

FREE

North Carolina Division of Marine Fisheries

ARTIFICIAL REEF GUIDE





North Carolina Division of Marine Fisheries Artificial Reef Guide

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Congratulations to Capt. Cane Faircloth, of Holden Beach for winning the
2016 Marine Fisheries Reef Guide Photo Contest.

Capt. Faircloth and Capt. Jon Tennant took their children, Bella Faircloth and Maddox Tennant, fishing on AR-425 on Oct. 12, 2015. They snapped the front cover photo after Bella and Maddox caught the over-the-slot-limit red drum using a Carolina rig baited with a live menhaden. After the photo, they quickly released the red drum back into the water. Great catch Bella and Maddox!

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The Artificial Reef Guide

Why Build Artificial Reefs in North Carolina?

Simply said, reefs create habitat for fish; fish habitats contribute to healthy fish populations; and healthy reef populations provide great fishing sites.

Although naturally productive reefs occur along the coast and in estuarine waters, the vast majority of the coastal and estuarine sea floor is flat, featureless sand or mud. When materials are placed on the sea floor to provide structure where there was previously none, they soon become encrusted and colonized by marine organisms, such as barnacles, flexible corals, sponges, shellfish, and various plants or seaweeds. This attracts small bait fishes that provide food for larger predatory fish. The three dimensional structures replicate the ecological functions of food and refuge provided by natural hard bottom habitat.

Artificial reefs are considered crucial spawning and foraging habitat for many commercially and recreationally important fish species – so much so that the N.C. Coastal Habitat Protection Plan recommends expanding reef construction to offset past habitat degradation, habitat loss, and water quality degradation that can negatively impact coastal ecosystems.

In North Carolina, there are two types of manmade reefs that contribute to habitat restoration efforts: oyster sanctuaries and artificial reefs. Both are included in this guide. The primary function of an oyster sanctuary is to create oyster habitat that will provide brood stock, while supporting diverse and abundant finfish populations. North Carolina builds oyster sanctuaries in areas where oysters will thrive. Artificial reefs are built with finfish production in mind, using a variety of materials and supporting scientific research to maximize their success. These reefs are located all along North Carolina's coast in nearshore and offshore ocean waters, as well as in the sounds.

The North Carolina Artificial Reef Program

Artificial reefs and oyster sanctuaries are supported by dedicated N.C. Division of Marine Fisheries staff who develop, maintain, evaluate and administer the reef system. The division maintains 42 ocean artificial reefs and 20 estuarine reefs, 14 of which serve as oyster sanctuaries. Ocean reefs are located from one-half to 38 miles from shore, and they are situated so that they can be reached from every maintained inlet in the state. The estuarine sites are found in Pamlico Sound and its tributaries, the Chowan River and the New River. Artificial reefs in estuarine waters are marked with yellow buoys on each corner, and oyster sanctuaries are marked with white buoys or pilings on each corner. All buoys or pilings are also marked with a N.C. Division of Marine Fisheries sign and a phone number.

Biologists monitor North Carolina's artificial reefs for material stability, material durability, material performance, essential fish habitat and more. Information from these studies helps guide future enhancements.

Navigating the *North Carolina Artificial Reef Guide*

The "N.C. Marine Fisheries Artificial Reef Guide" was developed to assist recreational users in locating nearby reefs. In this version of the reef guide, all reef sites are listed, including ocean reefs, estuarine artificial reefs, and oyster sanctuaries. All may be used for fishing or diving. The following sections contain descriptions of each reef along with the GPS coordinates of the materials deployed over the years.

The reefs are indexed into five regions. Regions 1 through 4 highlight ocean artificial reefs while Region 5 highlights the state's estuarine artificial reefs and oyster sanctuaries.

1. **Outer Banks** (Virginia Line to Cape Hatteras)
2. **Raleigh Bay** (Cape Hatteras to Cape Lookout)
3. **Onslow Bay** (Cape Lookout to Cape Fear)
4. **Long Bay** (Cape Fear to South Carolina Line)
5. **Estuarine** (Inshore Waters and Tributaries)

Details of each reef are provided on two pages. The left page describes reef coordinates and directions from the nearest sea buoy or inlet, as well as reef patches at the site. For each patch, the material type, deployment date, and latitude/longitude in decimal minutes (DD° MM.MMM') are listed, as well as a number identifier for referencing the reef diagram. The right page, or the reef diagram, provides a scaled visual representation of patches within the reef site. Outlined reef material is labeled with a number identifier that corresponds to the adjacent page in identifying each reef patch, a color-coded legend and a small notes section. Use the notes section to record catch or personal information for each site.

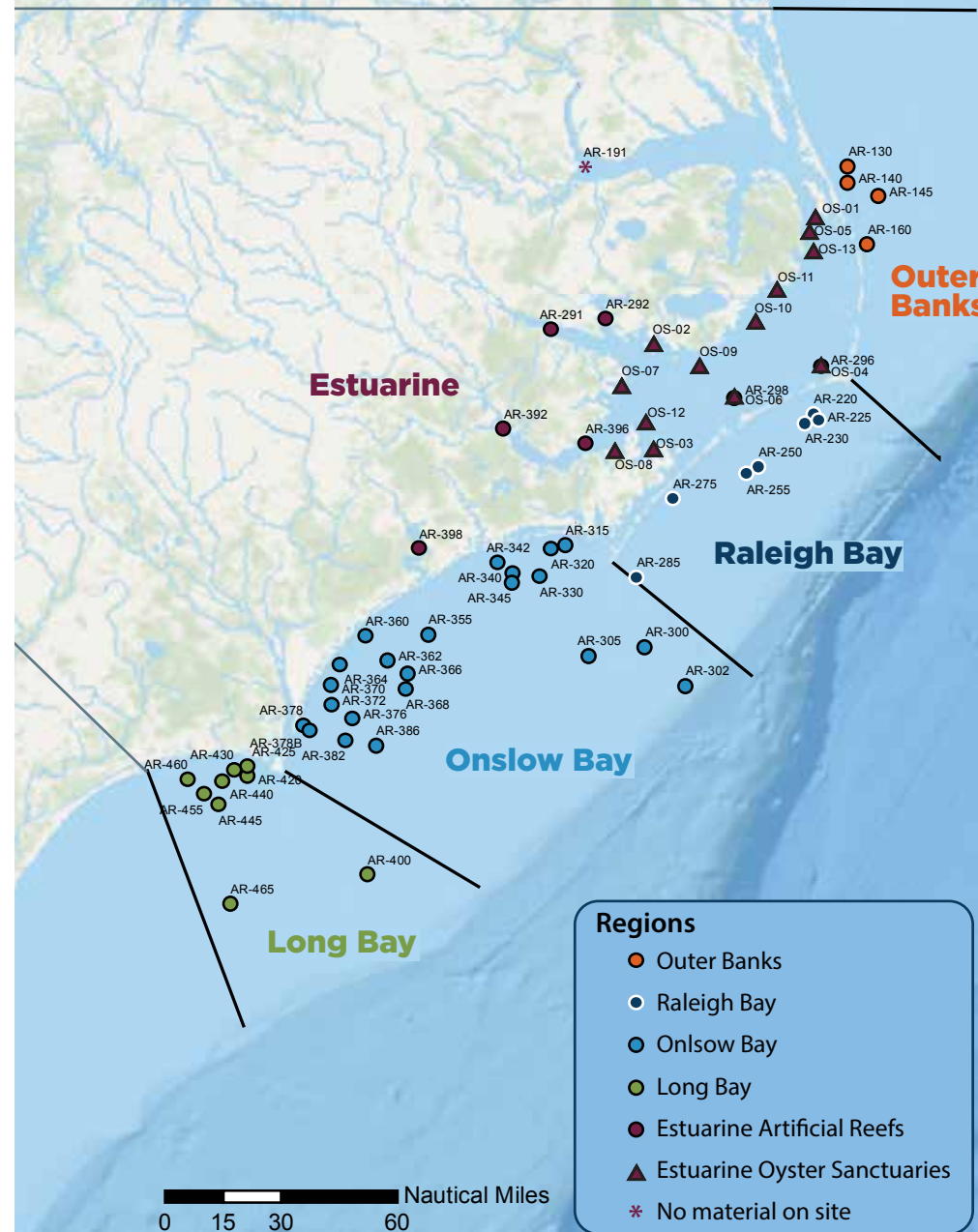
This reef guide is designed for use on boats while fishing or diving — the paper is waterproof, grease proof and should stand up to adverse conditions — but it should not be used for navigational purposes. A navigational chart should be used along with the reef guide. A GPS and fish-finder can also be useful when fishing a reef site*.

Distances from inlets are given in nautical miles and headings are approximate and should not be used for navigation*. A nautical mile is equal to 1.15 statute miles. North arrows shown are true north so actual magnetic headings of your compass will be slightly different. A scale bar is provided to assist with moving between materials within the reef site and for setting up a drift path and anchoring.

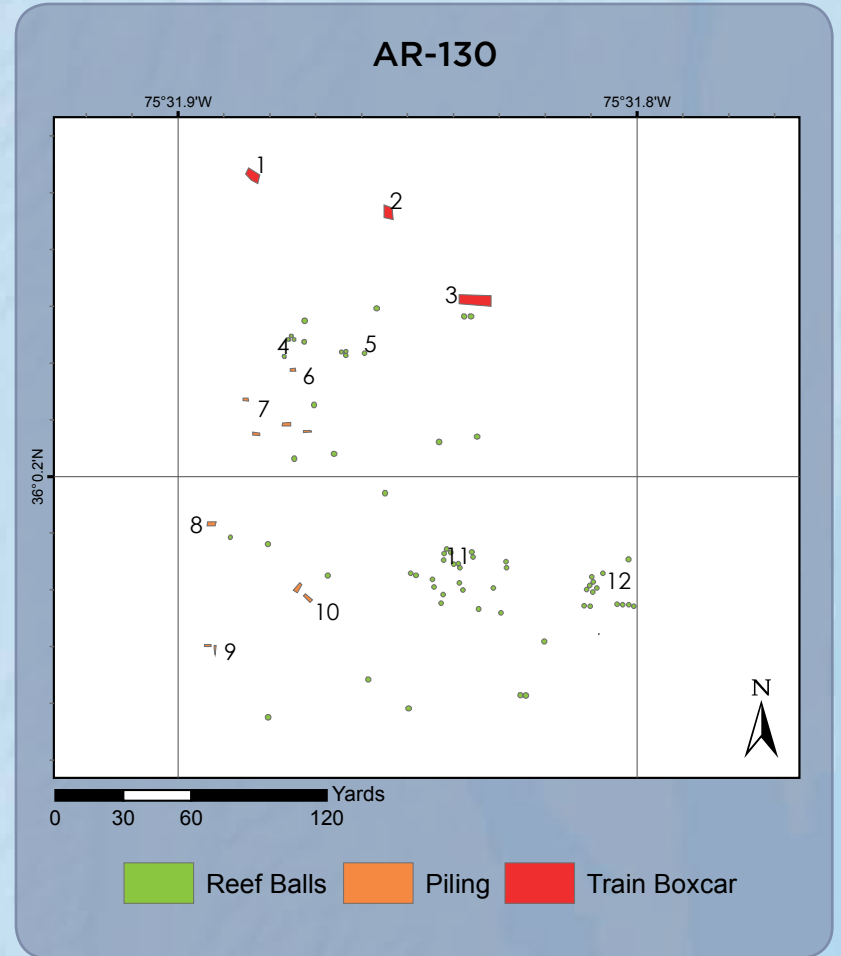
In addition to this reef guide, the N.C. Division of Marine Fisheries' website has information on artificial reefs, including side scan sonar imagery of the reefs, vessel history and an interactive electronic version of this reef guide. To find out more, go to <http://www.ncmarinefisheries.net> and look for the Artificial Reef Program pages under Recreational Fishing. Good luck and enjoy the North Carolina Artificial reef system.

*The editors of this reef guide and the N.C. Division of Marine Fisheries do not assume any responsibility for the use of this reef guide as a navigational aid.

NORTH CAROLINA ARTIFICIAL REEFS AND OYSTER SANCTUARIES BY REGION



| AR-130 | | | | |
|---|---------------|----------|-------------------|---------------|
| 345.3° magnetic - 11.6 nautical miles from Oregon Inlet Sea Buoy 60 feet average depth | | | | |
| ID No. | Material | Deployed | GPS | |
| | | | (Decimal Minutes) | |
| 1 | Train Boxcar | 11/1986 | 36° 0.253' N | 75° 31.884' W |
| 2 | Train Boxcar | 11/1986 | 36° 0.247' N | 75° 31.854' W |
| 3 | Train Boxcar | 11/1986 | 36° 0.231' N | 75° 31.835' W |
| 4 | 7 Reef Balls | 11/2000 | 36° 0.223' N | 75° 31.876' W |
| 5 | 4 Reef Balls | 11/2000 | 36° 0.222' N | 75° 31.862' W |
| 6 | Pilings | 1991 | 36° 0.219' N | 75° 31.875' W |
| 7 | Pilings | 1991 | 36° 0.209' N | 75° 31.879' W |
| 8 | Pilings | 1991 | 36° 0.192' N | 75° 31.893' W |
| 9 | Pilings | 1991 | 36° 0.170' N | 75° 31.893' W |
| 10 | Pilings | 1991 | 36° 0.179' N | 75° 31.873' W |
| 11 | 22 Reef Balls | 11/2000 | 36° 0.183' N | 75° 31.839' W |
| 12 | 14 Reef Balls | 11/2000 | 36° 0.180' N | 75° 31.807' W |



OUTER BANKS

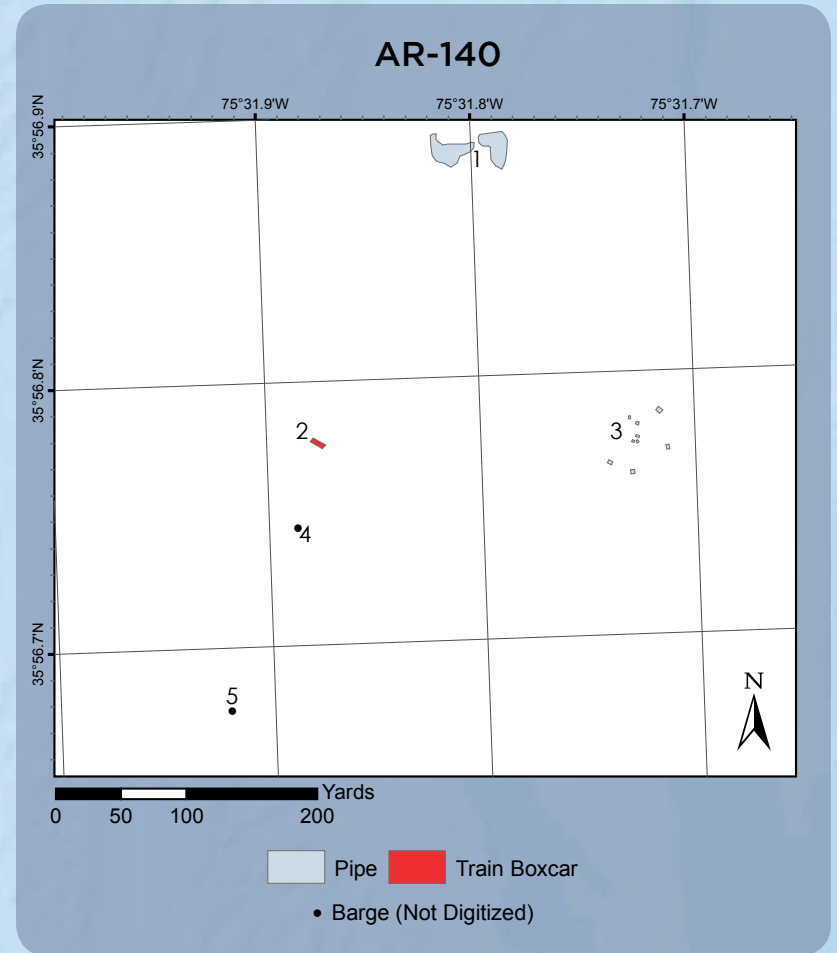
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-140 | | | | |
|--|-----------------|----------|--------------------------|---------------|
| 343.4° magnetic - 8.2 nautical miles from Oregon Inlet Sea Buoy 57 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Pipe 1,000 Tons | 11/1998 | 35° 56.886' N | 75° 31.800' W |
| 2 | Train Boxcar | 11/1986 | 35° 56.777' N | 75° 31.876' W |
| 3 | Pipe 1,000 Tons | 11/1998 | 35° 56.774' N | 75° 31.725' W |
| 4 | *130-Foot Barge | 6/1989 | 35° 56.745' N | 75° 31.887' W |
| 5 | *130-Foot Barge | 6/1989 | 35° 56.677' N | 75° 31.922' W |

* Material deployed but not digitized.



OUTER BANKS

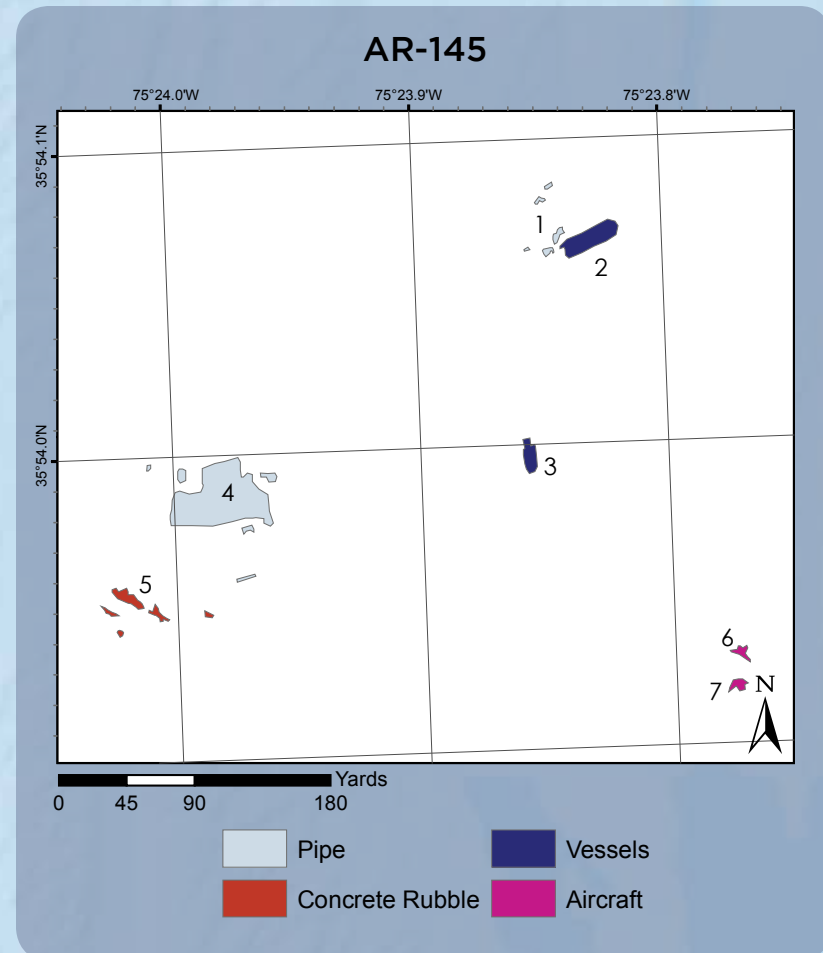
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-145 | | | | |
|---|--------------------------------------|----------|--------------------------|-----------------|
| 35.3° magnetic - 7.7 nautical miles from Oregon Inlet Sea Buoy 65 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pipe | 11/1998 | 35° 54.071' N | 75° 23.845' W |
| 2 | 115-Foot Landing Craft Vessel | 1/1987 | *35° 54.071' N | *75° 23.817' W |
| | | | **35° 54.062' N | **75° 23.839' W |
| 3 | 185-Foot Vessel <i>Advance II</i> | 6/1994 | *35° 53.991' N | *75° 23.854' W |
| | | | **35° 54.002' N | **75° 23.857' W |
| 4 | Concrete Pipe | 11/1998 | 35° 53.986' N | 75° 23.981' W |
| 5 | Bridge Rubble | 1991 | 35° 53.952' N | 75° 24.016' W |
| 6 | USCG HU-25 Falcon Aircraft | 5/2005 | 35° 53.929' N | 75° 23.774' W |
| 7 | USCG HU-25 Falcon Aircraft | 6/2006 | 35° 53.919' N | 75° 23.775' W |

