

North Carolina Coastal Federation

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Project Title: Lost Fishing Gear Recovery Project North Carolina Waters

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Report Submitted:
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Lost Fishing Gear Recovery Project January 2025/March 2025

Summary – Lost and derelict fishing gear represent one subset of marine debris that can result in degraded habitat, unwanted capture of living marine species, hazards to safety and navigation and reduced aesthetics. The partnerships between the N.C. Coastal Federation, N.C. Marine Patrol and Division of Marine Fisheries and commercial watermen and women have resulted in eleven years of successful Lost Fishing Gear Recovery Projects along the coast. This project intended to improve habitat and water quality, as well as support coastal economies by providing work during a closed fishing period and salvaging useable fishing gear. Participants were selected by the N.C. Coastal Federation following specific criteria to locate and recover lost crab pots along North Carolina’s internal coastal fishing waters on the northeast, central, and southeast coasts. Recovery took place north of the Highway 58 Bridge to Emerald Isle to the Virginia state line January 1-31 and south of the Highway 58 Bridge to the South Carolina line March 1-15. In conjunction with the on-water cleanup efforts, the Coastal Federation organized eight volunteer shoreline cleanups to increase awareness of the project and its partnerships. Data was collected for each recovered pot, including its retrieval location and bycatch released, and the number of volunteer participants and the weight of the collected gear was measured from the shoreline cleanups. The data has been analyzed and shared, including through GIS maps that show the location of pots collected statewide. Results show that a full-scale, statewide program is operationally achievable, as well as of value in improving condition of coastal fisheries and habitat.

Background

Lost, derelict and abandoned fishing gear represent one subset of marine debris that can result in degraded habitat, unwanted capture of living marine species, hazards to safety and navigation, and reduced aesthetics. Lost fishing gear as used in this report includes crab pots, eel pots, lines, buoys and other recreational or commercial harvest equipment that has been lost or abandoned in internal coastal waterways. The focus of this project is on removal of lost crab pots, although collection efforts often yield additional lost gear.

Historical Lost Fishing Gear Cleanup Efforts – N.C. Marine Patrol (NCMP) cleanup of lost fishing gear, primarily consisting of lost and abandoned crab pots, began in the early 1990s. However, the data on the number of pots collected was not recorded until 2003 (Table 1). These cleanup efforts were timed with the annual closure of internal coastal waters to all crab, eel, fish and shrimp pots, previously called the “no-potting” period. With an amendment to the Blue Crab Fishery Management Plan, the closure was replaced with a closed season Jan. 1-31 north of the Highway 58 bridge to Emerald Isle and March 1-15 south of the Highway 58 bridge.

Beginning with the 2014 closure, the NCMP agreed to accept assistance from a select group of commercial fishermen within a defined geographic area and timeframe, and under a permit held by the North Carolina Coastal Federation. North Carolina Sea Grant and NOAA Marine Debris Program monies funded the inaugural private-public partnership effort, and NOAA monies continued small-scale efforts in 2015 and 2016. N.C. General Assembly provided funding to expand the project coastwide 2017-2019, and once again in 2022 as part of a large-scale marine debris removal project coastwide. The Commercial Fishing Resource Fund Program provided funding support to re-start the project in 2021,

after resources were not available to conduct the project in 2020. The Commercial Fishing Resource Program continued to fund the project 2023-2025.

Table 1. Number of lost crab pots recovered during the annual statewide pot closure period. The N.C. Marine Patrol began recording numbers in 2003. Cells with yellow shading designate years where commercial fishers assisted with recovery activities.

