

Marine Debris Cleanup Program
July 2018 – December 9, 2019
North Carolina General Assembly

Final Report: December 9, 2019
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3609 Highway 24
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DEQ Grant ID: 7760



Award Date: October 15, 2018

Federal ID #: 58-1494098

Award Amount: \$400,000.00

Contract Period: December 1, 2018 – December 31, 2019

Executive Summary

The North Carolina General Assembly allocated \$400,000 to N.C. Division of Marine Fisheries (DMF) to partner with the North Carolina Coastal Federation to clean up marine debris after Hurricane Florence. To date, the federation has used \$400,000 of these funds for marine debris cleanup efforts. Third party contractors have removed over 173 tons of debris collected in the estuaries of Carteret and Onslow counties, including from state park property and other publicly owned shorelines and islands.

The federation is also partnering with the N.C. Division of Coastal Management (DCM) to help the state secure approximately \$1 million dollars in additional federal assistance to expand the cleanup effort, and to remove many abandoned boats in coastal waters. Part of this current award, as well as an additional state appropriation of \$250,000 to DCM will be used as required state match for the federal funds. The federation and DMF have received preliminary indication that the federal funding will be awarded to NC; final notification is expected this year. A formal Damage Assessment Report completed by NRCS pinpoints the locations of significant debris and abandoned boats in the coastal region from Hyde County to Wilmington as part of this expanded effort.

The National Oceanographic Atmospheric Administration (NOAA) Marine Debris Program awarded the federation \$250,000 for 2019-2020. The funding will: 1) support the extension of the ongoing debris removal in the southeast region to include Pender, New Hanover and Brunswick Counties; 2) provide a guidance document/case study on large-scale marine debris removal (for distribution by NOAA for other regions); 3) support the development of recommendations for statewide standards/model local ordinances for more storm resilient marine construction; increase education/outreach on marine debris in the estuarine environment.

Purpose of Award

The North Carolina General Assembly approved funding of \$400,000 to remove marine debris from North Carolina coastal waters and public trust properties. The funds are to be used by the North Carolina Coastal Federation to contract with third parties to collect, transport and properly dispose of the debris.

Work Completed to Date

The North Carolina Coastal Federation has completed the following tasks:

(1) Project team meetings: The federation organized or participated in a series of project team meetings to plan implementation of the marine debris project. These meetings included participation from representatives of the N.C. Division of Coastal Management (Braxton Davis, Director and Paula Gillikin of the Division's National Estuarine Research Reserve) along with federation executive director Todd Miller and federation staff assigned to implement the project.

Seven project team meetings have been held to date. Two were held in December 2018, two in January 2019, two in February, and one in July. Topics included:

(1) Documenting the types and locations of marine debris that needs to be collected; (2) Securing additional federal and state funds to increase collection efforts; (3) Logistical discussions regarding how to use third party contractors for the identification, collection, transport, disposal and tracking of marine debris; and (4) Identification of third party contractors and their capabilities in order to determine how best to secure their services for the project.

(2) Marine Debris Site Inventory: Federation staff worked with community partners including local, state and federal government representatives, Hammocks Beach State Park, local boat captains and state agencies to conduct a preliminary site assessment of the locations of concentrations of marine debris in public trust areas of the coast impacted by Hurricane Florence. Federation staff and volunteers surveyed estuarine islands by boat and through marsh walks to locate and photograph marine debris that needs to be collected. Boat surveys in Bogue Sound, Bogue Inlet, White Oak River, Bear Creek, and Hammocks Beach State Park were conducted in December and January. One of these surveys included three potential contractors that identified substantial amounts of marine debris including treated lumber, abandoned and derelict vessels, remnants of docks, piers and pilings and multiple other storm debris. With additional financial assistance from the Natural Resources Conservation Service, a more formal Damage Assessment Survey is still being completed that covers a geographic area from Hyde County to Wilmington. This survey will help to focus the use of additional federal and state funds as well as the current cleanup.