*Bow and **Stern GPS Coordinates



OUTER BANKS

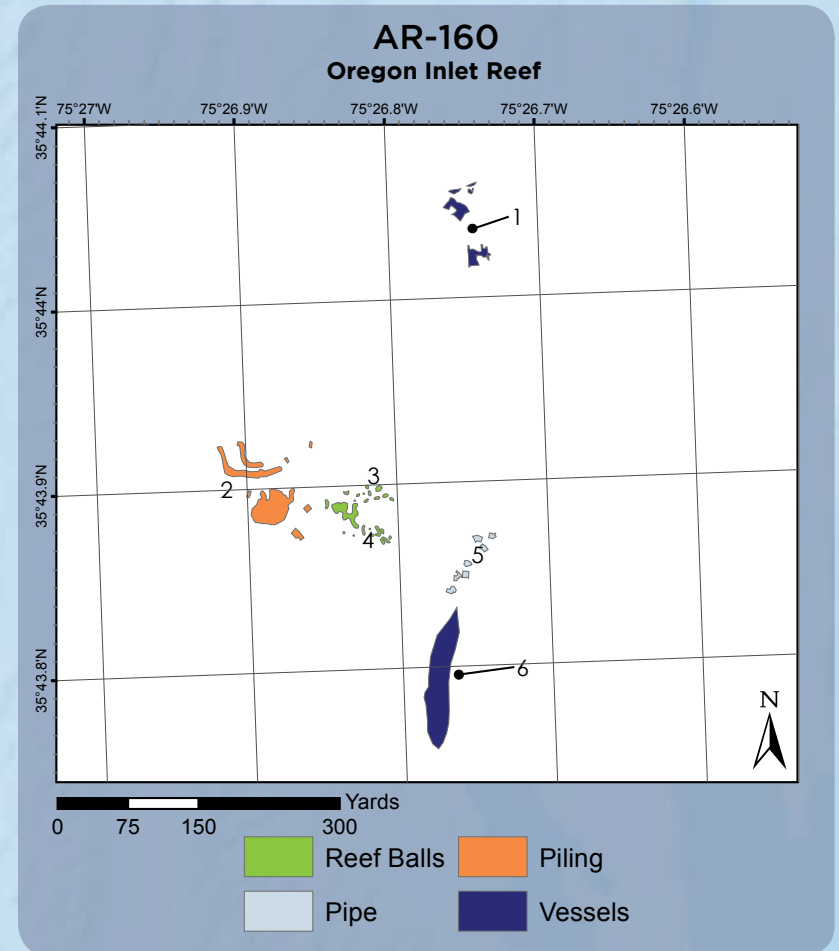
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-160 Oregon Inlet Reef | | | | |
|--|--|----------|--------------------------|-----------------|
| 136.5° magnetic - 5.7 nautical miles from Oregon Inlet Sea Buoy 66 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 440-Foot Liberty Ship <i>Dionysus</i> | 11/1978 | 35° 44.023' N | 75° 26.741' W |
| 2 | Piling 60 Pieces | 12/1999 | 35° 43.898' N | 75° 26.888' W |
| | Piling 155 Pieces | 8/2000 | | |
| 3 | 43 Reef Balls | 12/1999 | 35° 43.889' N | 75° 26.830' W |
| 4 | 26 Reef Balls | 8/2000 | 35° 43.873' N | 75° 26.815' W |
| 5 | Concrete Pipe 271 Tons | 9/2002 | 35° 43.856' N | 75° 26.753' W |
| 6 | 440-Foot Liberty Ship <i>Zane Grey</i> | 12/1974 | *35° 43.832' N | *75° 26.763' W |
| | | | **35° 43.756' N | **75° 26.779' W |

*Bow and **Stern GPS Coordinates



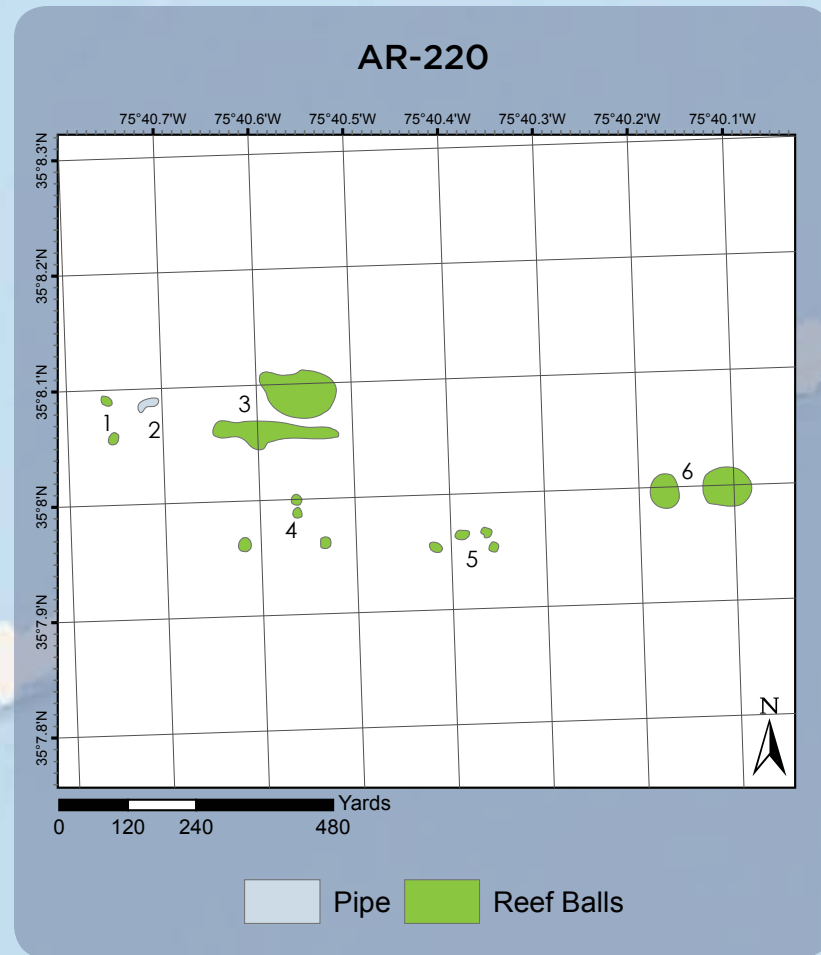
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-220 | | | | |
|---|---------------|----------|--------------------------|---------------|
| 97.5° magnetic - 4.6 nautical miles from Hatteras Inlet Sea Buoy 64 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | *Reef Balls | 1/2001 | 35° 8.073' N | 75° 40.755' W |
| 2 | Concrete Pipe | 12/1986 | 35° 8.087' N | 75° 40.715' W |
| 3 | *Reef Balls | 1/2001 | 35° 8.078' N | 75° 40.568' W |
| 4 | *Reef Balls | 1/2001 | 35° 7.975' N | 75° 40.573' W |
| 5 | *Reef Balls | 1/2001 | 35° 7.960' N | 75° 40.383' W |
| 6 | *Reef Balls | 1/2001 | 35° 7.998' N | 75° 40.130' W |

*200 Reef Balls deployed over a large area.

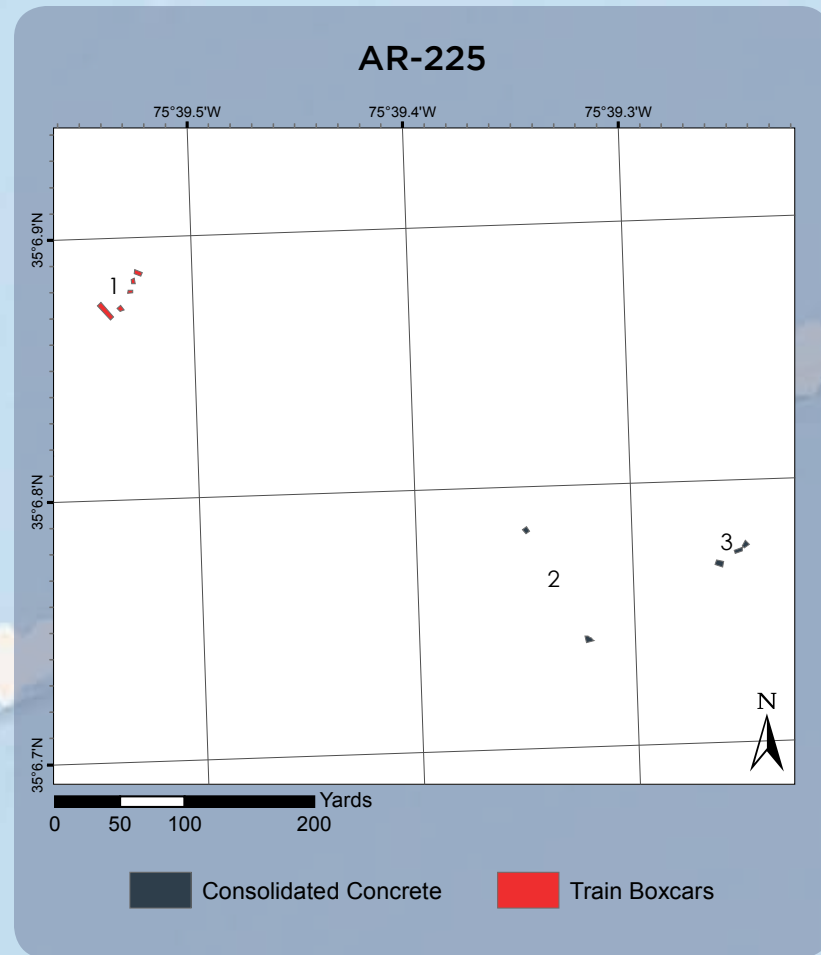
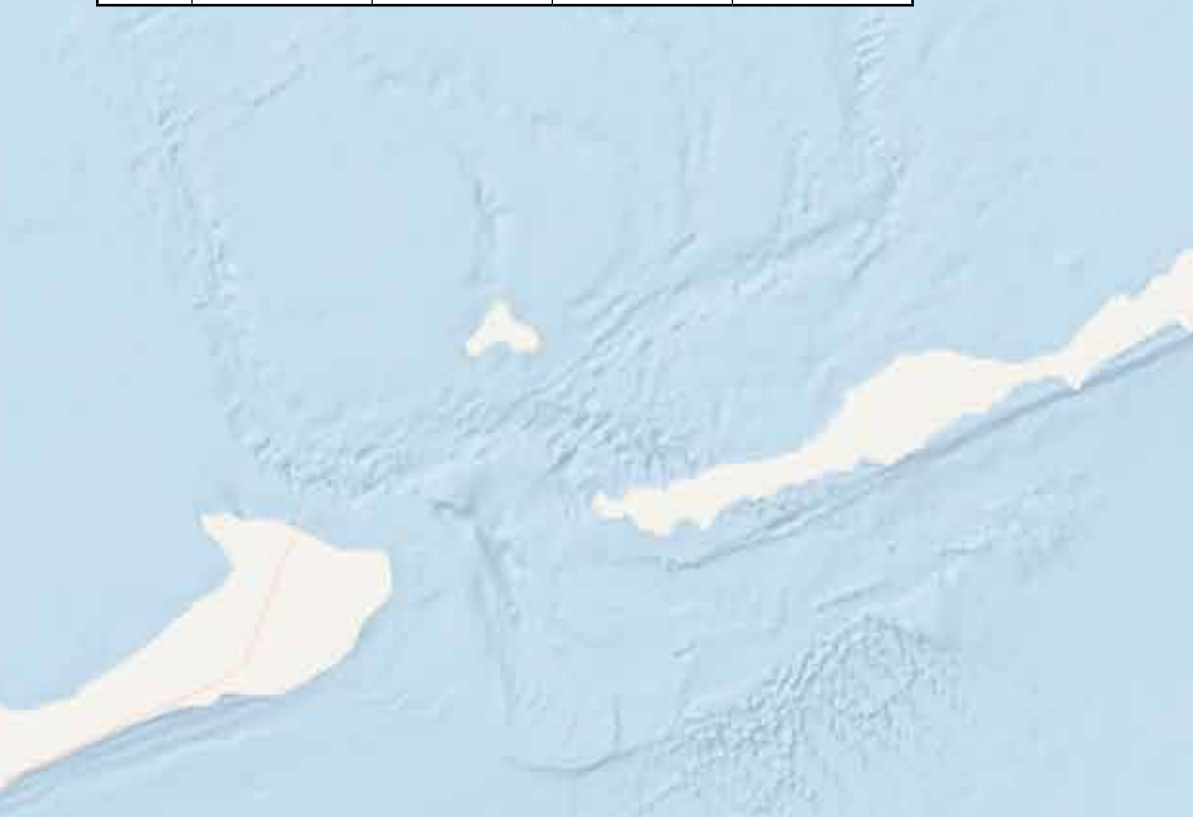


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-225 | | | | |
|--|-----------------------|----------|--------------------------|---------------|
| 106.5° magnetic - 6.1 nautical miles from Hatteras Inlet Sea Buoy 67 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| | | | | |
| 1 | Train Boxcars | 12/1986 | 35° 6.876' N | 75° 39.535' W |
| 2 | Consolidated Concrete | 12/1986 | 35° 6.759' N | 75° 39.333' W |
| 3 | Consolidated Concrete | 12/1986 | 35° 6.772' N | 75° 39.254' W |



RALEIGH BAY

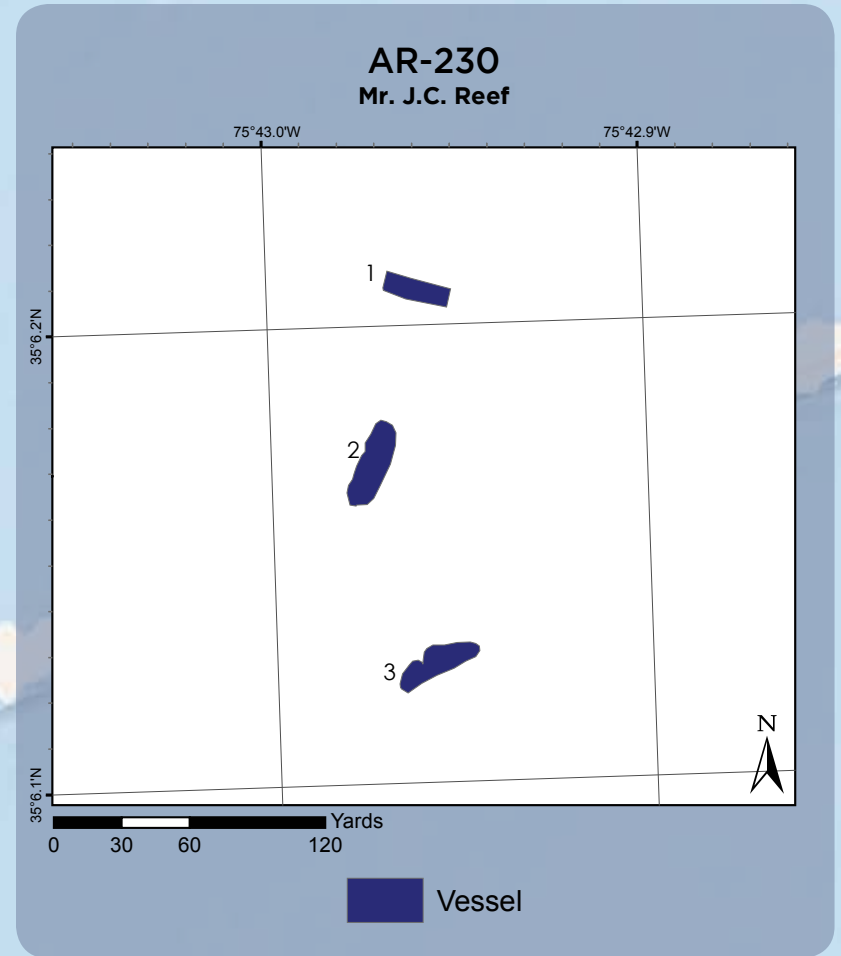
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-230 Mr. J.C. Reef | | | | |
|--|---------------------------------|----------|--------------------------|-----------------|
| 133.7° magnetic - 4.2 nautical miles from Hatteras Inlet Sea Buoy 72 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| | | | | |
| 1 | 75-Foot Landing Craft | 1991 | *35° 6.210' N | *75° 42.968' W |
| | | | **35° 6.206' N | **75° 42.952' W |
| 2 | 130-Foot Yard Freighter | 1991 | *35° 6.179' N | *75° 42.969' W |
| | | | **35° 6.161' N | **75° 42.978' W |
| 3 | 105-Foot Tug <i>Mr. J.C.</i> | 9/1987 | *35° 6.121' N | *75° 42.967' W |
| | | | **35° 6.130' N | **75° 42.947' W |

*Bow and **Stern GPS Coordinates

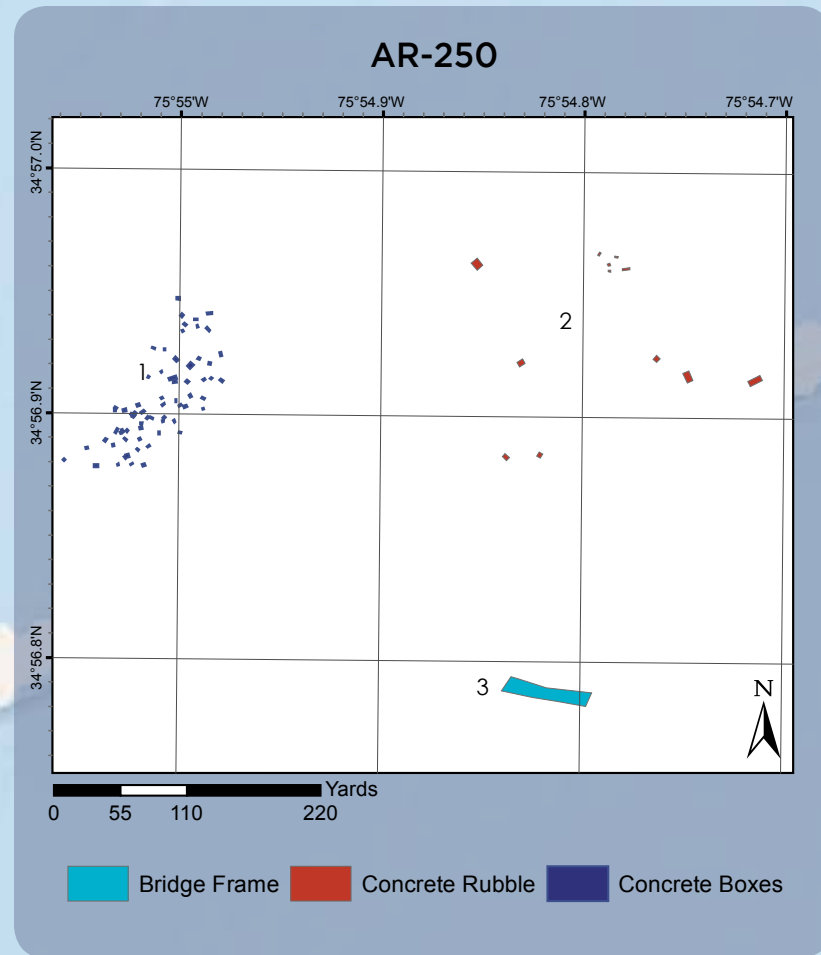


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-250 | | | | |
|--|-----------------|-------------|--------------------------|---------------|
| 146.9° magnetic - 7.1 nautical miles from Ocracoke Inlet Sea Buoy 83 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Boxes | 2005 - 2006 | 34° 56.907' N | 75° 55.008' W |
| 2 | Concrete Rubble | 1990-1992 | 34° 56.928' N | 75° 54.784' W |
| 3 | Bridge Frame | 5/2001 | 34° 56.788' N | 75° 54.815' W |