Crab Pots Removed, 2003-2025				
Year	D1 - Northern District	D2 - Central District	D3 - Southern District	Total
2003	4047	900	127	5074
2004	7708*	527	108	8343
2005	2168	N/A	N/A	2168
2006	1117	391	24	1532
2007	896	135	24	1055
2008	757	190	110	1057
2009	589	257	60	906
2010	570	154	24	748
2011	656	183	141	980
2012	684	160	295	1139
2013	451	445	545	1441
2014	364	64	226	654
2015	1,004	149	155	1308
2016	753	80	70	903
2017	2,836	1,219	249	4304
2018	2,245	1,004	247	3496
2019	1,714	1,159	239	3112
2020	n/a	n/a	n/a	**
2021	2,243	766	119	3128
2022	1,274	709	12	1995
2023	1,543	534	45	2122
2024	1,650	577	236	2463
2025	1,430	423	283	2136
*During the winter of 2004, the high number of lost pots encountered appears to be a result of Hurricane Isabel (Sept. 2003).				
**Funding was not available for contracted cleanup efforts in 2020.				
NC Coastal Federation Lost Fishing Gear Recovery Efforts				
D1- Northern coast from Virginia state line, Manteo to Swanquarter including the Outer Banks to Ocracoke				
D2 - Central Area from Pungo River, Neuse River, New Bern, Morehead City to Emerald Isle				
D3 - Southern Area from Cape Carteret, New River, Cape Fear River, Wilmington to the S.C. line				

Governing Regulations and Policies – In North Carolina the general public are not freely allowed to remove lost fishing gear. The most pertinent legislation relating to cleanup of lost fishing gear in North Carolina internal coastal waters is North Carolina General Statute §113-268:

§ 113-268. Injuring, destroying, stealing, or stealing from nets, seines, buoys, pots, etc.

(a) It is unlawful for any person without the authority of the owner of the equipment to take fish from nets, traps, pots, and other devices to catch fish which have been lawfully placed in the open waters of the State.

(b) It is unlawful for any master or other person having the management or control of a vessel in the navigable waters of the State to willfully, wantonly, and unnecessarily do injury to any seine, net or pot which may lawfully be hauled, set, or fixed in such waters for the purpose of taking fish except that a net set across a channel may be temporarily moved to accommodate persons engaged in drift netting, provided that no fish are removed and no damage is done to the net moved.

(c) It is unlawful for any person to willfully steal, destroy, or injure any buoys, markers, stakes, nets, pots, or other devices on property lawfully set out in the open waters of the State in connection with any fishing or fishery.

(d) Violation of subsections (a), (b), or (c) is a Class A1 misdemeanor.

(e) The Department may, either before or after the institution of any other action or proceeding authorized by this section, institute a civil action for injunctive relief to restrain a violation or threatened violation of subsections (a), (b), or (c) of this section pursuant to G.S. 113-131. The action shall be brought in the superior court of the county in which the violation or threatened violation is occurring or about to occur and shall be in the name of the State upon the relation of the Secretary. The court, in issuing any final order in any action brought pursuant to this subsection may, in its discretion, award costs of litigation including reasonable attorney and expert-witness fees to any party. (1987, c. 636, s. 1; 1989, c. 727, s. 112; 1993, c. 539, s. 849; 1994, Ex. Sess., c. 24, s. 14(c); 1998-225, s. 3.9.)

Methodology

Recruitment and Training – All participating commercial watermen are registered under a Scientific and Educational Activity Permit (SEAP) issued by the state of North Carolina. For simplicity, the N.C. Coastal Federation temporarily added the participant names to the existing SEAP (#707067) during the timeframe of the project. By listing watermen participants on the SEAP, they each become “authorized agents” to clean up lost fishing gear, notably crab pots.

To solicit project participants, the N.C. Coastal Federation issued an open application period from mid-November thru mid-December, 2024 for Districts 1 and 2. And a separate application period for District 3 from late January through mid-February. [A press release was issued](#) and additional communications were shared through other channels, including the federation’s website and social media platforms. A [separate press release for District 3 applicants](#) went out on January 24. Applicants were expected to meet the following criteria: 1) All applicants must possess a valid Standard Commercial Fishing License (SCFL) and 2) All vessels were required to carry two people for safety and data collection, and [additional requirements outlined in the application](#).

All applicants were screened for any major fisheries-related violations through NCMP. Any applicant with a recent or extensive violation history was not permitted to participate in the project. Vessel size, home port, existing onboard equipment, availability and past project experience were additional factors considered when determining whether to accept an applicant.

In total, 50 watermen and women (25 captains and 25 mates) were selected to conduct the on-the water cleanup. Each vessel received payment per-day covering an assigned waterway or region. All 25, two-person crews were required to carry a single tablet (provided by project personnel) to document data. Training sessions on general project protocol were conducted for hired captains and mates. All the participants reviewed data collection procedures, project logistics and assigned coverage areas.

