prevents the deterioration and spread of beads and smaller sections of polystyrene floats.

NOW, THEREFORE, BE IT ORDAINED by the Topsail Beach Town Board of Commissioners that Chapter 6 of the Land Development Code, Article III – Piers and Docks, Definitions and Section 98 and 100 is hereby amended subsequent to read as follows:

1. Section 16-33. Definitions. *(by adding the following definitions to be inserted according to alphabetical order)*

Polystyrene is a thermoplastic polymer or copolymer comprised of at least 80 percent styrene or para-methyl styrene by weight. (Commonly known as Styrofoam)

Unencapsulated polystyrene means polystyrene that is not completely encased within a polyethylene shell or within other comparable materials that protects against cracking, peeling, sloughing, and deterioration from ultraviolet exposure and physical trauma.

Hold the foam? Topsail Island looking at ordinance to prohibit foam docks



Chase Jordan

Wilmington StarNews

Published 6:00 a.m. ET March 18, 2022 | Updated 11:09 a.m. ET March 21, 2022

[View Comments](#)



Topsail Beach was the **first town in NC** to adopt an ordinance regulating polystyrene in floating docks



Marine Debris Program

OFFICE OF RESPONSE AND RESTORATION

Re: Moore Budget - kerria x North Carolina Coastal Fed x My Drive - Google Drive x Weekly notes - Google Doc x Mail - Kerri Allen - Outlook x Marine Debris | North Caroli x

https://www.nccoast.org/protect-the-coast/marine-debris/

CRO ShareFile Clicktime NC NC Stream Watch NC Rec WQ NC DCM Staff Code Violation OIB TG NC Managed Areas | N...



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Help protect our coast from microplastics

Resources

- N.C. Marine Debris Strategic Plan
- N.C. Marine Debris Action Plan
- N.C. Marine Debris Assessment
- K12 Marine Debris Educator Resources
- NPR: Earthwise Podcast on Microplastics
- An Assessment Report on Microplastics
- Microplastics Fact Sheet for Consumers
- North Carolina Marine Debris Emergency Response Guide
- NRCS Marine Debris Removal Results 2021
- Recommendations for Improved Marine Construction



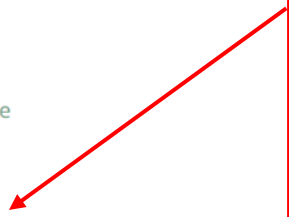

North Carolina Coastal Federation NOAA Marine Debris Program

Award Number NA19NOS9990033


Recommendations for Improved Marine Construction to reduce damage, losses, and marine debris resulting from storms in North Carolina


Project Title: North Carolina Hurricane Florence Marine Debris Clean-up
 Project Period: September 1, 2019 – August 31, 2021
 Publication Authors: Kerri Allen, Ana Zivanovic-Nenadovic, Tracy Skrabal, Ted Wilgis, Kelsey Albert
 Publication Date: September 1, 2021

North Carolina Coastal Federation, a 501(c)(3) non-profit organization, founded in 1982, that engages the community in protecting and restoring the health and productivity of the N.C. coast.



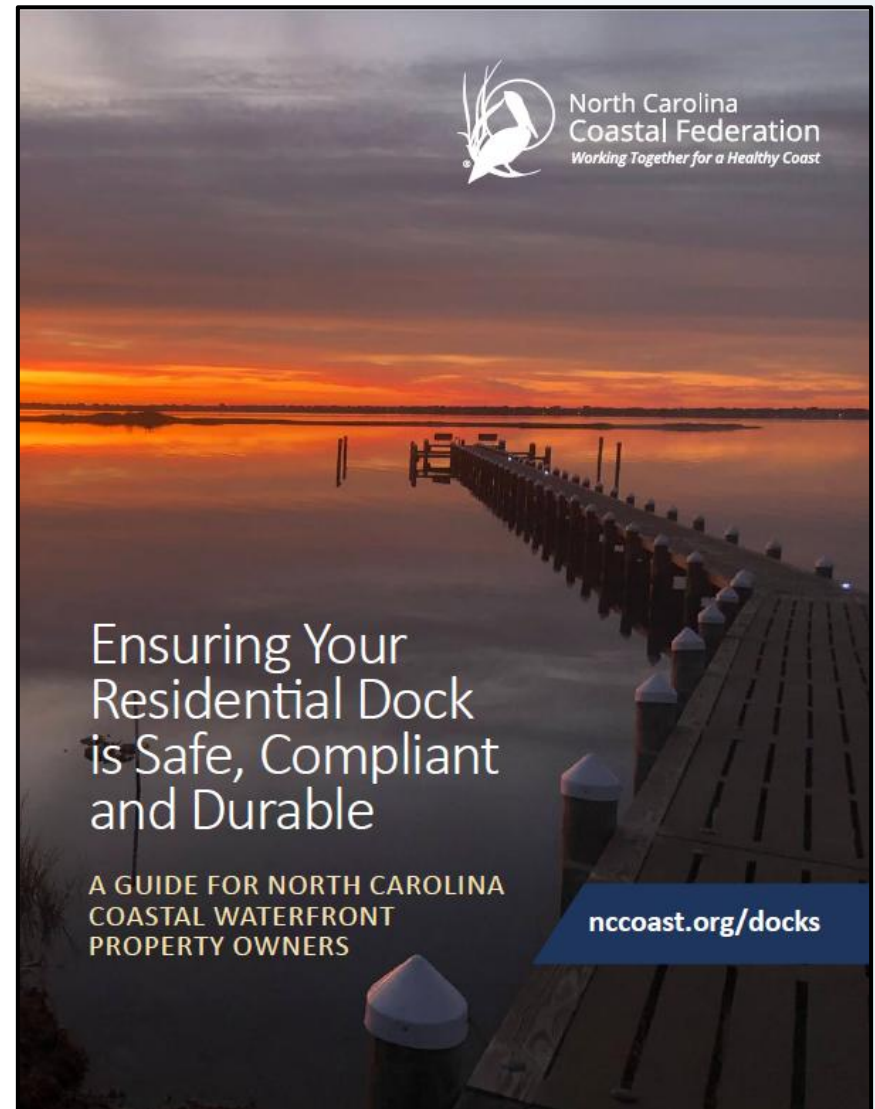
What's New

 Review of a Great Year
December 28, 2021

 1 Million Pounds of Marine Debris
Removed from NC Coast

A Coastwide Effort

- Technical recommendations
- Helping property owners choose a contractor
- Pre-hurricane preparedness
- Coastwide public education campaign
 - Local gov't toolkit
 - Cost benefit analysis
 - Guidebook
 - Video testimonials
 - Social media posts





North Carolina Coastal Federation

Working Together for a Healthy Coast

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