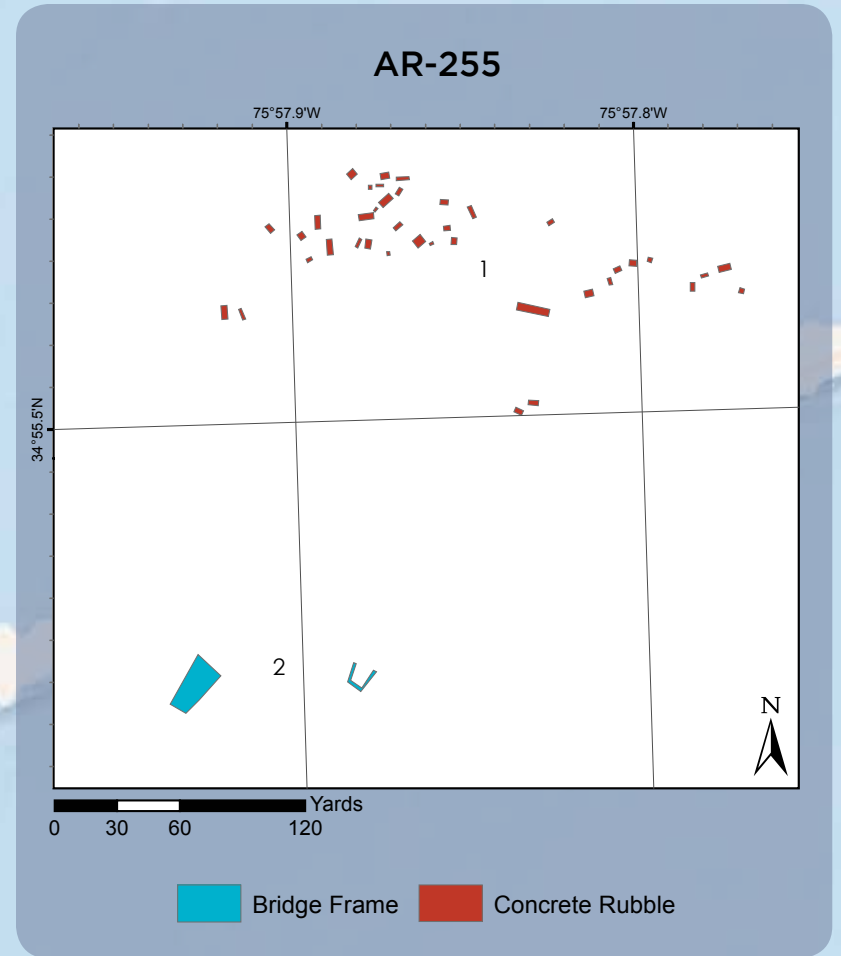
RALEIGH BAY

NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-255 | | | | |
|--|----------------------------|----------|--------------------------|---------------|
| 167.8° magnetic - 8 nautical miles from Ocracoke Inlet Sea Buoy 84 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Rubble 80 Tons | 6/1995 | 34° 55.539' N | 75° 57.854' W |
| 2 | Bridge Frame | 1998 | 34° 55.438' N | 75° 57.927' W |



RALEIGH BAY

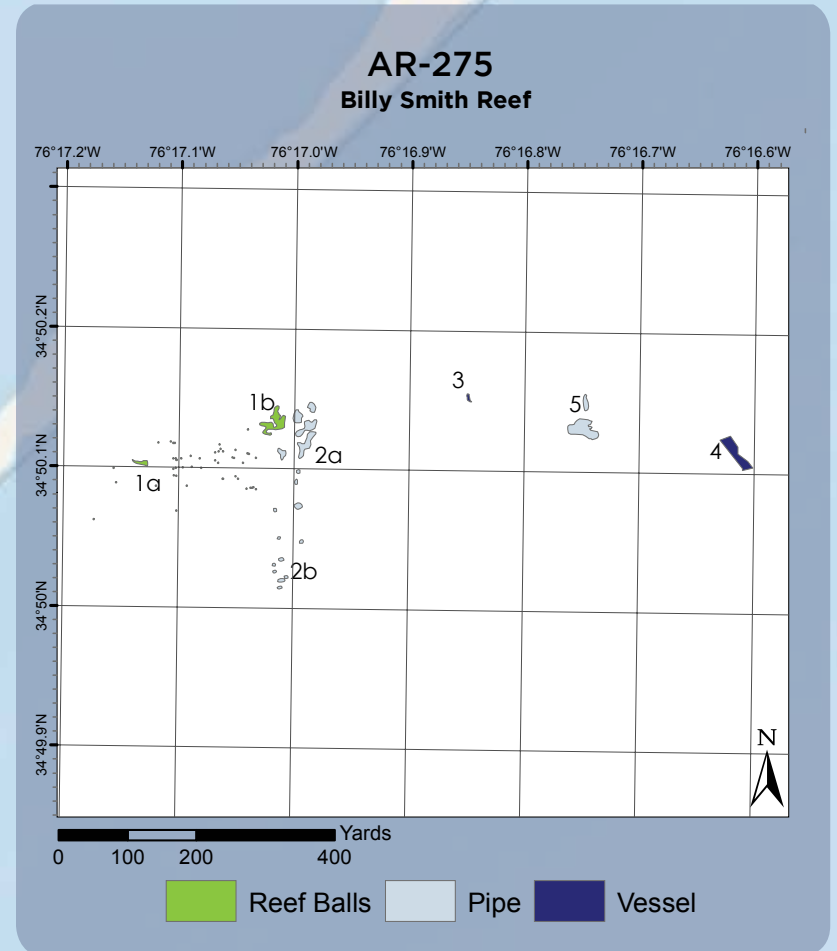
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-275 Billy Smith Reef | | | |
|--|--|----------|------------------------------------|
| 89.2° magnetic - 2.5 nautical miles from New Drum Inlet 55 feet average depth | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) |
| 1a | 100 Reef Balls | 2/2000 | 34° 50.102' N 76° 17.098' W |
| 1b | 100 Reef Balls | 2/2000 | 34° 50.133' N 76° 17.015' W |
| 2a | Concrete Pipe 740 Pieces | 1991 | 34° 50.121' N 76° 16.990' W |
| 2b | Concrete Pipe 740 Pieces | 1991 | 34° 50.030' N 76° 17.006' W |
| 3 | 65-Foot Crew Boat <i>Miss Clara</i> | 7/1992 | *34° 50.155' N *76° 16.846' W |
| | | | **34° 50.150' N **76° 16.844' W |
| 4 | 150-Foot Menhaden Vessel <i>Gulf Coast</i> | 6/1995 | *34° 50.126' N *76° 16.622' W |
| | | | **34° 50.104' N **76° 16.603' W |
| 5 | Concrete Pipe 179 Tons | 6/2007 | 34° 50.134' N 76° 16.746' W |

*Bow and **Stern GPS Coordinates



NOTES:

NOTE: Map graphic is not intended for navigation.



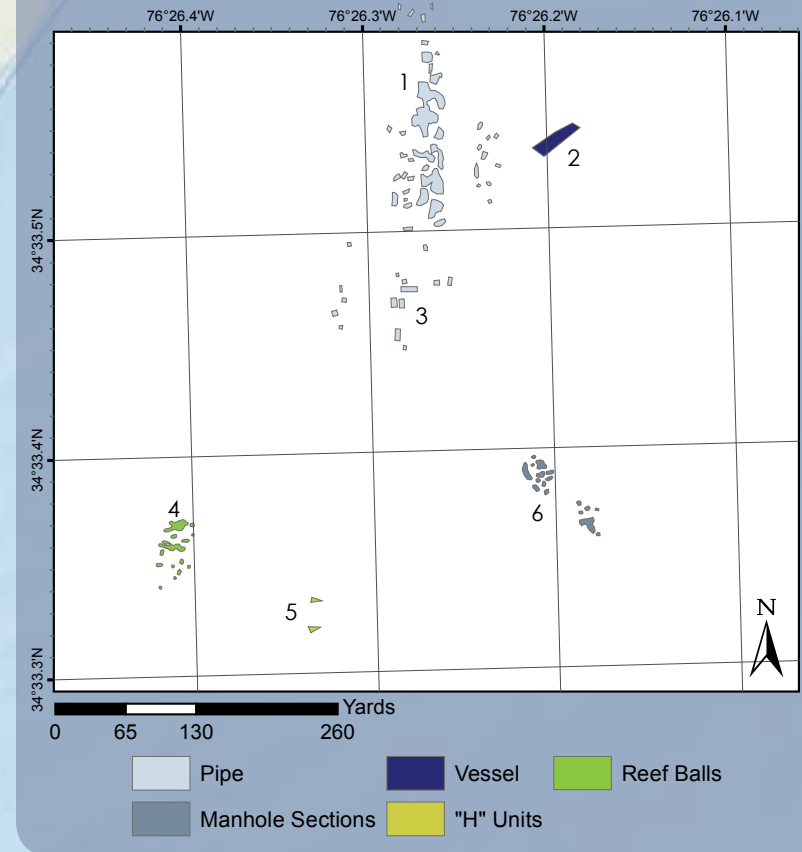
AR-285
George Summerlin Reef

341.1° magnetic - 3.9 nautical miles from Cape Lookout Shoals Lighted Buoy 2
65 feet average depth

| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
|--------|-------------------------------------|----------|--------------------------|-----------------|
| | | | Latitude | Longitude |
| 1 | Concrete Pipe 605 pieces | 1991 | 34° 33.527' N | 76° 26.263' W |
| 2 | 130-Foot Vessel <i>Nancy Lee</i> | 1/1989 | *34° 33.562' N | *76° 26.185' W |
| | | | **34° 33.551' N | **76° 26.206' W |
| 3 | Concrete Pipe 50 pieces | 10/1993 | 34° 33.480' N | 76° 26.285' W |
| 4 | 100 Reef Balls | 3/2000 | 34° 33.361' N | 76° 26.410' W |
| 5 | 2 High Profile Units | 11/1995 | 34° 33.326' N | 76° 26.335' W |
| 6 | Manhole Sections and Risers | 7/2007 | 34° 33.396' N | 76° 26.200' W |

*Bow and **Stern GPS Coordinates

AR-285
George Summerlin Reef

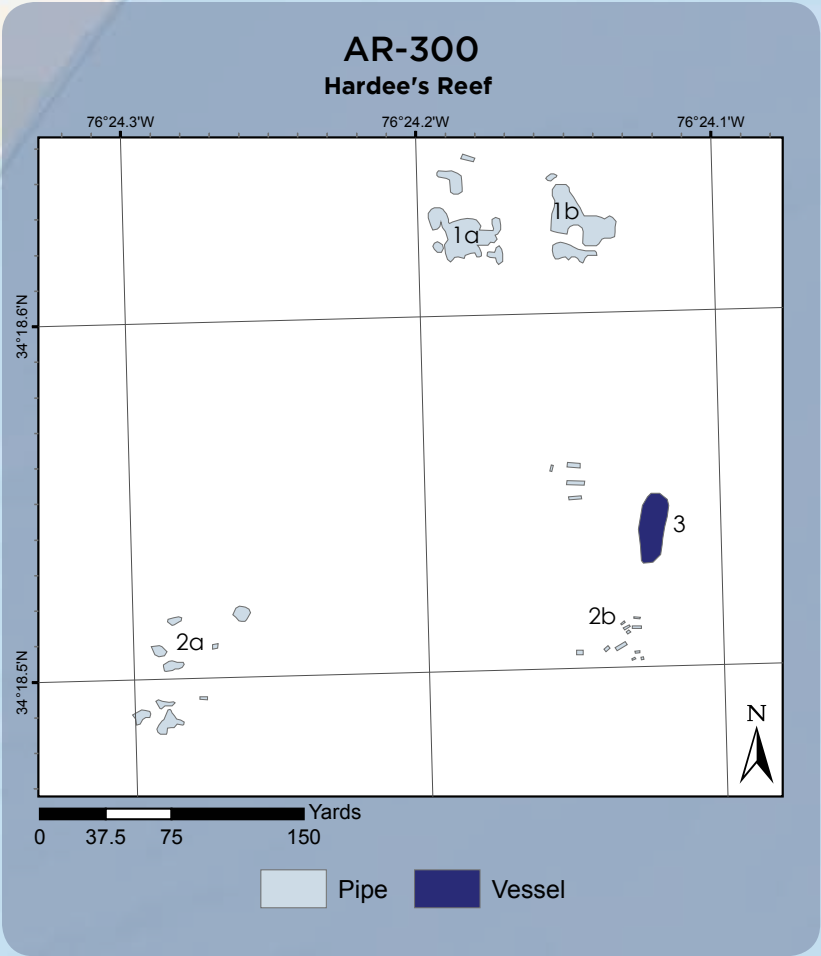


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-300 Hardee's Reef | | | | |
|---|------------------------------|----------|--------------------------|----------------|
| 163.6° magnetic - 11.1 nautical miles from Cape Lookout Shoals Lighted Buoy 2 | | | | |
| 128.1° magnetic - 11.8 nautical miles from Cape Lookout Shoals Lighted Buoy 6 | | | | |
| 90 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1a | Pipe 1,000 pieces | 5/1991 | 34° 18.625' N | 76° 24.185' W |
| 1b | Pipe 1,000 pieces | 5/1991 | 34° 18.625' N | 76° 24.146' W |
| 2a | Pipe 500 Pieces | 9/1993 | 34° 18.500' N | 76° 24.285' W |
| 2b | Pipe 500 Pieces | 9/1993 | 34° 18.531' N | 76° 24.143' W |
| 3 | 174-Foot Yard Oiler FS-26 | 1/1989 | *34 18.549' N | *76 24.121' W |
| | | | **34 18.529' N | **76 24.124' W |
| *Bow and **Stern GPS Coordinates | | | | |



NOTES:

NOTE: Map graphic is not intended for navigation.

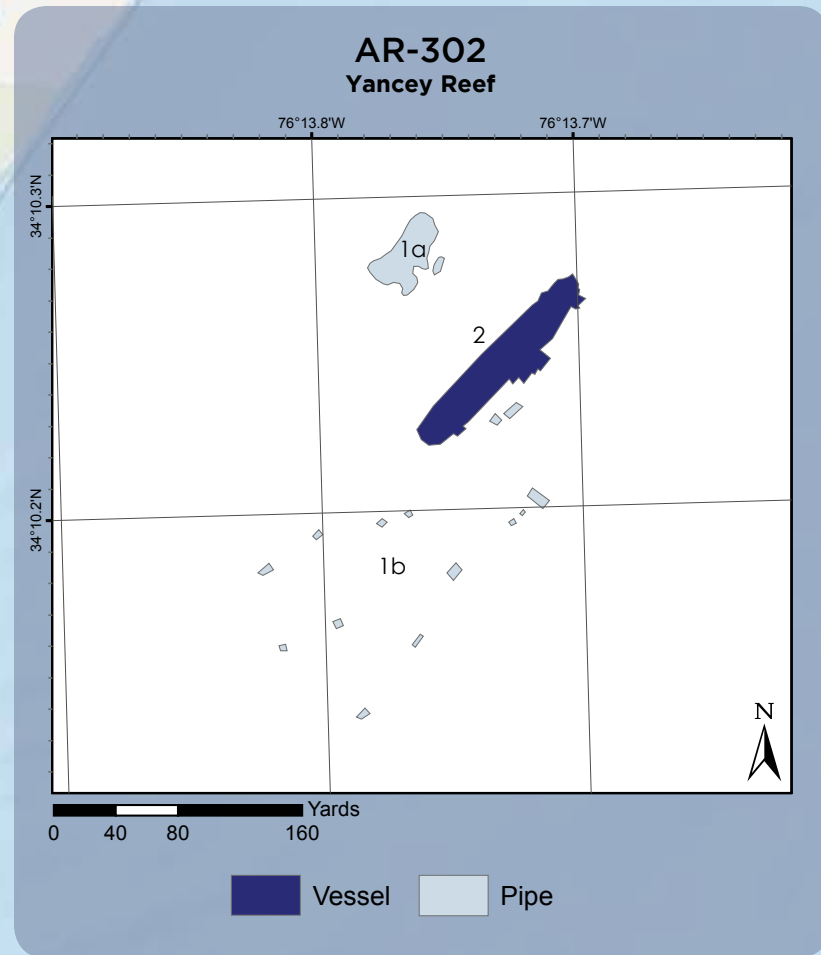


**AR-302
Yancey Reef**

142.9° magnetic - 21.7 nautical miles from Cape Lookout Shoals Lighted Buoy 2
126.8° magnetic - 33.7 nautical miles from Beaufort Inlet Sea Buoy
160 feet average depth

| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
|--------|---|---------------|--------------------------|-----------------------------|
| | | | 1a | Concrete Pipe 830 Pieces |
| 1b | 34° 10.192' N | 76° 13.757' W | | |
| 2 | 459-Foot Assault Transport Ship <i>Yancey</i> | 8/1990 | *34° 10.222' N | *76° 13.760' W |
| | | | **34° 10.273' N | **76° 13.701' W |

*Bow and **Stern GPS Coordinates

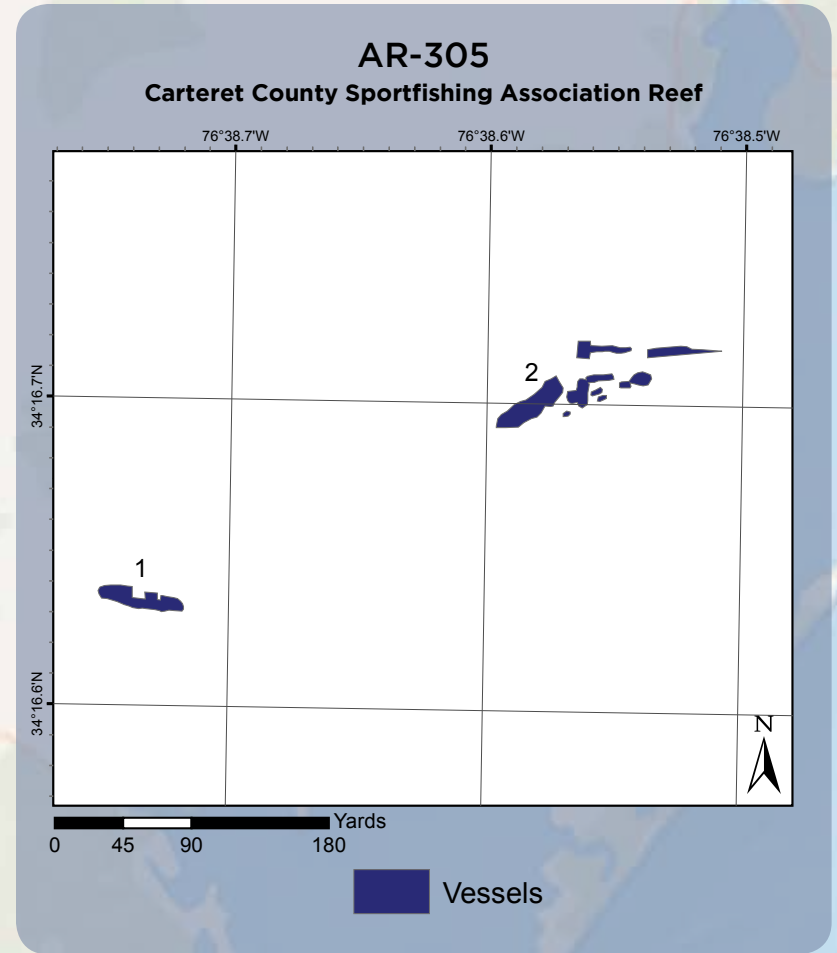


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-305 Carteret County Sportfishing Association Reef | | | | |
|--|---|----------|--------------------------|-----------------|
| 162.5° magnetic - 18.3 nautical miles from Beaufort Inlet Sea Buoy 104 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 183-Foot USCG Buoy Tender <i>Spar</i> | 7/1988 | *34° 16.631' N | **76° 38.717' W |
| | | | **34° 16.637' N | **76° 38.751' W |
| 2 | 439-Foot USN Cable Layer <i>Aeolus</i> | 6/2004 | *34° 16.692' N | *76° 38.596' W |
| | | | **34° 16.707' N | **76° 38.572' W |
| *Bow and **Stern GPS Coordinates | | | | |