Field Work – With advisement from NCMP and N.C. Division of Marine Fisheries (NCDMF), contracted water-based cleanup efforts took place in marine patrol Districts 1 and 2 various days January 8-31. Cleanup efforts for District 3 closure took place March 4-14, in waters south of the Highway 58 bridge. With consultation from both hired commercial watermen and NCMP officers, certain areas were prioritized. The hired crews were given clearance to begin cleanup efforts in each district, after NCMP did a sweep of the areas for violations. This practice allows watermen participating in the cleanup project not to be involved with any enforcement actions.

On-water cleanup activities occurred at each captain’s discretion through January 31 in Districts 1 and 2. Seventeen vessels were hired in NCMP District 1 and three in NCMP District 2. Each captain worked a minimum of four days, but depending on pot accumulation and area density, up to ten days. Individual

availability and weather conditions also impacted the number of days worked by each boat. Crews were required to work on the water from 8 a.m. to 2 p.m. Captains also received compensation for time worked to properly dispose/recycle the collected gear upon completion of their days worked on the water.

Watermen were instructed to bring lost fishing gear to designated collection sites in each NCMP District. For the crews at port in Wanchese, this step was part of their working day during the course of the project. For crews outside of Wanchese, hauling pots to unload was considered a separate working day, and was scheduled upon completion of the cleanup work on the water.

If a pot had an identifiable buoy, attempts were made to return the pot to its owner. The remainder of the gear was recycled to the best extent possible. In the District 1 region, an effort was implemented to return usable gear to its owner through a process as managed as part of the project. All of the whole pots, deemed in good enough condition to use again, were stored in a secure lot in Wanchese. [This gear was made available for the rightful property owners to claim from Feb. 10 to February 24.](#) Nearly 500 crab pots, with an identifiable buoy, recovered from the Albemarle and Pamlico Sound region, were claimed by the rightful owners, over the course of 15 days, from the storage site in Wanchese. In total, approximately 95% of the crab pots that were stored securely in Wanchese, were claimed by their rightful owners. This supports the coastal economy, as the value of a used crab pot put back into the industry, is much greater than scrapping the gear for metal at pennies per pound. This is the highest return rate in the history of the project and is a testament to the successful partnerships and trust built over the years.

Upon completion of days on the water, if pots were not returned or sent to the storage yard for claiming, partial pots and other pieces were recycled to the best extent possible. For District 1, all 17 Captains took scrap pots to Dare Area Recycling and Technologies in Wanchese. For the other Districts, pots were taken to the nearest solid waste site that accepts scrap metal. Over 11,600 pounds of steel was recycled as part of this project.

Data Collection and Analysis – Each crew was required to carry a LenovoPro Tablet equipped with a custom data collection program that was built originally from “Cybertracker.” The tablets connect to GPS and store data while on the water and not connected to the internet. At the end of each day, the Captains connect to WiFi and submit the data they collected.

Watermen participants recorded physical and geographical attributes of each crab pot retrieved, including: (1) GPS coordinate, (2) pot condition (e.g., whole versus partial), (3) whether the pot was in a reusable condition (4) number of live and dead finfish and blue crabs. Maps depicting the number of pots retrieved were created using ArcGIS software (Figure 1 and Appendix A-D).

Results

Lost Fishing Gear Recovered – Twenty-five, two-person crews retrieved a total of 2,136 lost crabs from all three NCMP Districts, over the two closure periods.