(3) Leveraging State Funds for Additional Federal Funding: The federation is working with the N.C. Division of Coastal Management to secure up to \$1 million in additional federal funding from the Emergency Watershed Program run by the Natural Resources Conservation Service (NRCS) to expand the marine debris removal efforts described in this document. This additional federal funding will be matched with a portion of the funding from this project as well as an additional \$250,000 appropriated by the N.C. General Assembly to the Division. If approved by NRCS, this additional funding will allow the federation and Division to include much of the entire coast of N.C. in their cleanup efforts and to remove many abandoned vessels. The request for this additional federal funding has received preliminary approval from NRCS.

(4) Cleanup: The federation has executed contracts with third party contractors to collect marine debris. The clean-up process consists of three phases. Phase I is the collection of smaller debris that consists of plastic bottles, Styrofoam pieces, aluminum cans, food containers and an assortment of consumer and household debris. Phase II clean-up efforts focus on the heavier wooden debris such as dock, pilings, decking and pressure treated wood that requires heavy equipment for removal. Phase III will focus on abandoned and derelict vessels.

Phase I

In the Coastal Federation's central region, contractors removed smaller and lighter debris items that mechanical equipment can't remove. Using hand labor, the debris is bagged and removed to landfills in rented dumpsters. These contractors are commercial fishers and other local residents hired at a daily rate. The standard cleanup crew for this part of the project includes a lead contractor who provides transportation and boats, a crew foreman, and five additional watermen for the work crew. This work crew started February 11 and finished April 12 and mainly focused on publicly-owned dredge spoil islands. The crew collected 12.6 tons (25,100 pounds) of marine debris. The crew also removed debris from the 1.3-mile shoreline of Huggins Island, which is part of Hammocks Beach State Park. Using hand labor, the debris is bagged and taken to a 40-yard dumpster. The federation coordinated the placement of the dumpster with Waste Removal LLC at a local marina in Swansboro. The work crew fills the dumpster at the end of each work day and calls for the debris to be carried to the landfill once full.

In the Coastal Federation's South East region, a 4-person crew started April 30. The crew began clean-up efforts in the lower New River, and they covered 22 miles of shoreline including islands, embayments and creeks to Topsail Sound. This included the preliminary clean-up of the shoreline (3 miles) of the Permuda Island Coastal Reserve. The majority of the clean-up occurred in Onslow County, with some occurring in Pender County. The crew wrapped up its debris collection in late August. At that point the crew had collected 75 tons of debris. Approximately 3-5 tons of this debris was removed from within the Permuda Island Coastal Reserve. The crew collected all the debris by hand, and they used a 24' Carolina Skiff to haul the debris to stockpile and collection sites. Debris stockpile and dumpster sites were located at the Swan Point Marina in Sneads Ferry, the NCWRC West Onslow Beach boat ramp and access area on Topsail Island, and the Morris Landing Clean Water Preserve in Holly Ridge. The following entities contributed a significant amount of in-kind support for the project:

- Swan Point Marina in Sneads Ferry donated the use of their property to host dumpsters and helped to load some of the larger debris with their tractor.
- Onslow County Solid Waste Services donated the hauling and use of two dumpsters for over 10 weeks, which saved the project several thousand dollars.
- The Town of Holly Ridge donated staff time and equipment to help load some of the larger debris into the dumpsters at Morris Landing.
- The NCWRC provided a Special Use Permit to stage dumpsters at the Hwy 210 boat access in N. Topsail

Phase II

A local marine contractor used barges, dumpsters, excavator and other equipment to pick up and remove the larger and much heavier marine debris. This contractor focused on navigational hazards in waterways, chemically-treated wood debris on publicly-owned islands and shorelines as well as several abandoned boats. This phase of the cleanup began April 15 and finished June 13. The crew removed 112.7 tons (225,360 pounds) of wooden dock debris, pilings, railings, benches, and 3 abandoned vessels from Hurricane Florence. The crew

consisted of an excavator operator, barge operator, and 4-9 person ground crew depending on site. The crew covered 21 miles along the Atlantic Intracoastal Waterway from marker 34-55 including Huggin's Island, which is part of Hammocks Beach State Park.

The federation has also been working with volunteers to educate about the project and involve them in the cleanup process. Since early February, the federation has organized seven volunteer groups to remove 3,855 pounds of debris. Volunteers work for approximately 2 hours at each site.