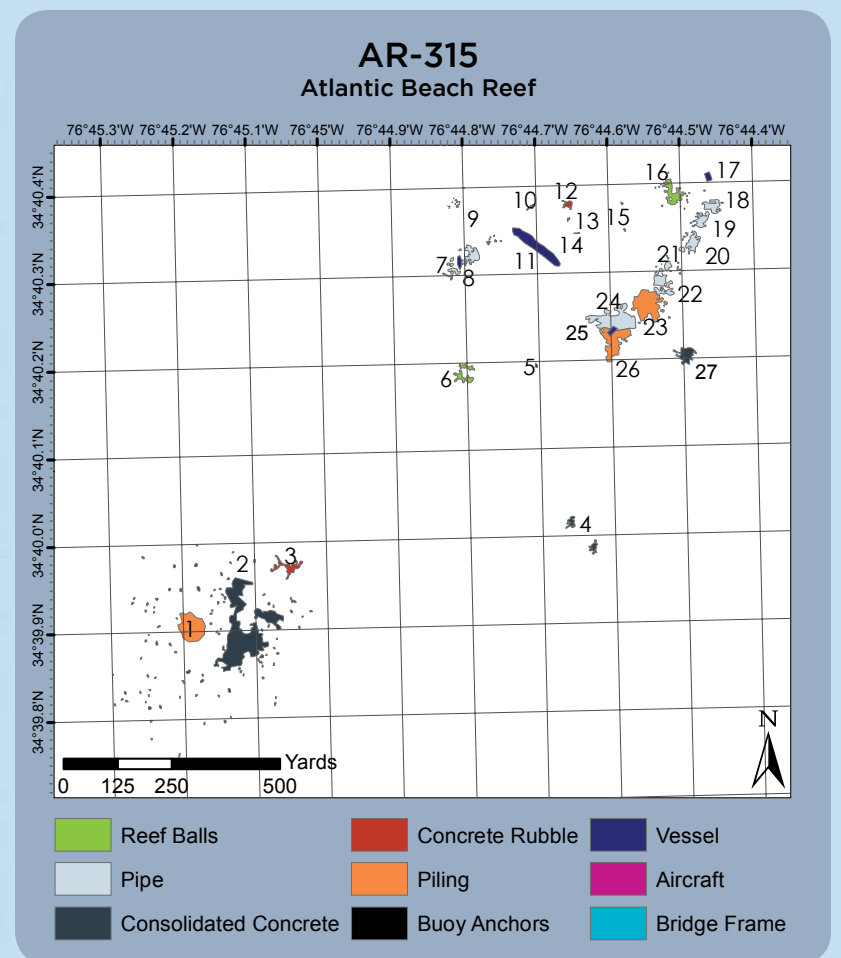
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-315 Atlantic Beach Reef | | | | |
|---|---|-----------|--------------------------|-----------------|
| 239.1° magnetic - 3.6 nautical miles from Beaufort Inlet at the Fort Macon Jetty 49 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pilings - Radio Island | 2/2003 | 34° 39.905' N | 76° 45.189' W |
| 2 | Consolidated Concrete - Pilings and Pipes | 2/2003 | 34° 39.900' N | 76° 45.123' W |
| | | | 34° 39.900' N | 76° 45.123' W |
| 3 | Concrete Rubble - Atlantic Beach Bridge Rubble | 6/2005 | 34° 39.972' N | 76° 45.055' W |
| 4 | Consolidated Concrete - Manhole Boxes and Risers | 5/2007 | 34° 40.001' N | 76° 44.646' W |
| 5 | Sportfishing Vessel <i>Finest Kind</i> | 8/1977 | *34° 40.198' N | *76° 44.705' W |
| | | | **34° 40.193' N | **76° 44.703' W |
| 6 | 51 Reef Balls | 3/2004 | 34° 40.187' N | 76° 44.804' W |
| 7 | Concrete Pipe - Newport DOT | 2002-2003 | 34° 40.318' N | 76° 44.799' W |
| 8 | 104-foot Navy Tug Boat <i>Takos</i> | 11/2000 | *34° 40.307' N | *76° 44.807' W |
| | | | **34° 40.323' N | **76° 44.807' W |
| 9 | USCG Buoy Anchors | 1980s | 34° 40.384' N | 76° 44.810' W |
| | | | 34° 40.339' N | 76° 44.761' W |
| 10 | Boeing Aircraft OV-10 Bronco | 3/1992 | 34° 40.376' N | 76° 44.708' W |
| 11 | 440-Foot Liberty Ship <i>Theodore Parker</i> | 6/1974 | *34° 40.353' N | *76° 44.733' W |
| | | | **34° 40.308' N | **76° 44.669' W |
| 12 | Concrete Rubble - 80 Tons | 1991-1992 | 34° 40.378' N | 76° 44.655' W |
| 13 | McDonald Douglas Aircraft A4E Skyhawk | 3/1992 | 34° 40.362' N | 76° 44.655' W |
| 14 | 40-foot Vessel - USCG Launch | 1980 | *34° 40.345' N | *76° 44.649' W |
| | | | **34° 40.346' N | **76° 44.640' W |
| 15 | Atlantic Beach Steel Bridge Frame | 6/1989 | 34° 40.379' N | 76° 44.581' W |
| | | | 34° 40.348' N | 76° 44.578' W |
| 16 | 100 Reef Balls | 2/2000 | 34° 40.388' N | 76° 44.510' W |
| 17 | 60-foot Lash Barge with 450 tons of Concrete Rubble | 6/1989 | *34° 40.229' N | *76° 44.603' W |
| | | | **34° 40.237' N | **76° 44.594' W |
| 18 | Concrete Pipe 161 Tons | 12/2008 | 34° 40.373' N | 76° 44.456' W |
| 19 | Concrete Pipe 160 Tons | 11/2008 | 34° 40.357' N | 76° 44.471' W |
| 20 | Concrete Pipe 162 Tons | 12/2008 | 34° 40.331' N | 76° 44.486' W |
| 21 | Concrete Pipe 150 Tons | 4/1999 | 34° 40.305' N | 76° 44.520' W |
| 22 | Concrete Pipe 157 Tons | 11/2008 | 34° 40.285' N | 76° 44.528' W |
| 23 | Concrete Pilings - Radio Island 6' to 12' in length | 6/2005 | 34° 40.262' N | 76° 44.548' W |
| 24 | Concrete Pipe | 1/2003 | 34° 40.246' N | 76° 44.594' W |
| 25 | 60' Lash Barge | 6/1989 | *34° 40.402' N | *76° 44.459' W |
| | | | **34° 40.411' N | **76° 44.463' W |
| 26 | Concrete Pilings - Radio Island 6' to 12' in length | 6/2005 | 34° 40.221' N | 76° 44.596' W |
| 27 | Consolidated Concrete - Pipes and Headers | 5/2007 | 34° 40.204' N | 76° 44.497' W |

*Bow and **Stern GPS Coordinates

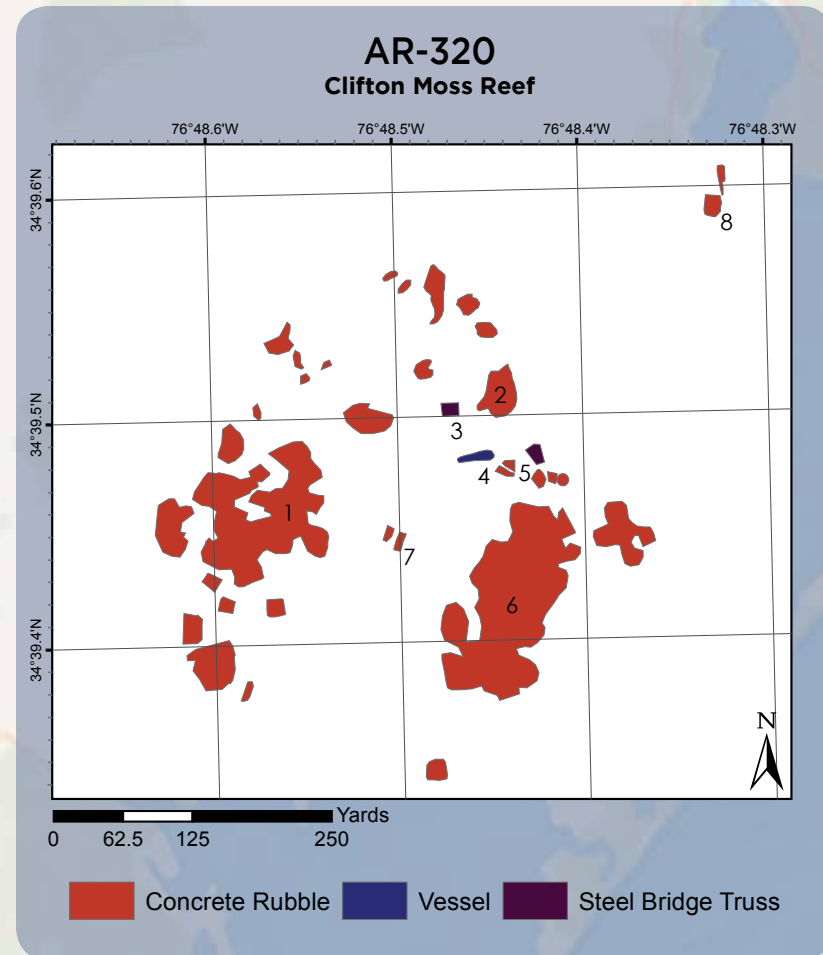


NOTES:



| AR-320 Clifton Moss Reef | | | | |
|---|--|----------|--------------------------|-----------------|
| 242.1° magnetic - 6.8 nautical miles from Beaufort Inlet at the Fort Macon Jetty 50 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Rubble Atlantic Beach Bridge | 1987 | 34° 39.455' N | 76° 48.579' W |
| 2 | Concrete Rubble Atlantic Beach Bridge | 1987 | 34° 39.510' N | 76° 48.445' W |
| 3 | Steel Bridge Truss Atlantic Beach Bridge | 1987 | 34° 39.503' N | 76° 48.471' W |
| 4 | 140' Menhaden Vessel <i>Novelty</i> | 1986 | *34° 39.483' N | *76° 48.448' W |
| | | | **34° 39.480' N | **76° 48.468' W |
| 5 | Steel Bridge Truss Atlantic Beach Bridge | 1987 | 34° 39.483' N | 76° 48.426' W |
| 6 | Concrete Rubble Atlantic Beach Bridge | 1987 | 34° 39.420' N | 76° 48.433' W |
| 7 | Concrete Rubble Atlantic Beach Bridge | 1987 | 34° 39.420' N | 76° 48.433' W |
| 8 | Concrete Rubble Atlantic Beach Bridge | 1987 | 34° 39.590' N | 76° 48.326' W |

*Bow and **Stern GPS Coordinates



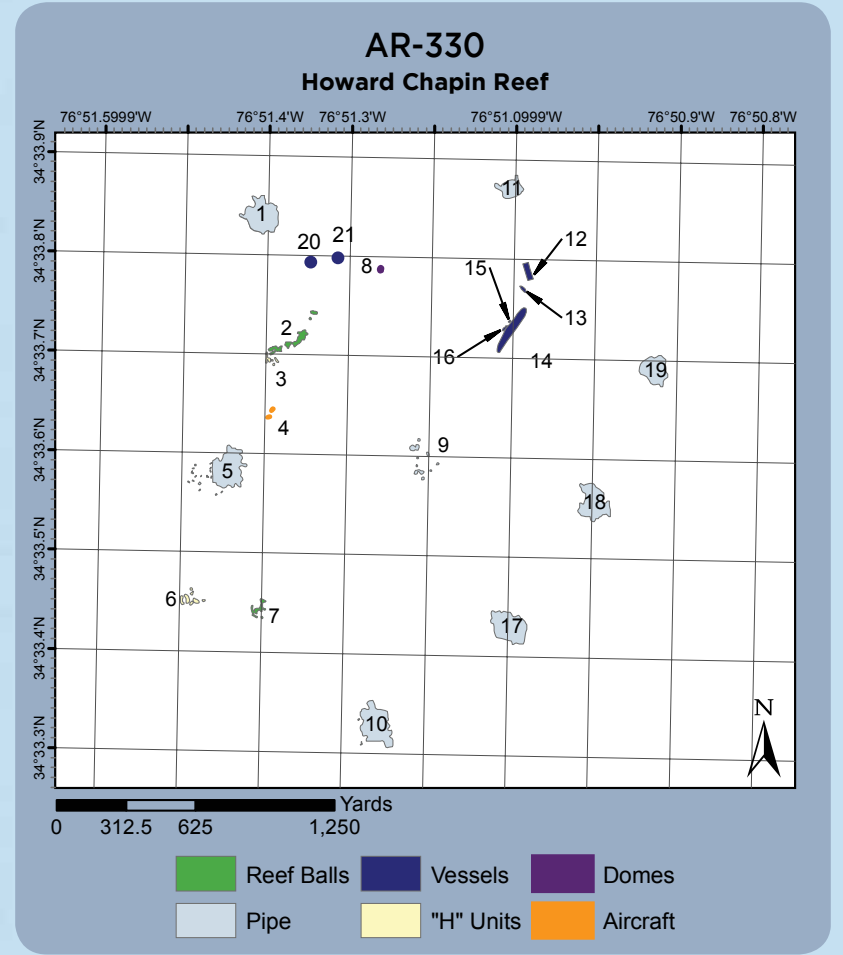
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-330 Howard Chapin Reef | | | | |
|---|--|------------|--------------------------|------------------|
| 251.6° magnetic - 8.1 nautical miles from Beaufort Inlet Sea Buoy 217.8° magnetic - 11.9 nautical miles from Beaufort Inlet at the Fort Macon Jetty 60 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| | | | | |
| 1 | Concrete Pipe - 685 Tons | 2005 | 34° 33.839' N | 76° 51.405' W |
| 2 | 45 Reef Balls | 1999 | 34° 33.715' N | 76° 51.365' W |
| 3 | 43 "H" Units | 1999 | 34° 33.695' N | 76° 51.391' W |
| 4 | 2 C-130 Aircraft | 11/15/1994 | 34° 33.641' N | 76° 51.390' W |
| 5 | Concrete Pipe - 600 Tons | 2/3/2003 | 34° 33.584' N | 76° 51.441' W |
| 6 | 45 "H" Units | 1999 | 34° 33.452' N | 76° 51.484' W |
| 7 | 45 Reef Balls | 9/11/2000 | 34° 33.444' N | 76° 51.401' W |
| 8 | 3 Fiberglass Domes | 1990 | 34° 33.788' N | 76° 51.260' W |
| 9 | Concrete Pipe - 201 Pieces | 1990 | 34° 33.598' N | 76° 51.208' W |
| 10 | Concrete Pipe - 822 Tons | 2005 | 34° 33.329' N | 76° 51.255' W |
| 11 | Concrete Pipe - 137 Tons | 2005 | 34° 33.871' N | 76° 51.103' W |
| 12 | 200-foot Deck Barge <i>TBM IX</i> | 6/21/2011 | *34° 33.780' N | *76° 51.077' W |
| | | | **34° 33.797' N | **76° 51.083' W |
| 13 | 45-foot Ferro-Cement Sailboat <i>Cement Lady</i> | 6/11/2012 | *34° 33.767' N | *76° 51.082' W |
| | | | **34° 33.774' N | **76° 51.090' W |
| 14 | 320-foot Landing Craft Repair Ship <i>Indra</i> | 8/5/1992 | *34° 33.706' N | *76° 51.115' W |
| | | | **34° 33.751' N | **76° 51.082' W |
| 15 | 49-foot Ferro-Cement Sailboat <i>Hard Rock</i> | 6/11/2012 | *34° 33.739' N | *76° 51.100' W |
| | | | **34° 33.737' N | **76° 51.103' W |
| 16 | 55-foot Steel Sailboat <i>Nepomuk</i> | 6/11/2009 | *34° 33.728' N | *76° 51.110' W |
| | | | **34° 33.733' N | **76° 51.104' W |
| 17 | Concrete Pipe - 411 Tons | 2005 | 34° 33.430' N | 76° 51.095' W |
| 18 | Concrete Pipe - 548 Tons | 2005 | 34° 33.556' N | 76° 50.995' W |
| 19 | Concrete Pipe - 274 Tons | 2005 | 34° 33.691' N | 76° 50.924' W |
| 20 | 67-foot Tugboat <i>Tramp</i> | 5/7/2016 | ***34° 33.794' N | ***76° 51.346' W |
| 21 | 107-foot Tugboat <i>James J. Francesconi</i> | 5/7/2016 | ***34° 33.799' N | ***76° 51.314' W |

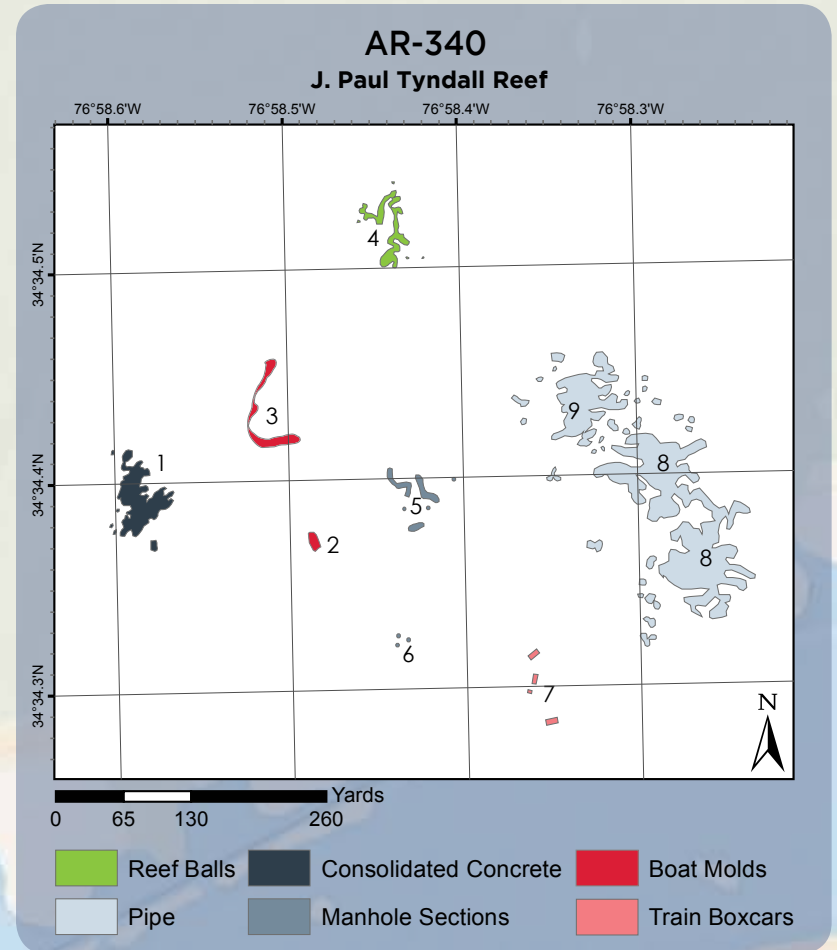
*Bow and **Stern GPS Coordinates
***Approximate vessel center point



NOTES:



| AR-340 J. Paul Tyndall Reef | | | | |
|---|---|----------|--------------------------|---------------|
| 106.7° magnetic - 7.2 nautical miles from Bogue Inlet Sea Buoy 258.1° magnetic - 13.8 nautical miles from Beaufort Inlet Sea Buoy 58 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Consolidated Concrete Panels, Headers, Dock/ Roof Panels and Pipe | 5/2007 | 34° 34.393' N | 76° 58.586' W |
| 2 | Fiberglass Boat Molds | 1996 | 34° 34.371' N | 76° 58.486' W |
| 3 | Fiberglass Boat Molds | 1996 | 34° 34.430' N | 76° 58.511' W |
| 4 | 71 Reef Balls | 10/2000 | 34° 34.519' N | 76° 58.440' W |
| 5 | Manhole Sections 40 pieces | 4/2006 | 34° 34.392' N | 76° 58.428' W |
| 6 | 3 Manhole Sections | 4/2006 | 34° 34.323' N | 76° 58.437' W |
| 7 | Train Boxcars | 11/1986 | 34° 34.299' N | 76° 58.358' W |
| 8 | Concrete Pipe 500 pieces | 1993 | 34° 34.378' N | 76° 58.277' W |
| | | | 34° 34.378' N | 76° 58.277' W |
| 9 | Concrete Pipe | 8/1993 | 34° 34.435' N | 76° 58.330' W |