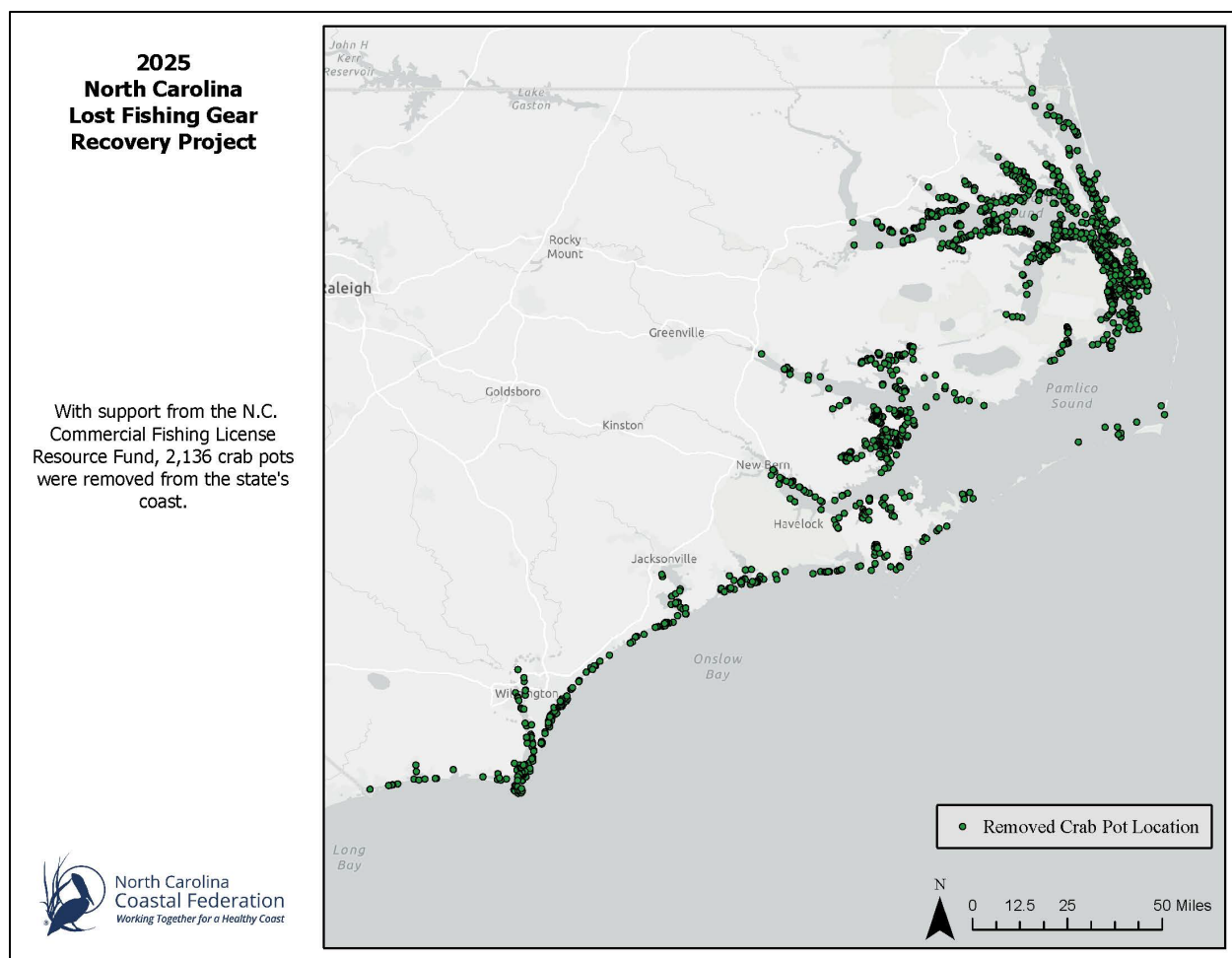


Figure 1. Map showing the entire North Carolina coastline and numbers and locations of lost crab pots ($n=2,136$) retrieved by 25 contracted crews over two closure periods – January 8-31 and March 4-14, 2025.

In Marine Patrol District 1 — which covers the northeast region of the North Carolina coast from the Virginia line to Ocracoke — 17 boats made up of 34 commercial fishers picked up 1,430 crab pots. In District 2 — which spans from Ocracoke to Emerald Isle— 3 boats made up of 6 commercial fishers removed 423 crab pots. In Marine Patrol District 3, which spans from Cape Carteret to the South Carolina state line, 5 boats made up of 10 commercial fishers removed 283 crab pots.

Of this total amount of gear removed, 28 crab pots were located and retrieved using side scan sonar.