- On February 9, a group of seven volunteers from the Leadership Carteret class of the Carteret County Chamber of Commerce, a group of business professionals, removed 380 pounds of marine debris off a dredge spoil island directly across from the Cedar Point Wildlife Boat Ramp.
- On February 12, seven community volunteers participated in a shoreline cleanup at the Hoop Pole Creek Nature Preserve in Atlantic Beach. They collected 940 pounds of debris during this event.
- On March 4, nine East Carolina University students participated in a shoreline cleanup at the Hoop Pole Creek Nature Preserve, as part of their alternative spring break program. The students removed 385 pounds of marine debris from the site.
- On April 12, twenty volunteers participated in a shoreline cleanup at Ward's Creek. They collected 1,400 pounds of debris during the event.
- On May 14, after a living shoreline planting event in Morehead City, 17 volunteers collected 300 pounds of debris from the shoreline.
- On June 12, 16 volunteers participated in a shoreline cleanup on Jones Island. They collected 280 pounds of debris during the event.
- On September 17, 10 volunteers helped to clean up Rachel Carson Reserve. The team picked up 170lbs of handheld debris, and stock piled wooden debris for the Reserve to pick up at a later date.
- On October 23, 39 volunteers conducted a small scale marine debris collection effort in conjunction with a living shoreline monitoring event along the lower Cape Fear River at Carolina Beach State Park.
- On November 8, 25 volunteers conducted a marine debris clean-up at Morris Landing on Stump Sound.

The total amount of marine debris removed as of October 15 by both the work crew and volunteers is 200.3 tons. The total funds spent on this project is \$400,000.

Observations from Field Crews

A component of the hurricane marine debris recovery project is to gather information and observations from the field to support the development of recommendations for reduction of debris from future storms. Below are some of the initial observation from the members of the field crews:

- Encountered a very significant amount of debris, hidden in marsh, most from Florence, but there also several debris layers from past storms
- High number of lost, heavily damaged and abandoned crab pots in the marsh
- Marine construction treated wood "cut-offs" (old/new) from waterfront (pier, docks, bulkheads, etc...) pervasive and significant issue
- Floating dock and house siding Styrofoam pervasive and difficult to recover

Future Planned Activities

Upon final approval of the NRCS federal funding, the federation and Division of Coastal Management will begin Phase III contracting process to remove vessels and other marine debris that has been found in the public trust areas and waters between Hyde County and Brunswick County.

Project and cleanup activities for the NOAA Marine Debris recovery project are in mobilization mode, and will be in operational mode in November.

Publicity for Project

This project has been featured by media sources, including local, regional and state media outlets which include the following stories:

- <https://www.coastalreview.org/2019/02/marine-debris-cleanup-underway/>
- <https://www.coastalreview.org/2019/02/watermen-continue-marine-debris-cleanup/>
- http://www.carolinacoastonline.com/tideland_news/news/article_8ee72a9c-3a9d-11e9-9eef-63c15f64ee9b.html
- <https://www.wral.com/after-hurricane-florence-fishermen-reel-in-a-lot-of-debris/18244356/>
- <https://www.wwaytv3.com/2019/03/10/captain-finds-message-in-a-bottle-that-has-ties-to-the-brunswick-beaches/>
- <http://goldsborodailynews.com/blog/2019/03/08/messages-in-a-bottle-written-by-goldsboro-mother-daughter/>
- https://wcti12.com/news/local/coastal-waterways-still-recovering-after-damage-from-hurricane-florence?fbclid=IwAR00L6L6SnchlXH17jnuNQe5_znyEQTHUfJmKZXPxkU1bgWc1yfXcKdY
- <https://www.nccoast.org/project/hurricane-florence-debris-cleanup/>
- On October 9, 2019 the North Carolina Coastal Federation presented an update on the marine debris recovery project to the Coastal Resources Commission during its meeting in Wilmington, NC.
<https://www.coastalreview.org/2019/10/cleanups-net-more-than-200-tons-of-debris/>
<https://www.starnewsonline.com/news/20191029/coastal-federation-tackles-growing-marine-debris-problemshttps://www.starnewsonline.com/photogallery/NC/20191029/NEWS/102909992/PH/1>