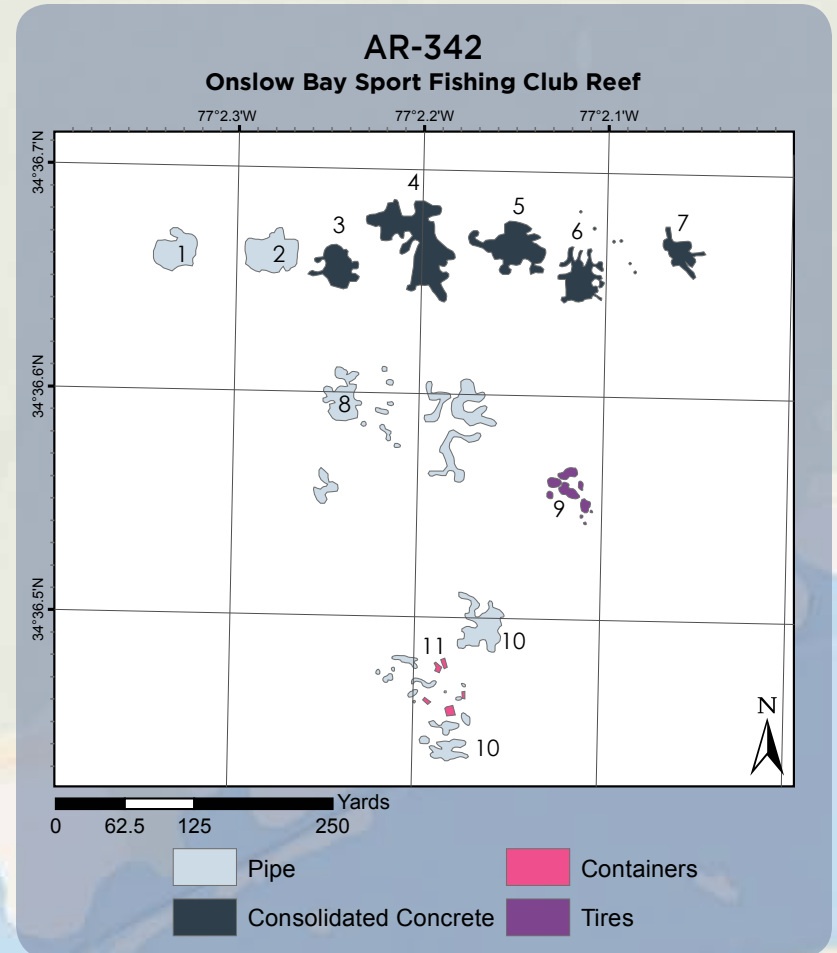
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-342 Onslow Bay Sport Fishing Club Reef | | | | |
|--|---|----------|--------------------------|--------------|
| 97.9° magnetic - 3.4 nautical miles from Bogue Inlet Sea Buoy 265.9° magnetic - 17.1 nautical miles from Beaufort Inlet Sea Buoy 49 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pipe 174 pieces | 3/2004 | 34° 36.662' N | 77° 2.329' W |
| 2 | Concrete Pipe 158 tons | 4/2007 | 34° 36.662' N | 77° 2.277' W |
| 3 | Consolidated Concrete Pipe, Cones, Risers | 4/2007 | 34° 36.656' N | 77° 2.242' W |
| 4 | Consolidated Concrete Pipe, Bases, Risers | 4/2007 | 34° 36.667' N | 77° 2.199' W |
| 5 | Consolidated Concrete Pipe, Bases, Risers | 4/2007 | 34° 36.666' N | 77° 2.146' W |
| 6 | Consolidated Concrete Pipe, Risers, Bases, Boxes | 4/2007 | 34° 36.653' N | 77° 2.110' W |
| 7 | Consolidated Concrete Bases and Extensions | 2/2006 | 34° 36.665' N | 77° 2.056' W |
| 8 | Concrete Pipe 406 pieces | 1994 | 34° 36.588' N | 77° 2.203' W |
| 9 | Tires | 2/1983 | 34° 36.559' N | 77° 2.114' W |
| 10 | Concrete Pipe 61 pieces | 12/1986 | 34° 36.477' N | 77° 2.171' W |
| 11 | Metal Containers | 2/1983 | 34° 36.467' N | 77° 2.179' W |

NOTE: Map graphic is not intended for navigation.

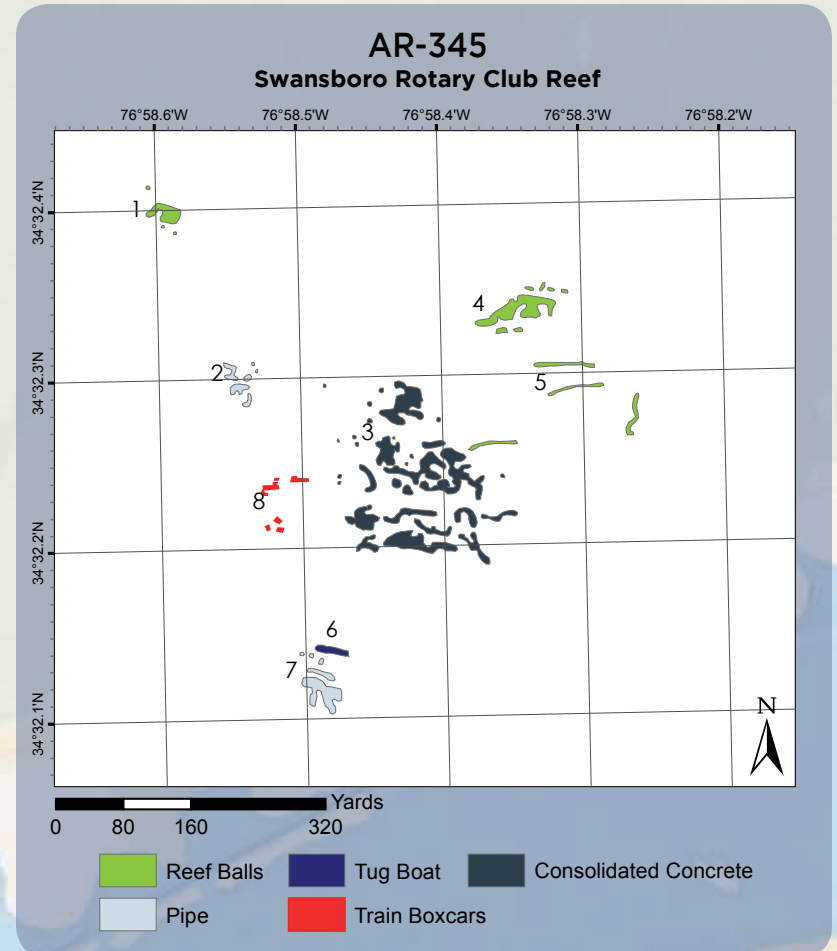


NOTES:



| AR-345 Swansboro Rotary Club Reef | | | | |
|---|--|----------|--------------------------|-----------------|
| 120° magnetic - 8.2 nautical miles from Bogue Inlet Sea Buoy 249.8° magnetic - 14.2 nautical miles from Beaufort Inlet Sea Buoy 60 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 50 Ultra Reef Balls | 3/2004 | 34° 32.398' N | 76° 58.593' W |
| 2 | Concrete Pipe | 1991 | 34° 32.298' N | 76° 58.544' W |
| 3 | Consolidated Concrete: Pipe and Manhole Sections | 1/1991 | 34° 32.235' N | 76° 58.417' W |
| 4 | 75 Reef Balls | 10/2000 | 34° 32.338' N | 76° 58.343' W |
| 5 | 20 Reef Balls | 12/2005 | 34° 32.284' N | 76° 58.309' W |
| 6 | 116-Foot Tug Boat <i>Titan</i> | 7/2004 | *34° 32.142' N | *76° 58.494' W |
| | | | **34° 32.138' N | **76° 58.470' W |
| 7 | Concrete Pipe | 2/2006 | 34° 32.118' N | 76° 58.489' W |
| 8 | Train Boxcars | 12/1986 | 34° 32.231' N | 76° 58.516' W |

* Bow and **Stern GPS Coordinates



NOTES:

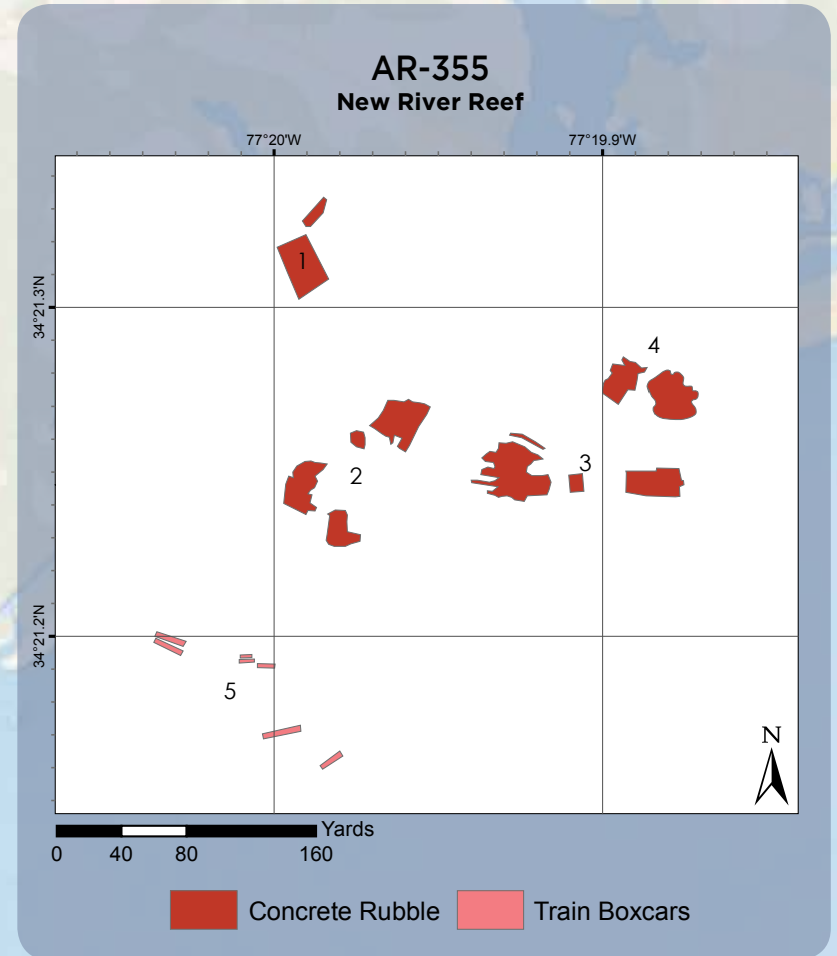
NOTE: Map graphic is not intended for navigation.



**AR-355
New River Reef**

76.2° magnetic - 15.3 nautical miles from New Topsail Inlet Sea Buoy
172.1° magnetic - 9.9 nautical miles from New River Inlet Sea Buoy
60 feet average depth

| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
|--------|--------------------------------------|----------|--------------------------|---------------|
| | | | Latitude | Longitude |
| 1 | Concrete Rubble Pilings and Rails | 7/1993 | 34° 21.315' N | 77° 19.991' W |
| 2 | Concrete Rubble Pilings and Rails | 7/1993 | 34° 21.252' N | 77° 19.975' W |
| 3 | Concrete Rubble Pilings and Rails | 7/1993 | 34° 21.249' N | 77° 19.925' W |
| 4 | Concrete Rubble Pilings and Rails | 7/1993 | 34° 21.266' N | 77° 19.884' W |
| 5 | Train Boxcars | 12/1986 | 34° 21.184' N | 77° 20.010' W |



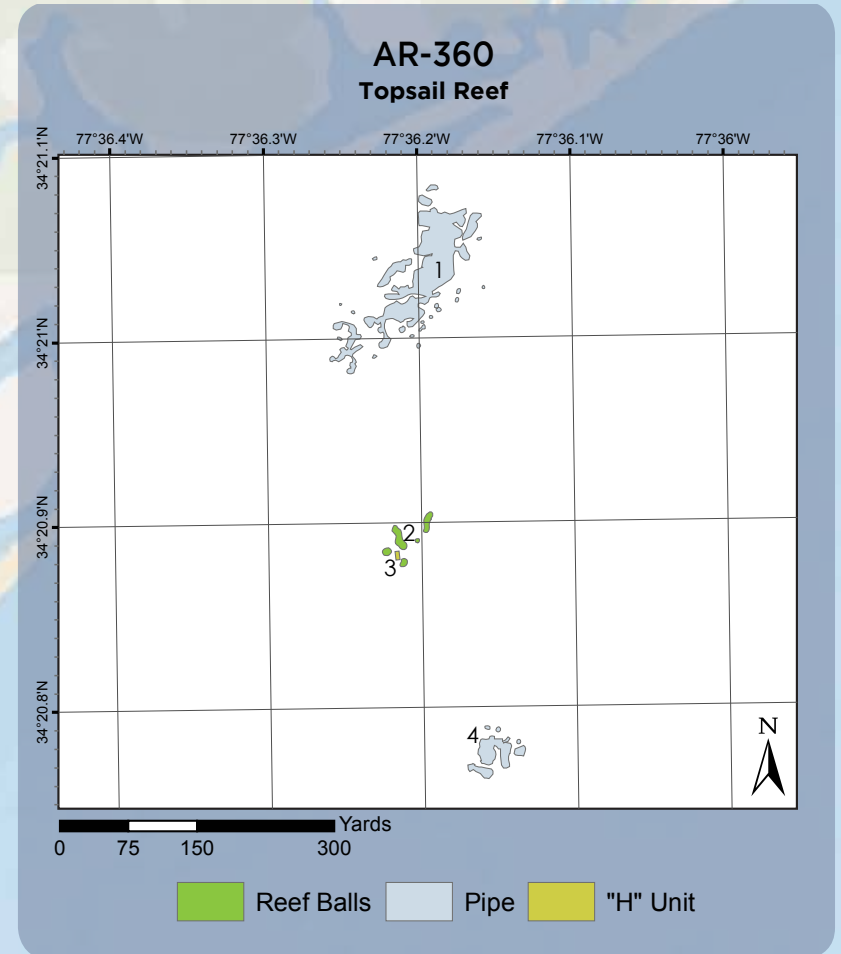
ONSLOW BAY

NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-360 Topsail Reef | | | | |
|--|-----------------------------|----------|--------------------------|---------------|
| 57.1° magnetic - 2 nautical miles from New Topsail Inlet Sea Buoy 44 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pipe 850 pieces | 1992 | 34° 21.035' N | 77° 36.198' W |
| 2 | 23 Reef Balls | 6/2006 | 34° 20.891' N | 77° 36.212' W |
| 3 | Concrete "H" Unit | 6/2006 | 34° 20.883' N | 77° 36.216' W |
| 4 | Concrete Pipe 280 tons | 4/2002 | 34° 20.774' N | 77° 36.154' W |

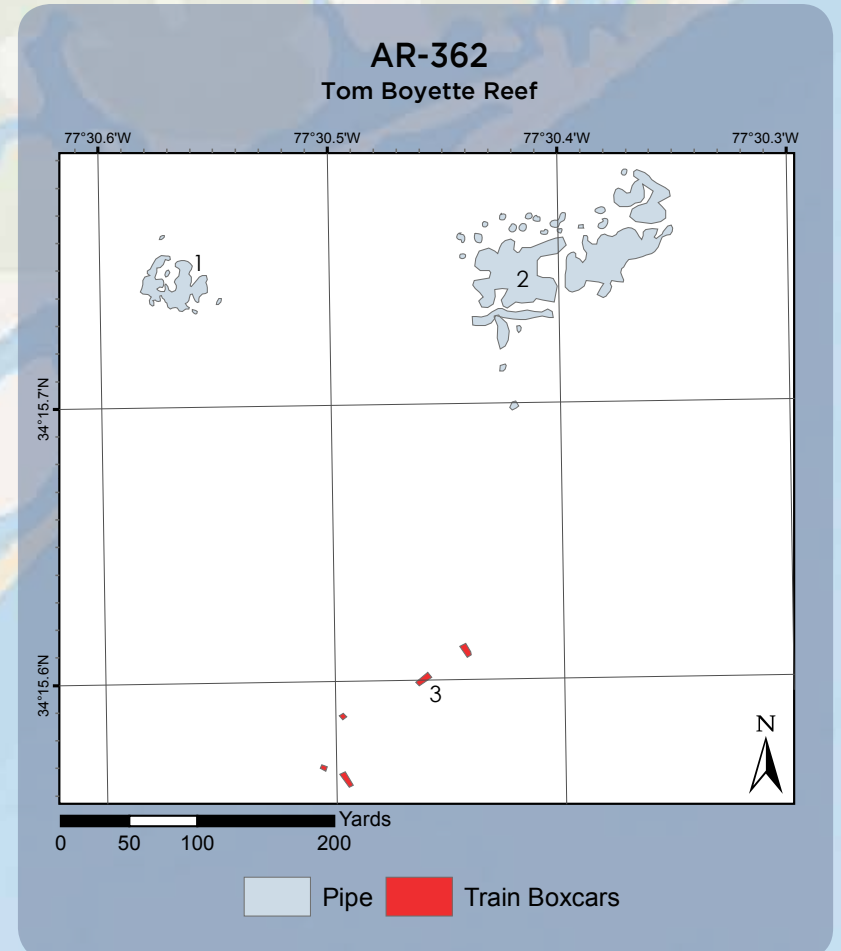


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-362 Tom Boyette Reef | | | | |
|---|-----------------------------|----------|--------------------------|---------------|
| 114.1° magnetic - 8 nautical miles from New Topsail Inlet Sea Buoy 54 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pipe 130 tons | 4/2002 | 34° 15.744' N | 77° 30.567' W |
| 2 | Concrete Pipe 850 pieces | 1992 | 34° 15.745' N | 77° 30.419' W |
| 3 | Train Boxcars | 12/1986 | 34° 15.589' N | 77° 30.473' W |



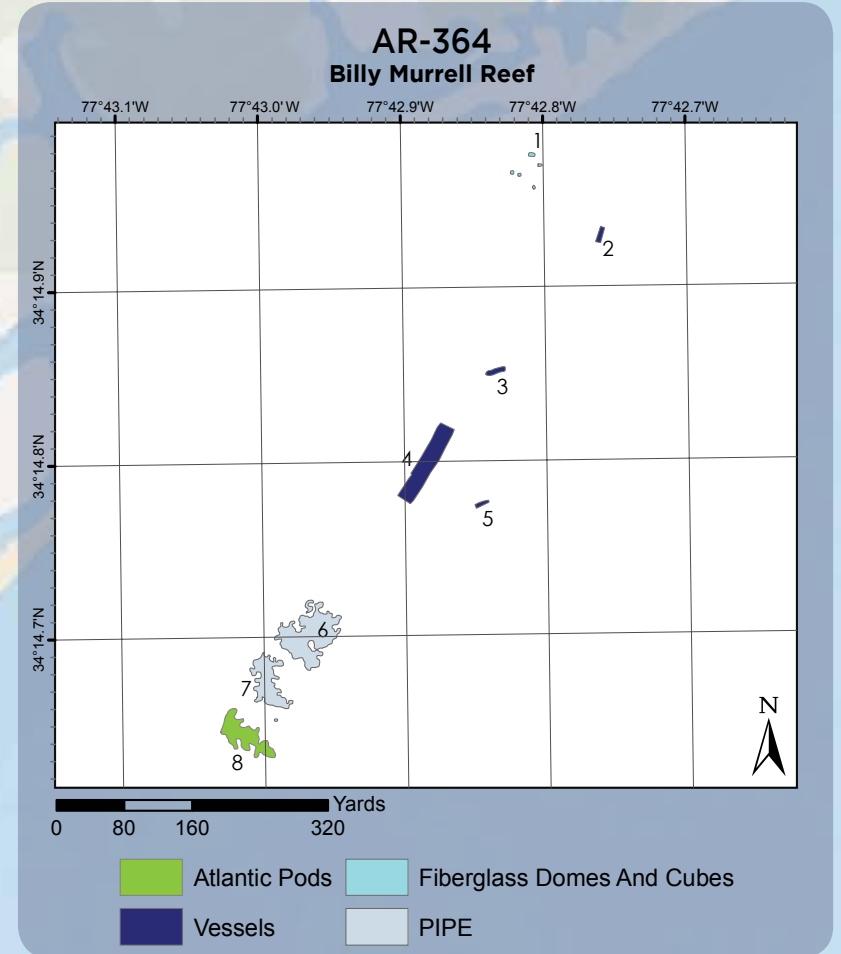
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-364 Billy Murrell Reef | | | | |
|--|--|-----------|--------------------------|-----------------|
| 33.1° magnetic - 6.1 nautical miles from Masonboro Inlet Sea Buoy 204.1° magnetic - 6.5 nautical miles from New Topsail Inlet Sea Buoy 44 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| | | | | |
| 1 | Fiberglass Domes and Cubes | 1/1989 | 34° 14.969' N | 77° 42.811' W |
| 2 | 52-Foot Tug Boat <i>Captain Tom</i> | 5/1992 | *34° 14.934' N | *77° 42.759' W |
| | | | **34° 14.925' N | **77° 42.762' W |
| 3 | 65-Foot Tug Boat <i>Captain Jerry</i> | 1994 | *34° 14.850' N | *77° 42.842' W |
| | | | **34° 14.853' N | **77° 42.828' W |
| 4 | 297-Foot Barge <i>HT-290</i> | 1997 | *34° 14.778' N | *77° 42.900' W |
| | | | **34° 14.820' N | **77° 42.869' W |
| 5 | 55-Foot Landing Craft <i>LCM 6</i> | 1/1989 | *34° 14.777' N | *77° 42.841' W |
| | | | **34° 14.774' N | **77° 42.850' W |
| 6 | Concrete Pipe - 240 tons | 5/5/2015 | 34° 14.700' N | 77° 42.968' W |
| 7 | Concrete Pipe - 240 tons | 5/15/2015 | 34° 14.674' N | 77° 42.998' W |
| 8 | 50 Atlantic Pods | 3/19/2015 | 34° 14.644' N | 77° 43.015' W |