Eight volunteer cleanups were held to expand the reach and involvement toward marine debris removal efforts in the surrounding community. On January 20 in Wanchese, 25 volunteers (and 2 staff) contributed a total of 62.5 volunteer hours, and removed approximately 500 pounds of debris (trash and recycling). On January 29 at Hoop Pole Creek Nature Preserve in Atlantic Beach, 14 volunteers contributed 40.5 hours, cleaning up about 350 pounds of marine debris. On February 18 at Morris Landing in Holly Ridge, 21 volunteers contributed 63.5 volunteer hours and removed about 150 pounds of debris. On March 10

in Wanchese, 10 adults contributed a total of 120 hours, cleaning up about 200 pounds of debris. On March 12, at Ft. Macon State Park in Atlantic Beach, 8 volunteers contributed 104 hours and removed about 150 pounds of debris. On May 17 in the Town of Manteo, 25 people from the community canvased the neighborhoods and waterfront areas for a total of 50 volunteer hours. On May 20, also near Manteo, 6 volunteers accumulated 57 hours of time at the Washington Baum Bridge Boat Ramp, and removed about 150 pounds of debris. On May 6, 17 volunteers contributed 119 hours and removed 500 pounds of debris from the Maritime Museum Gallants Channel property shoreline. A total of 144 volunteers for 698.5 hours for a value of \$24,300.

Bycatch Encountered – Of the 2,163 crab pots retrieved, 130 or 6%, were considered “partial pots”, consisting of only one or all of the following: buoy, line, or pot iron, or the pot condition was unknown or not captured. These categories of partial pots were removed from bycatch analysis. In total, 2,006 whole or partially intact, crab pots were retrieved and used for bycatch characterization.

Out of the 2,006 whole or partially intact crab pots retrieved, 1,167 (58%) were entirely free of bycatch. Within the remaining 839 pots, a total of 3,183 blue crabs and 298 finfish were captured as bycatch (Figure 2). From those totals, 801 blue crabs were dead and 60 finfish were dead; combined 25% of the all the bycatch was dead ($n=3,481$). A total of 2,382 blue crabs and 238 finfish were released alive; combined 75% of all bycatch were released alive (Figure 2).

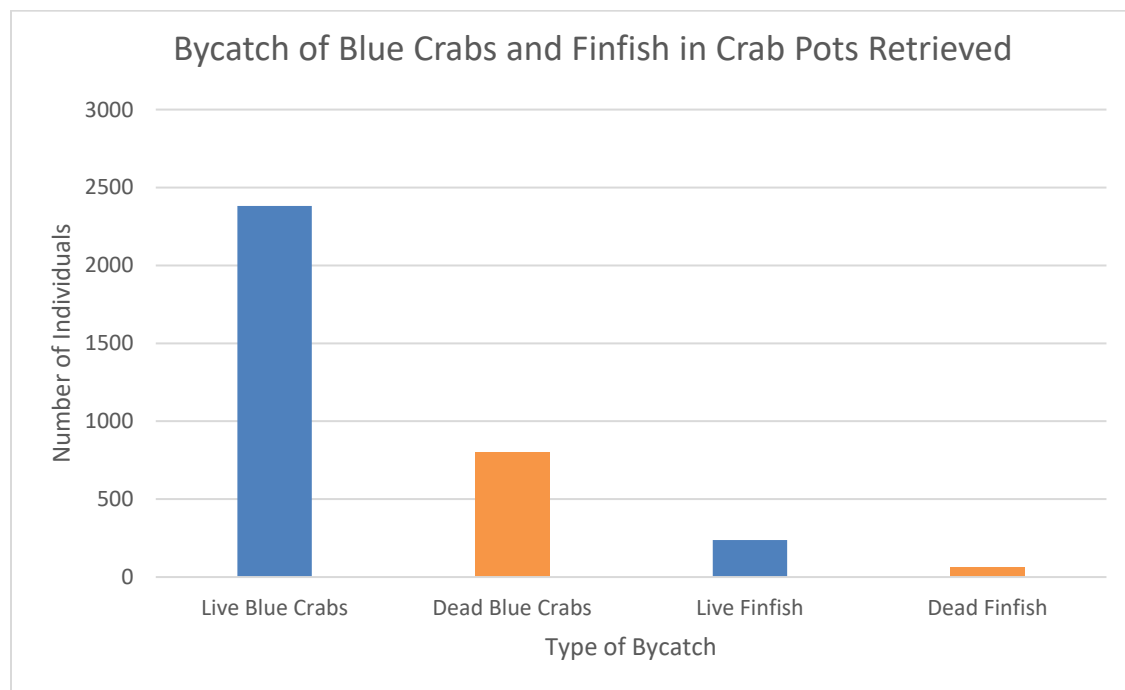


Figure 2. Breakdown of bycatch observed in the whole and partially intact crab pots retrieved.