*Bow and **Stern GPS Coordinates

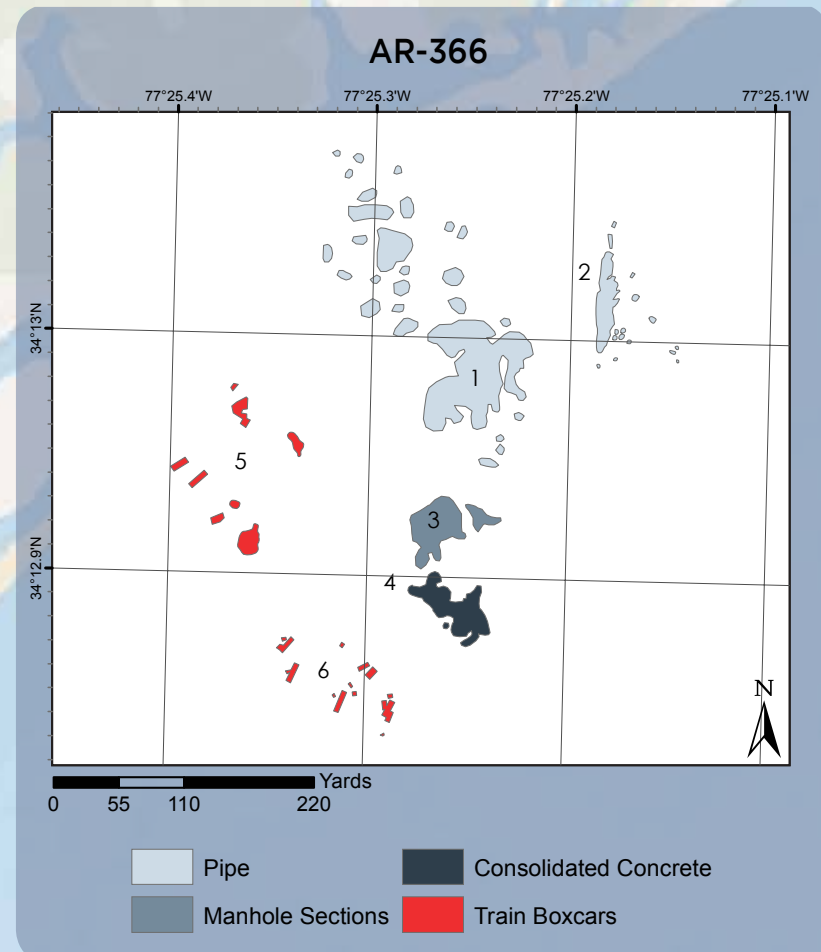


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-366 | | | | |
|--|-------------------------------|----------|--------------------------|---------------|
| 113.5° magnetic - 13.1 nautical miles from New Topsail Inlet Sea Buoy 66 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pipe 850 Pieces | 1992 | 34° 13.003' N | 77° 25.261' W |
| 2 | Concrete Pipe 260 tons | 4/2002 | 34° 13.016' N | 77° 25.179' W |
| 3 | Manhole Sections 61 Pieces | 1/2004 | 34° 12.921' N | 77° 25.261' W |
| 4 | Consolidated Concrete | 1/2004 | 34° 12.887' N | 77° 25.253' W |
| 5 | Train Boxcars | 12/1986 | 34° 12.937' N | 77° 25.362' W |
| 6 | Train Boxcars | 12/1987 | 34° 12.855' N | 77° 25.309' W |



ONSLOW BAY

NOTES:

NOTE: Map graphic is not intended for navigation.

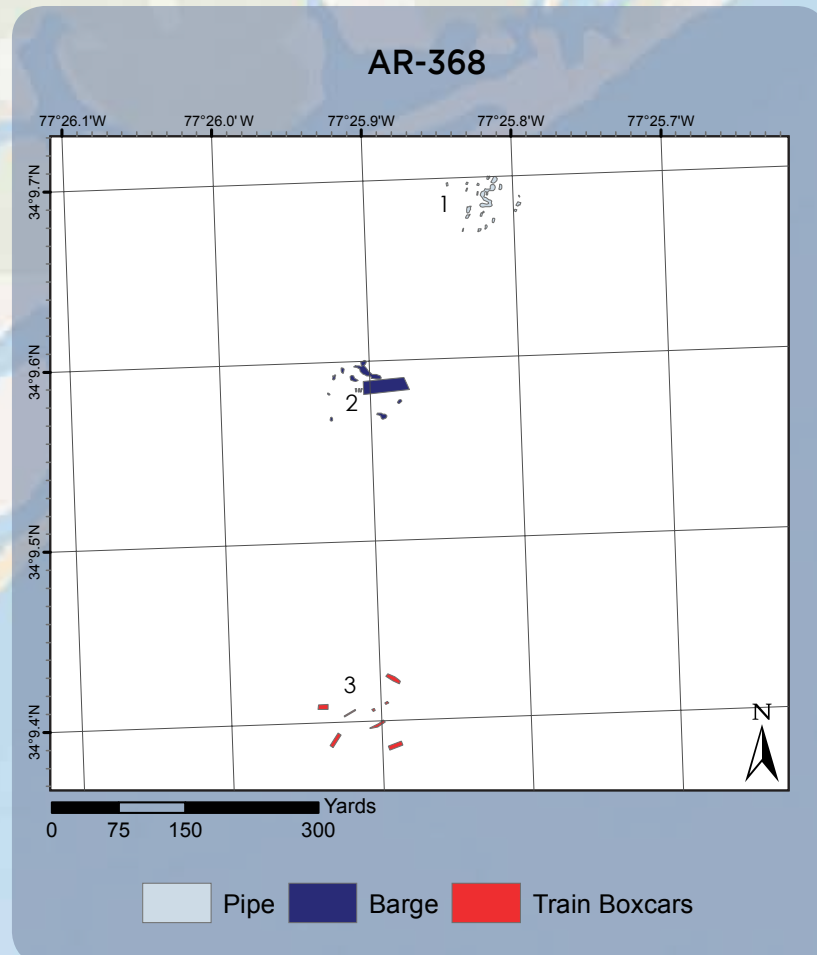


AR-368

82.5° magnetic - 18.3 nautical miles from Masonboro Inlet Sea Buoy
 125.5° magnetic - 14.9 nautical miles from New Topsail Inlet Sea Buoy
 66 feet average depth

| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
|--------|---------------------------|----------|--------------------------|-----------------|
| | | | | |
| 1 | Concrete Pipe 130 tons | 4/2002 | 34° 9.688' N | 77° 25.822' W |
| 2 | 241-Foot Barge LC-16 | 1994 | *34° 9.585' N | *77° 25.909' W |
| | | | **34° 9.587' N | **77° 25.880' W |
| 3 | Train Boxcars | 12/1986 | 34° 9.402' N | 77° 25.915' W |

*Bow and **Stern Locations



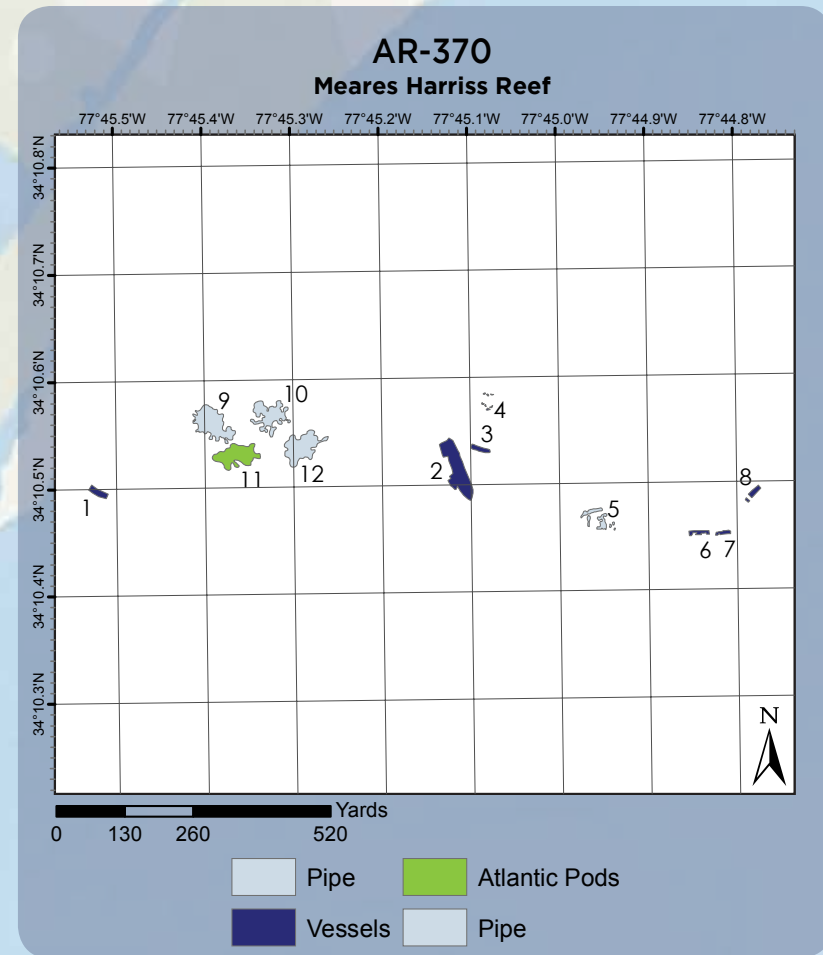
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-370 Meares Harris Reef | | | |
|--|---|------------|------------------------------------|
| 78.4° magnetic - 2.3 nautical miles from Masonboro Inlet Sea Buoy 52 feet average depth | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) |
| 1 | 90-Foot Barge | 8/1973 | *34° 10.501' N *77° 45.531' W |
| | | | **34° 10.493' N **77° 45.511' W |
| 2 | 440-Foot Liberty Ship <i>Alexander Ramsey</i> | 8/1974 | *34° 10.486' N *77° 45.100' W |
| | | | **34° 10.541' N **77° 45.129' W |
| 3 | 120-Foot Tug Boat <i>Sicony</i> | 12/1982 | *34° 10.536' N *77° 45.100' W |
| | | | **34° 10.530' N **77° 45.078' W |
| 4 | 110-Foot Tug Boat <i>Firefighter</i> | 6/1970 | 34° 10.577' N 77° 45.080' W |
| 5 | Concrete Pipe 155 tons | 9/2008 | 34° 10.467' N 77° 44.958' W |
| 6 | 90-Foot Barge | 8/1973 | *34° 10.452' N *77° 44.854' W |
| | | | **34° 10.452' N **77° 44.832' W |
| 7 | 105-Foot Tug Boat <i>Stone Brothers</i> | 1/1983 | *34° 10.451' N *77° 44.824' W |
| | | | **34° 10.453' N **77° 44.807' W |
| 8 | 135-Foot Barge | 9/1980 | *34° 10.482' N *77° 44.789' W |
| | | | **34° 10.495' N **77° 44.774' W |
| 9 | Concrete Pipe - 200 tons | 2/27/2015 | 34° 10.560' N 77° 45.391' W |
| 10 | Concrete Pipe - 200 tons | 2/27/2015 | 34° 10.567' N 77° 45.326' W |
| 11 | 50 Atlantic Pods | 2/25/2015 | 34° 10.530' N 77° 45.364' W |
| 12 | Concrete Pipe - 180 tons | 10/16/2015 | 34° 10.537' N 77° 45.291' W |

*Bow and **Stern GPS Coordinates



NOTES:

NOTE: Map graphic is not intended for navigation.

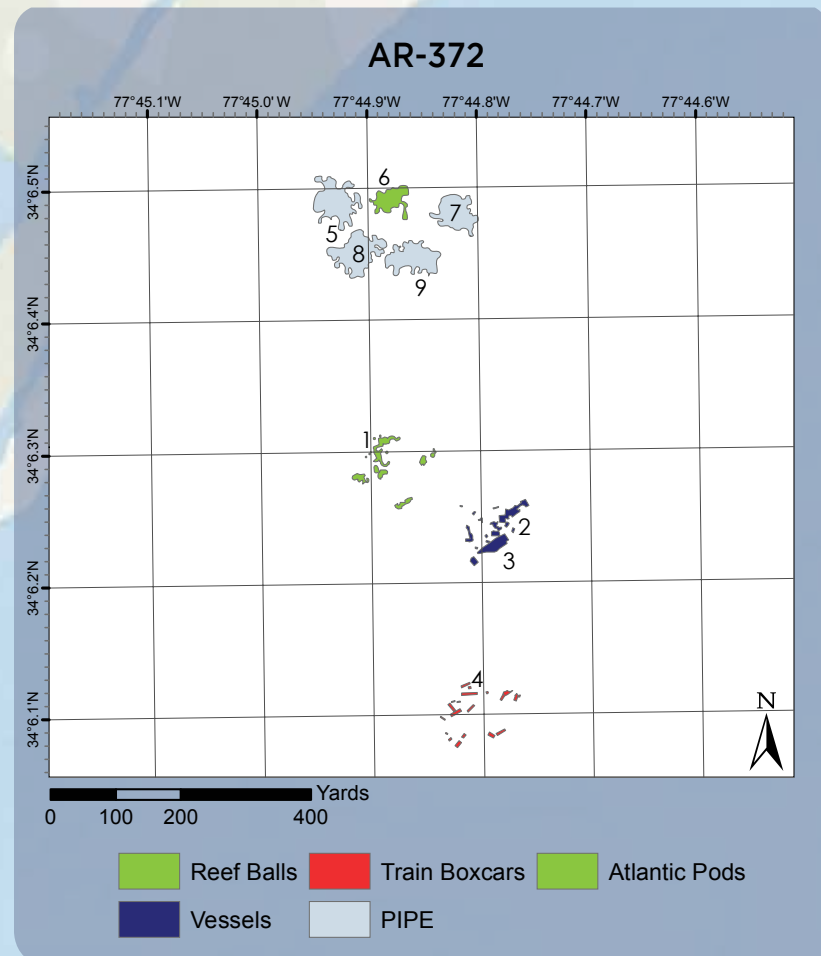


AR-372

65.7° magnetic - 5.3 nautical miles from Carolina Beach Inlet Sea Buoy
 140.1° magnetic - 4.8 nautical miles from Masonboro Inlet Sea Buoy
 48 feet average depth

| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
|--------|-----------------------------|----------|--------------------------|-----------------|
| | | | | |
| 1 | 128 Reef Balls | 10/2001 | 34° 6.290' N | 77° 44.885' W |
| 2 | 220-Foot Barge | 5/1990 | *34° 6.246' N | *77° 44.783' W |
| | | | **34° 6.260' N | **77° 44.758' W |
| 3 | 220-Foot Barge | 5/1990 | *34° 6.222' N | *77° 44.804' W |
| | | | **34° 6.235' N | **77° 44.777' W |
| 4 | Train Boxcars | 11/1986 | 34° 6.103' N | 77° 44.807' W |
| 5 | Concrete Pipe - 250 tons | 7/2015 | 34° 6.490' N | 77° 44.929' W |
| 6 | 50 Atlantic Pods | 6/2015 | 34° 6.491' N | 77° 44.878' W |
| 7 | Concrete Pipe - 250 tons | 6/2015 | 34° 6.480' N | 77° 44.820' W |
| 8 | Concrete Pipe - 250 tons | 8/2015 | 34° 6.451' N | 77° 44.910' W |
| 9 | Concrete Pipe - 250 tons | 9/2015 | 34° 6.447' N | 77° 44.859' W |

*Bow and **Stern GPS Coordinates



ONSLOW BAY

NOTES:

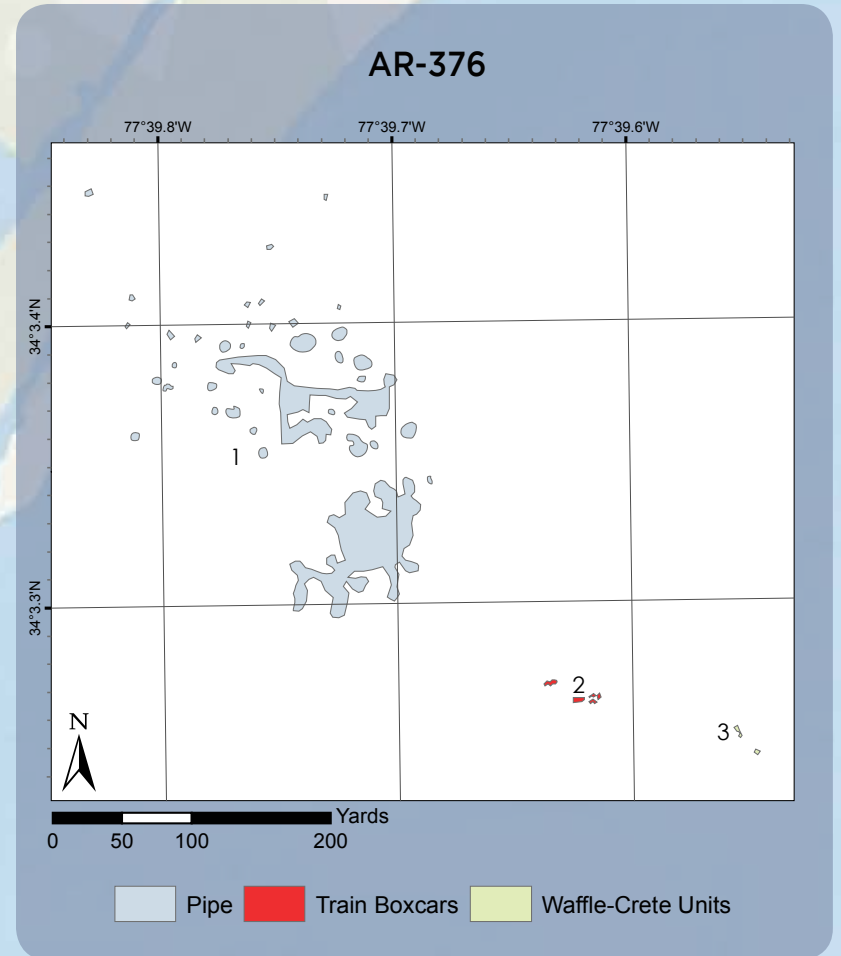
NOTE: Map graphic is not intended for navigation.



AR-376

89.5° magnetic - 9.7 nautical miles from Carolina Beach Inlet Buoy
 126.3° magnetic - 9.9 nautical miles from Masonboro Inlet Sea Buoy
 60 feet average depth

| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
|--------|-----------------------------|----------|--------------------------|---------------|
| | | | Latitude | Longitude |
| 1 | Concrete Pipe 850 pieces | 11/1992 | 34° 3.344' N | 77° 39.723' W |
| 2 | Train Boxcars | 1986 | 34° 3.250' N | 77° 39.553' W |
| 3 | Waffle-Crete Units | 11/1997 | 34° 3.267' N | 77° 39.625' W |



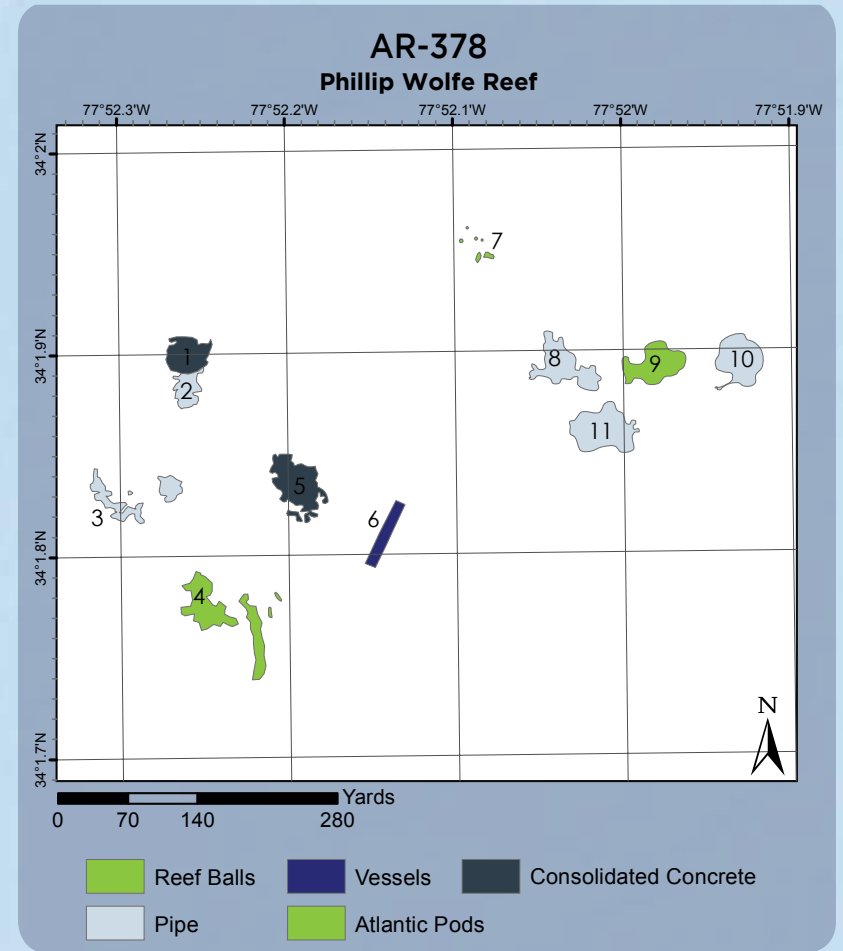
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-378 Phillip Wolfe Reef | | | | |
|--|--|----------|--------------------------|-----------------|
| 185.7° magnetic - 3.2 nautical miles from Carolina Beach Inlet Buoy 40 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Consolidated Concrete 115 tons | 10/2008 | 34° 1.900' N | 77° 52.259' W |
| 2 | Concrete Pipe 138 pieces | 10/2008 | 34° 1.883' N | 77° 52.259' W |
| 3 | Concrete Pipe 134 pieces | 1999 | 34° 1.834' N | 77° 52.271' W |
| 4 | 100 Reef Balls | 2001 | 34° 1.776' N | 77° 52.250' W |
| 5 | Consolidated Concrete 85 pieces of pipe, pilings and headers | 11/2006 | 34° 1.835' N | 77° 52.195' W |
| 6 | 195-Foot Barge | 10/1993 | *34° 1.795' N | *77° 52.152' W |
| | | | **34° 1.825' N | **77° 52.133' W |
| 7 | 10 Reef Balls | 5/1998 | 34° 1.949' N | 77° 52.084' W |
| 8 | Concrete Pipe 255 tons | 3/2015 | 34° 1.892' N | 77° 52.035' W |
| 9 | 50 Atlantic Pods | 3/2015 | 34° 1.893' N | 77° 51.981' W |
| 10 | Concrete Pipe 254 tons | 4/2015 | 34° 1.894' N | 77° 51.931' W |
| 11 | Concrete Pipe 255 tons | 4/2015 | 34° 1.860' N | 77° 52.012' W |

*Bow and **Stern GPS Coordinates



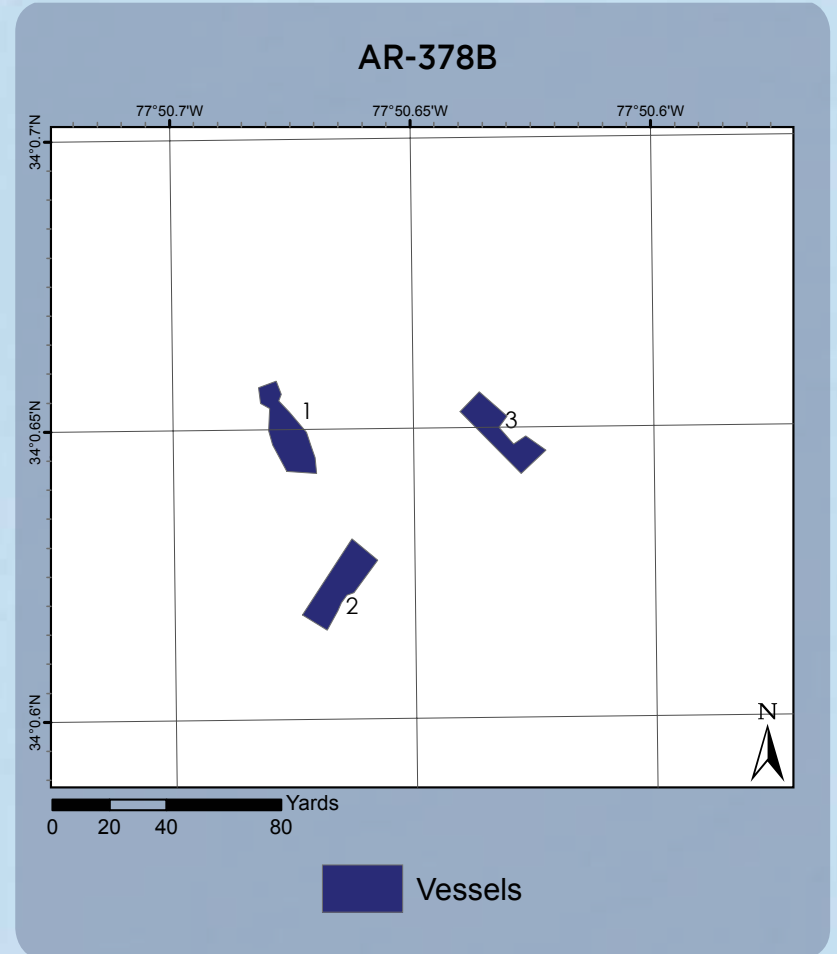
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-378B | | | | |
|--|---------------|----------|-----------------------|-----------------|
| 163.9° magnetic - 4.3 nautical miles from Carolina Beach Inlet Sea Buoy 39 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 90-Foot Barge | 5/1982 | *34° 0.658' N | *77° 50.680' W |
| | | | **34° 0.643' N | **77° 50.673' W |
| 2 | 90-Foot Barge | 5/1982 | *34° 0.629' N | *77° 50.660' W |
| | | | **34° 0.617' N | **77° 50.671' W |
| 3 | 90-Foot Barge | 5/1982 | *34° 0.654' N | *77° 50.638' W |
| | | | **34° 0.644' N | **77° 50.625' W |

Bow* and Stern** GPS Coordinates



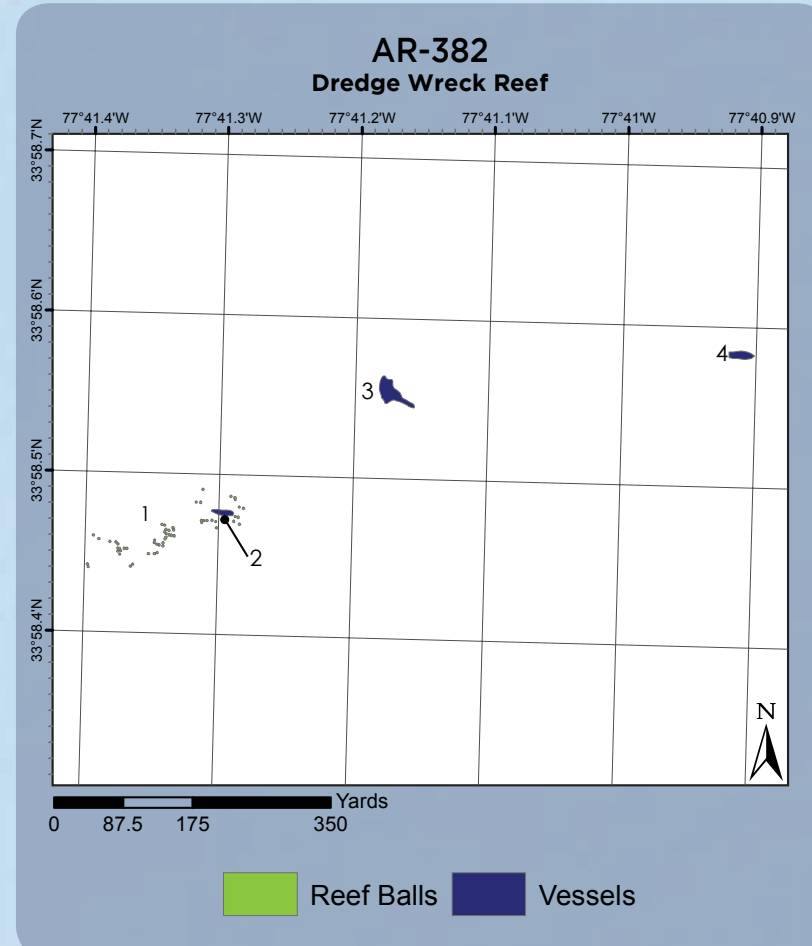
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-382 Dredge Wreck Reef | | | | |
|---|--|----------|--------------------------|-----------------|
| 117.5° magnetic - 10.4 nautical miles from Carolina Beach Inlet Buoy 58 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Reef Balls | 2/2001 | 33° 58.463' N | 77° 41.332' W |
| 2 | 86-Foot Tug <i>R.R. Stone</i> | 3/1985 | *33° 58.477' N | *77° 41.300' W |
| | | | **33° 58.476' N | **77° 41.284' W |
| 3 | Dredge <i>Playa</i> marine casualty | 2/1931 | 33° 58.554' N | 77° 41.168' W |
| 4 | 105-Foot Tug <i>Pocahontas</i> | 3/1985 | *33° 58.583' N | *77° 40.896' W |
| | | | **33° 58.583' N | **77° 40.915' W |

*Bow and **Stern GPS Locations



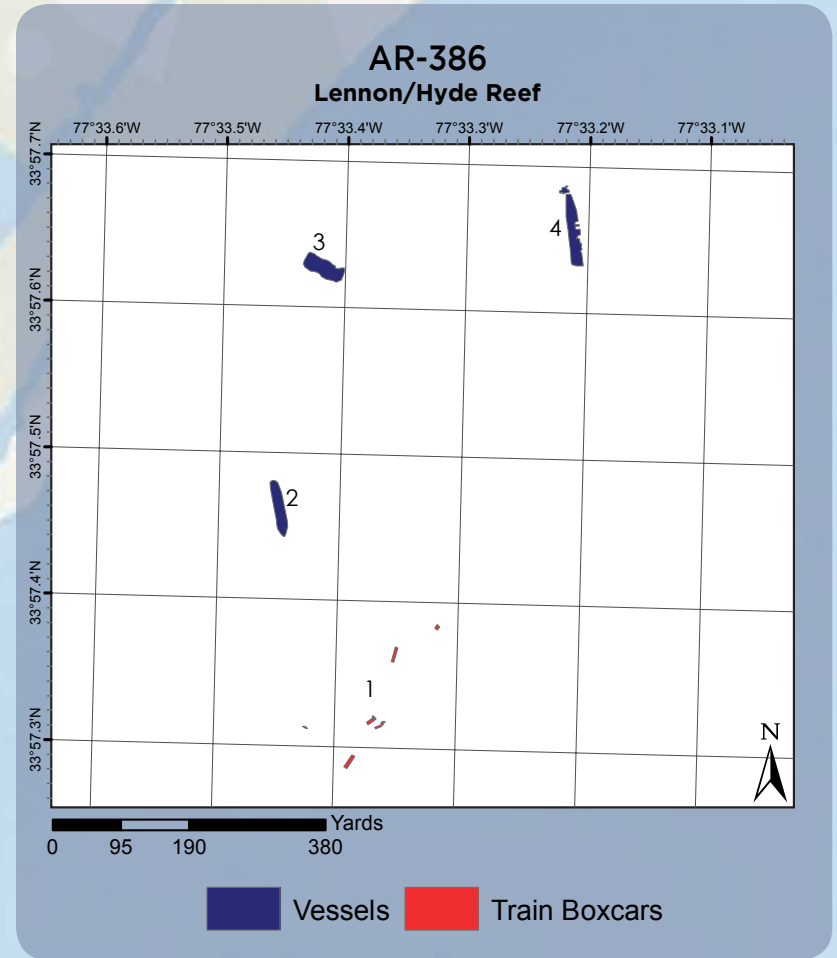
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-386 Lennon/Hyde Reef | | | | |
|--|---|----------|--------------------------|-----------------|
| 127.1° magnetic - 17.6 nautical miles from Masonboro Inlet Sea Buoy 78 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Train Boxcars | 10/1986 | 33° 57.327' N | 77° 33.361' W |
| 2 | 215-Foot USACOE Dredge <i>Hyde</i> | 5/1988 | *33° 57.443' N | *77° 33.440' W |
| | | | **33° 57.481' N | **77° 33.450' W |
| 3 | 150-Foot YTT Barge <i>Alton Lennon</i> | 10/1987 | *33° 57.621' N | *77° 33.397' W |
| | | | **33° 57.634' N | **77° 33.427' W |
| 4 | 320-Foot USACOE Dredge <i>Markham</i> | 10/1995 | *33° 57.681' N | *77° 33.212' W |
| | | | **33° 57.633' N | **77° 33.204' W |

*Bow and **Stern Locations

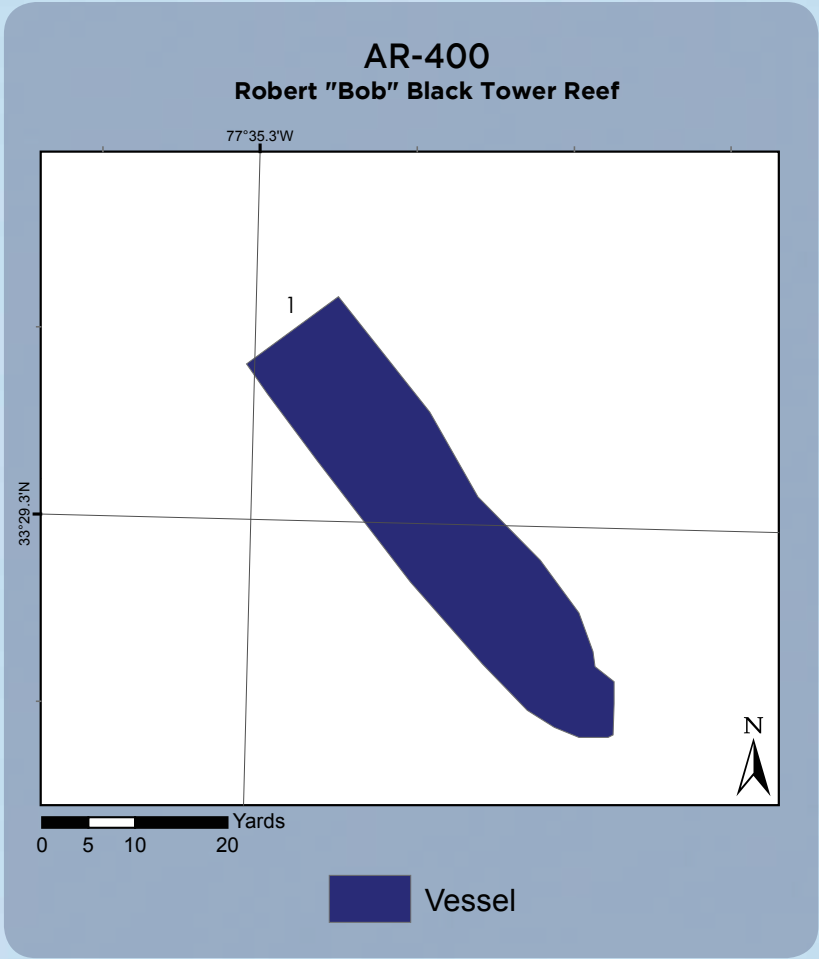


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-400 Robert "Bob" Black Tower Reef | | | | |
|---|--------------------------------------|----------|--------------------------|-----------------|
| 329.4° magnetic - 0.7 nautical miles from Frying Pan Tower 66 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Capt. Greg Mickey Menhaden Vessel | 8/2007 | *33° 29.310' N | *77° 35.294' W |
| | | | **33° 29.289' N | **77° 35.273' W |
| *Bow and **Stern GPS Locations | | | | |



NOTES:

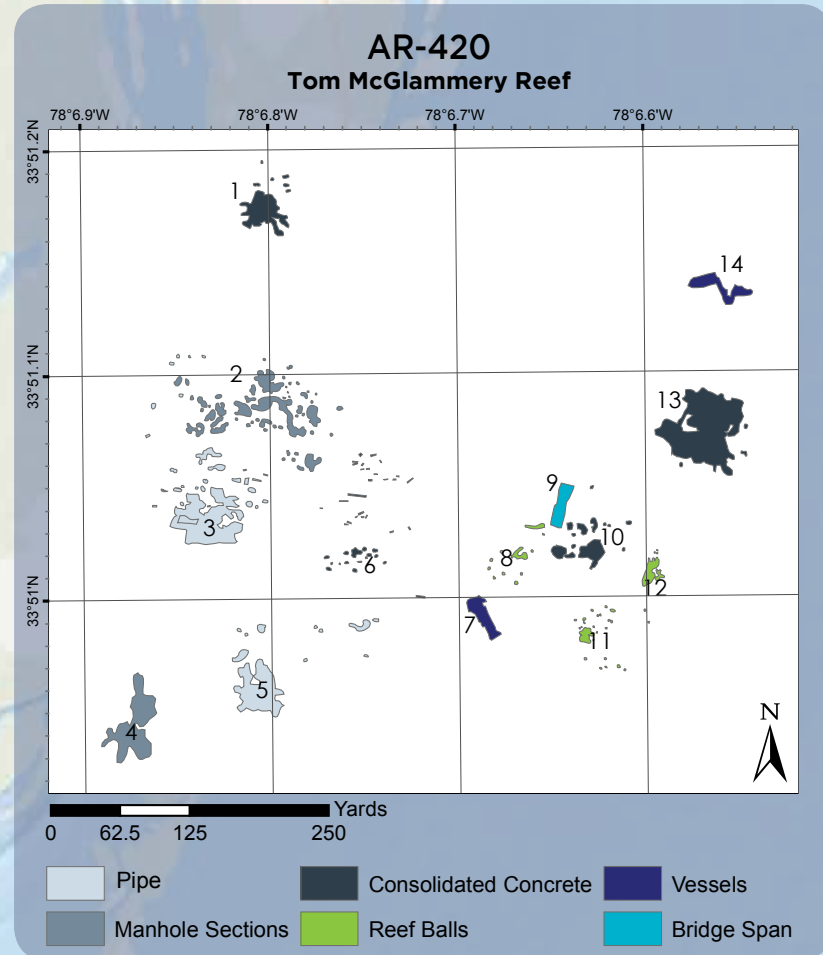
NOTE: Map graphic is not intended for navigation.



| AR-420 Tom McGlammery Reef | | | | |
|--|--|-------------|-----------------------------------|---------------------------------|
| 104.3° magnetic - 6.7 nautical miles from Lockwood's Folly Inlet Sea Buoy 226.7° magnetic - 4.6 nautical miles from Oak Island Light 317.3° magnetic - 5.7 nautical miles from Cape Fear River Sea Buoy 30 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Consolidated Concrete: 309 Tons Pipe and Manhole Sections | 9/2008 | 33° 51.173' N | 78° 6.802' W |
| 2 | Concrete Manhole Sections | 1/2002 | 33° 51.083' N | 78° 6.804' W |
| 3 | Concrete Pipe 464 Pieces | 3/2005 | 33° 51.039' N | 78° 6.833' W |
| 4 | Manhole Sections | 1/2002 | 33° 50.945' N | 78° 6.874' W |
| 5 | Concrete Pipe 403 Pieces | 2000, 2001 | 33° 50.964' N | 78° 6.802' W |
| 6 | Consolidated Concrete: Pipe, Pilings and Various Material | 3/2004 | 33° 51.030' N | 78° 6.752' W |
| 7 | 110-Foot Water Barge YC-794 Potter Barge | 3/2000 | *33° 51.000' N **33° 50.982' N | *78° 6.693' W **78° 6.680' W |
| 8 | 50 Reef Balls | Winter 2001 | 33° 51.021' N | 78° 6.667' W |
| 9 | 230-Foot Bridge Span | 2/1987 | 33° 51.041' N | 78° 6.645' W |
| 10 | Concrete Pipe Manhole Sections | 1992 | 33° 51.023' N | 78° 6.633' W |
| 11 | 50 Reef Balls | Winter 2001 | 33° 50.983' N | 78° 6.629' W |
| 12 | 50 Reef Balls | 4/2000 | 33° 51.011' N | 78° 6.597' W |
| 13 | Consolidated Concrete Misc. Concrete Pieces and Manhole Sections | 3/2005 | 33° 51.074' N | 78° 6.568' W |
| 14 | 180-Foot Barge HT-85 | 1/1987 | *33° 51.138' N **33° 51.135' N | *78° 6.577' W **78° 6.542' W |

*Bow and **Stern GPS Locations

NOTE: Map graphic is not intended for navigation.