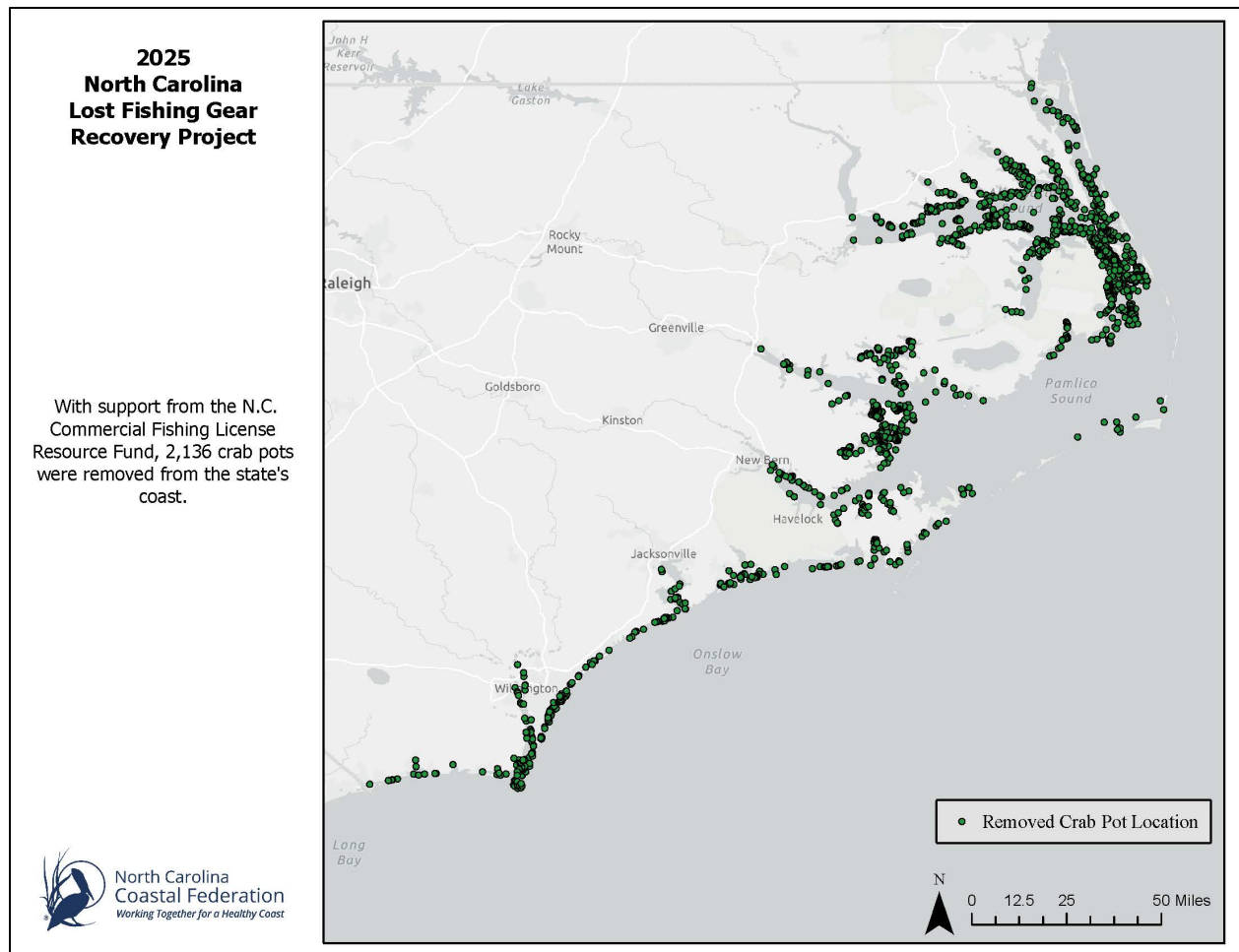
Conclusions

Fishing Gear Recovery -The partnerships between the N.C. Coastal Federation, N.C. Marine Patrol, N.C. Division of Marine Fisheries, Dare Area Recycling and Technologies and commercial watermen and women have resulted in another successful Lost Fishing Gear Recovery Project. The partnerships have grown and adapted over the past eleven years, even among changes to staff involved and revisions to

fishery management policies. In fact, the amendment to the Blue Crab Fishery Management Plan that revised the closed season, from January 1-31 was advantageous to implementing the fishing gear removal project. This allowed the contracted crews a larger window of availability to choose the best weather conditions for the cleanup efforts. This is a benefit to better visibility and retrieval and eliminated the pressure of completing the work in the shortest time frame possible. Funding from the N.C. Commercial Fishing License Fund again proved a good fit to continue these project efforts that improve habitat, water quality and coastal economies coastwide.

This project is part of the Federation's effort to ensure a North Carolina coast that is free of marine debris. Establishing an annual paid program for marine debris removal, including crab pots, is a key objective of the [North Carolina Marine Debris Action Plan](#). For more information about this work, and other current and [recent marine debris projects](#) visit nccoast.org/marinedebris.

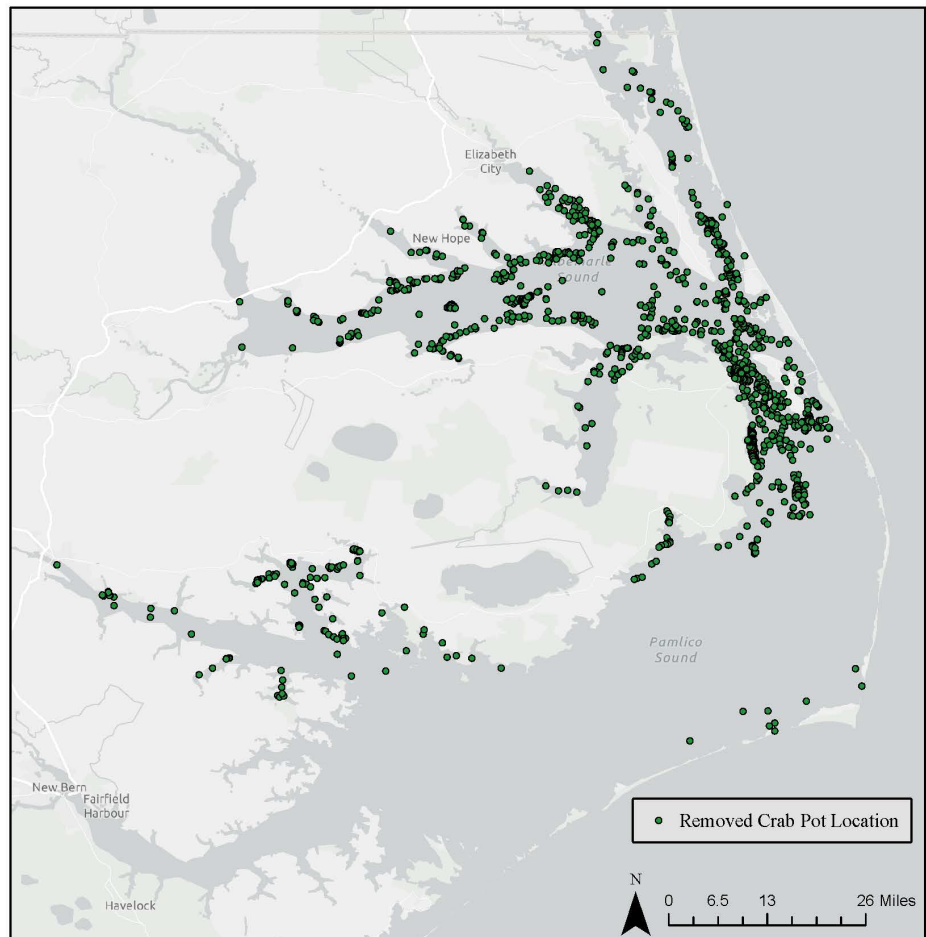
Appendix A. Coastwide map of pots collected by contracted crews



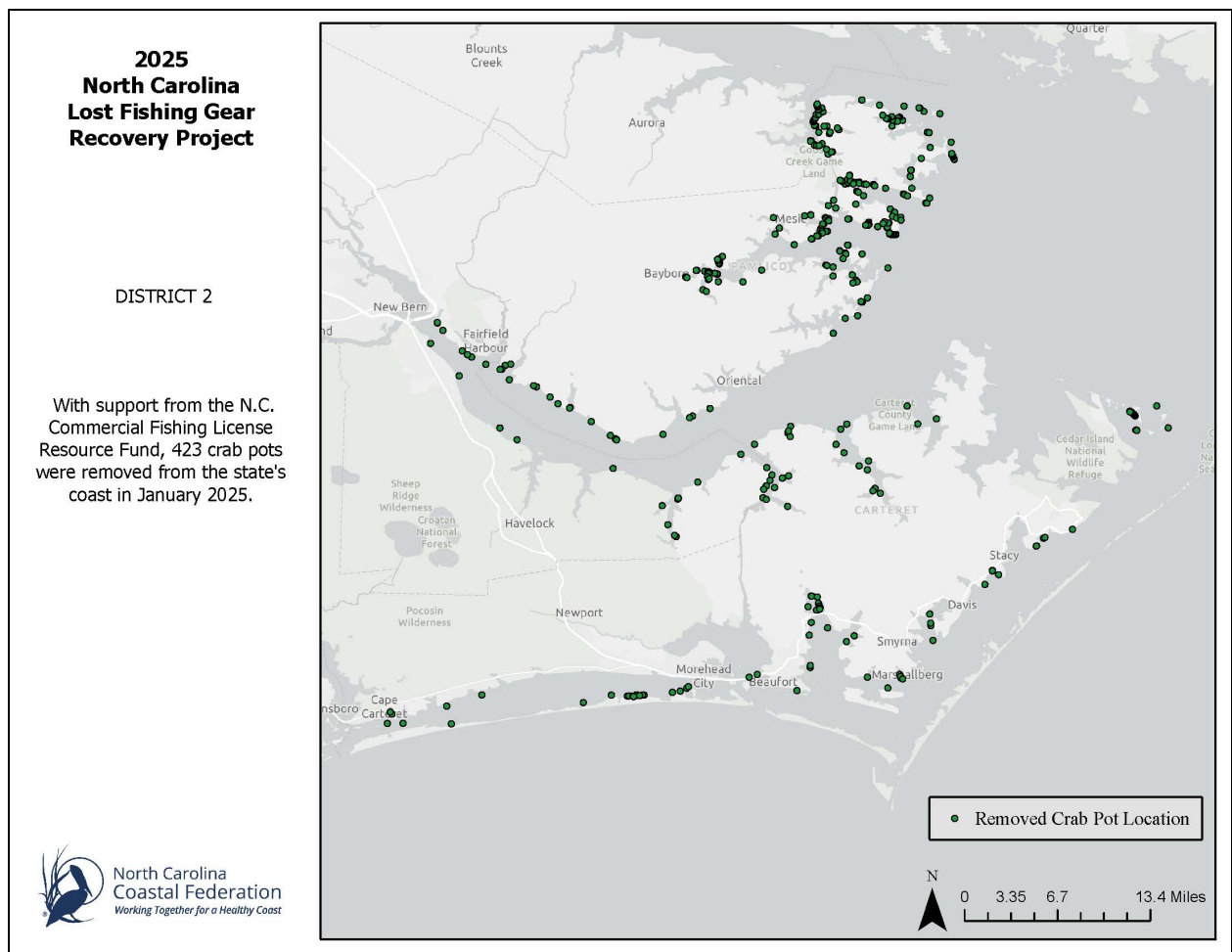
**2025
North Carolina
Lost Fishing Gear
Recovery Project**

DISTRICT 1

With support from the N.C. Commercial Fishing License Resource Fund, 1,430 crab pots were removed from the state's coast in January 2025.



Appendix C. Map of Pots Collected in District 2



Appendix D. Map of Pots Collected in District 3