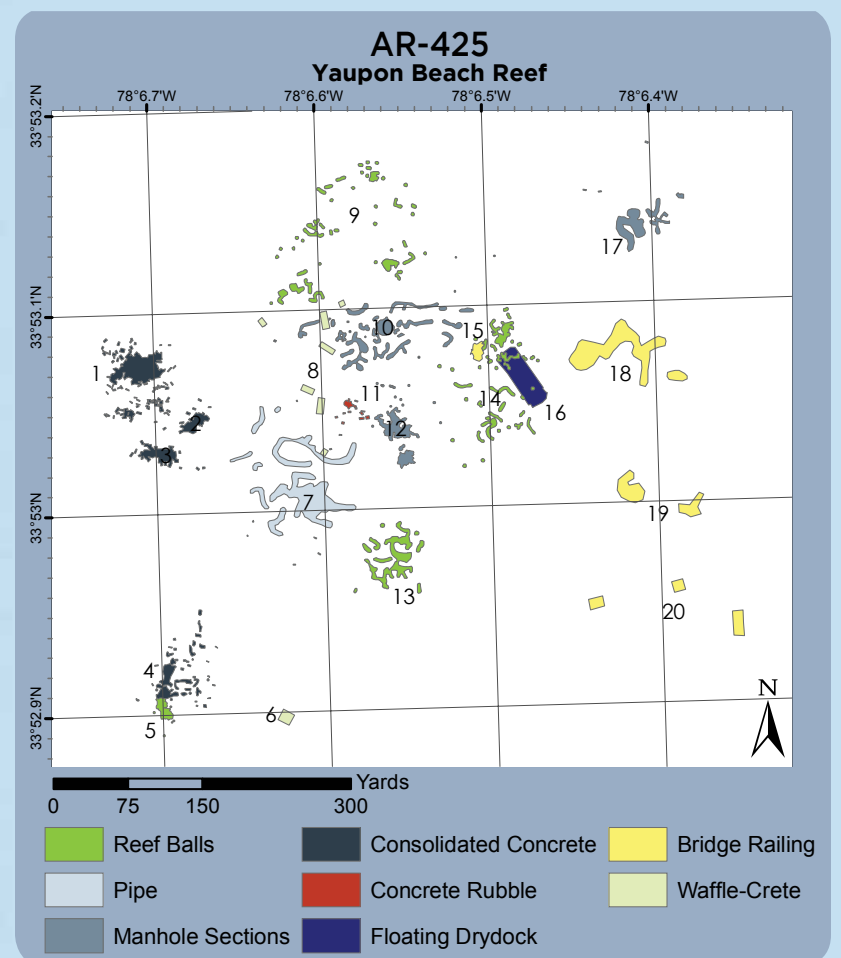


NOTES:



LONG BAY

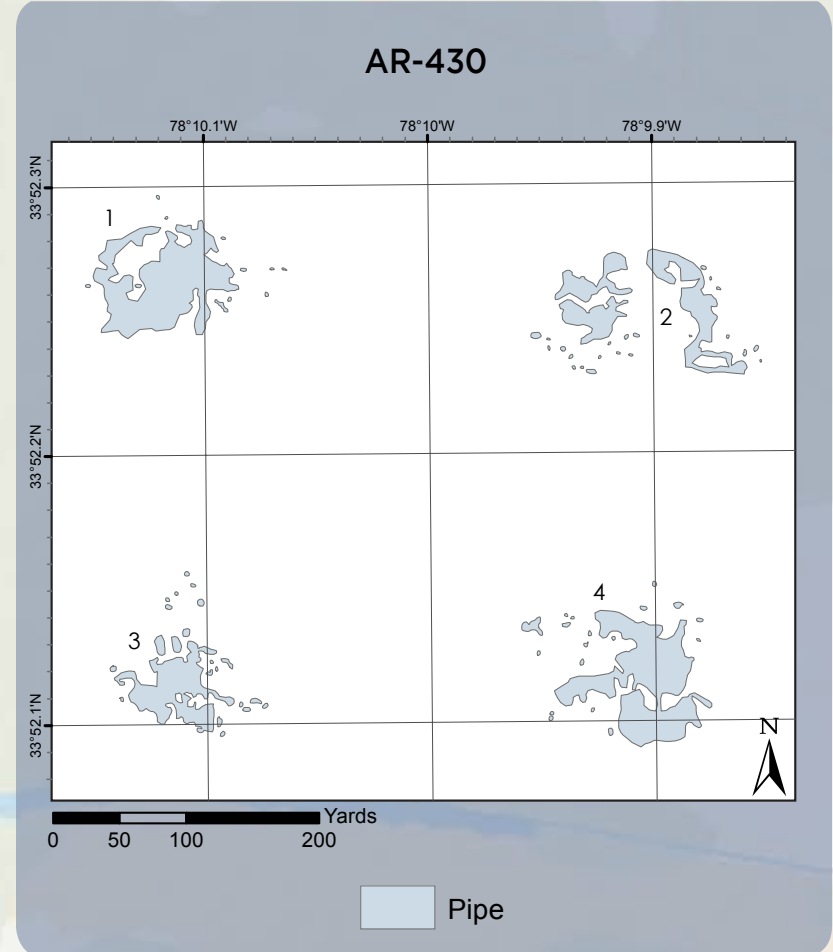
| AR-425 Yaupon Beach Reef | | | | |
|---|--|------------|--------------------------|----------------|
| 87.1° magnetic - 6.3 nautical miles from Lockwood's Folly Inlet Sea Buoy 252° magnetic - 3.8 nautical miles from Oak Island Light 326.5° magnetic - 7.4 nautical miles from Cape Fear River Sea Buoy 30 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Consolidated Concrete: Scrap Panels, Rubble, Pipe, Dock Header Beams, Scrap | 2006 | 33° 53.074' N | 78° 6.716' W |
| 2 | Consolidated Concrete: 183 Pieces Roof Panel, Headers, Panels and Dock Headers | 2006 | 33° 53.050' N | 78° 6.698' W |
| 3 | Consolidated Concrete: 69 Pieces Roof and Dock Panels | 10/2006 | 33° 53.030' N | 78° 6.704' W |
| 4 | Consolidated Concrete: 24 Tons Manhole Sections, 132 Tons Pipe | 2/2004 | 33° 52.920' N | 78° 6.698' W |
| 5 | 50 Ultra Reef Balls | 2/2004 | 33° 52.903' N | 78° 6.706' W |
| 6 | Waffle-Crete | 10/1997 | 33° 52.897' N | 78° 6.633' W |
| 7 | Pipe 147 Pieces | 2/2001 | 33° 53.013' N | 78° 6.618' W |
| 8 | Waffle-Crete | 10/1997 | 33° 53.069' N | 78° 6.606' W |
| 9 | Reef Balls | 3/2001 | 33° 53.132' N | 78° 6.583' W |
| 10 | Consolidated Concrete: Pipe/Manhole Sections | 1992-1994 | 33° 53.089' N | 78° 6.574' W |
| | | | 33° 53.089' N | 78° 6.574' W |
| 11 | Concrete Rubble 600 Tons | 9/1986 | 33° 53.050' N | 78° 6.588' W |
| 12 | Manhole Sections | 1992 | 33° 53.037' N | 78° 6.561' W |
| 13 | 83 Reef Balls | 1998 | 33° 52.976' N | 78° 6.566' W |
| 14 | 139 Reef Balls | 3/2000 | 33° 53.070' N | 78° 6.500' W |
| 15 | Bridge Railing | 1989 | 33° 53.077' N | 78° 6.512' W |
| 16 | Floating Drydock | Late 1950s | *33° 53.077' N | *78° 6.497' W |
| | | | **33° 53.051' N | **78° 6.475' W |
| 17 | Manhole Sections 150 Tons | 3/2002 | 33° 53.141' N | 78° 6.414' W |
| 18 | Bridge Railing | 1989 | 33° 53.076' N | 78° 6.436' W |
| 19 | Bridge Railing | 1989 | 33° 53.003' N | 78° 6.408' W |
| 20 | Bridge Railing | 1989 | 33° 52.947' N | 78° 6.387' W |
| *Bow and **Stern GPS Locations | | | | |



NOTES:



| AR-430 | | | | |
|--|-------------------------------|----------|--------------------------|---------------|
| 305.6° magnetic - 8.3 nautical miles from Cape Fear River Sea Buoy 248.2° magnetic - 6.7 nautical miles from Oak Island Light 105.7° magnetic - 3.8 nautical miles from Lockwood's Folly Inlet Sea Buoy 34 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pipe High Density | 10/2013 | 33° 52.264' N | 78° 10.118' W |
| 2 | Concrete Pipe High Density | 12/2013 | 33° 52.254' N | 78° 9.904' W |
| 3 | Concrete Pipe Low Density | 10/2013 | 33° 52.115' N | 78° 10.113' W |
| 4 | Concrete Pipe Low Density | 12/2013 | 33° 52.116' N | 78° 9.907' W |



LONG BAY

NOTES:

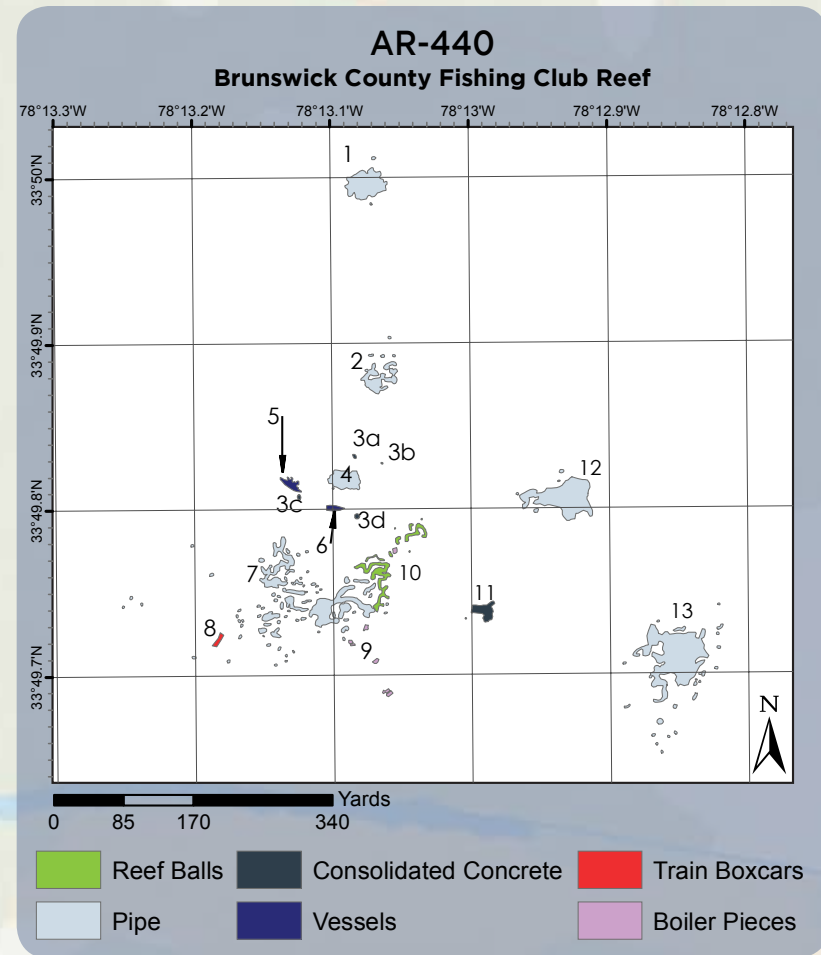
NOTE: Map graphic is not intended for navigation.



| AR-440 Brunswick County Fishing Club Reef | | | | |
|--|---------------------------------------|------------|--------------------------|-----------------|
| 282.9° magnetic - 9.1 nautical miles from Cape Fear River Sea Buoy 237.6° magnetic - 9.9 nautical miles from Oak Island Light 158.1° magnetic - 4.1 nautical miles from Lockwood's Folly Inlet Sea Buoy 42 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Pipe 500 Tons | 2010 | 33° 49.996' N | 78° 13.074' W |
| 2 | Concrete Pipe 151 pieces | 3/2004 | 33° 49.880' N | 78° 13.065' W |
| 3a | Consolidated Concrete | 1993 | 33° 49.832' N | 78° 13.084' W |
| 3b | Consolidated Concrete | 1993 | 33° 49.828' N | 78° 13.064' W |
| 3c | Consolidated Concrete | 1993 | 33° 49.807' N | 78° 13.124' W |
| 3d | Consolidated Concrete | 1993 | 33° 49.796' N | 78° 13.082' W |
| 4 | Concrete Pipe 150 pieces | 1992, 1993 | 33° 49.818' N | 78° 13.091' W |
| 5 | 65-Foot Tug Boat <i>Coopedge</i> | 5/1993 | *33° 49.819' N | *78° 13.138' W |
| | | | **33° 49.811' N | **78° 13.123' W |
| 6 | 65-Foot Tug Boat <i>A.T. Piner</i> | 5/1993 | *33° 49.801' N | *78° 13.091' W |
| | | | **33° 49.801' N | **78° 13.104' W |
| 7 | Concrete Pipe 414 pieces | 2/2001 | 33° 49.747' N | 78° 13.119' W |
| 8 | Train Boxcars | 12/1987 | 33° 49.722' N | 78° 13.183' W |
| 9 | Boiler Pieces | 1/1987 | 33° 49.707' N | 78° 13.071' W |
| 10 | 50 Reef Balls | 4/2001 | 33° 49.766' N | 78° 13.061' W |
| 11 | Consolidated Concrete | 12/2006 | 33° 49.738' N | 78° 12.991' W |
| 12 | Concrete Pipe 500 pieces | 10/2006 | 33° 49.806' N | 78° 12.933' W |
| 13 | Concrete Pipe 500 tons | 2010 | 33° 49.708' N | 78° 12.853' W |

*Bow and **Stern GPS Coordinates

NOTE: Map graphic is not intended for navigation.



NOTES:

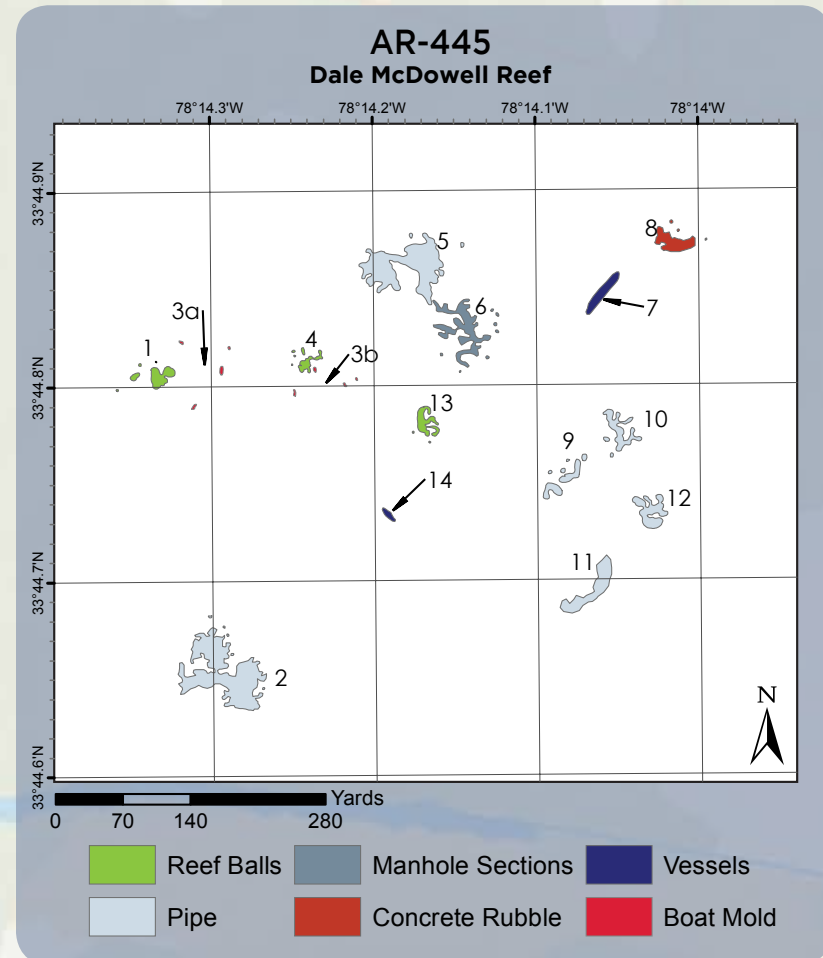


LONG BAY

| AR-445 Dale McDowell Reef | | | | |
|---|--|-------------|--------------------------|-----------------|
| 170° magnetic - 9.1 nautical miles from Lockwood's Folly Sea Buoy 250.8° magnetic - 9.3 nautical miles from Cape Fear River Sea Buoy 218.7° magnetic - 13.3 nautical miles from Oak Island Light 53 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 33 Reef Balls | 4/2000 | 33° 44.806' N | 78° 14.333' W |
| 2 | Concrete Pipe | 8/2008 | 33° 44.653' N | 78° 14.294' W |
| 2 | Concrete Pipe | 8/2008 | 33° 44.653' N | 78° 14.294' W |
| 3a | Fiberglass and Steel Boat Molds | 1/1991 | 33° 44.808' N | 78° 14.302' W |
| 3b | Fiberglass and Steel Boat Molds | 1/1991 | 33° 44.802' N | 78° 14.233' W |
| 4 | 33 Reef Balls | 4/2000 | 33° 44.813' N | 78° 14.241' W |
| 5 | Concrete Pipe | Winter 2001 | 33° 44.861' N | 78° 14.180' W |
| 6 | Manhole Sections | 12/1993 | 33° 44.829' N | 78° 14.145' W |
| 7 | 174-Foot Vessel <i>Jell II</i> | 7/1991 | *33° 44.857' N | *78° 14.049' W |
| | | | **33° 44.836' N | **78° 14.069' W |
| 8 | Concrete Rubble | 3/2004 | 33° 44.873' N | 78° 14.015' W |
| 9 | Concrete Pipe | 1994 | 33° 44.776' N | 78° 14.049' W |
| 10 | Concrete Pipe | 1994 | 33° 44.734' N | 78° 14.030' W |
| 11 | Concrete Pipe | 1994 | 33° 44.695' N | 78° 14.067' W |
| 12 | Concrete Pipe | 1994 | 33° 44.751' N | 78° 14.084' W |
| 13 | 34 Reef Balls | 4/2000 | 33° 44.781' N | 78° 14.168' W |
| 14 | 55-Foot Tug Boat <i>Admiral Charlie</i> | 11/2004 | *33° 44.731' N | *78° 14.188' W |
| | | | **33° 44.737' N | **78° 14.195' W |

*Bow and **Stern GPS Coordinates

NOTE: Map graphic is not intended for navigation.



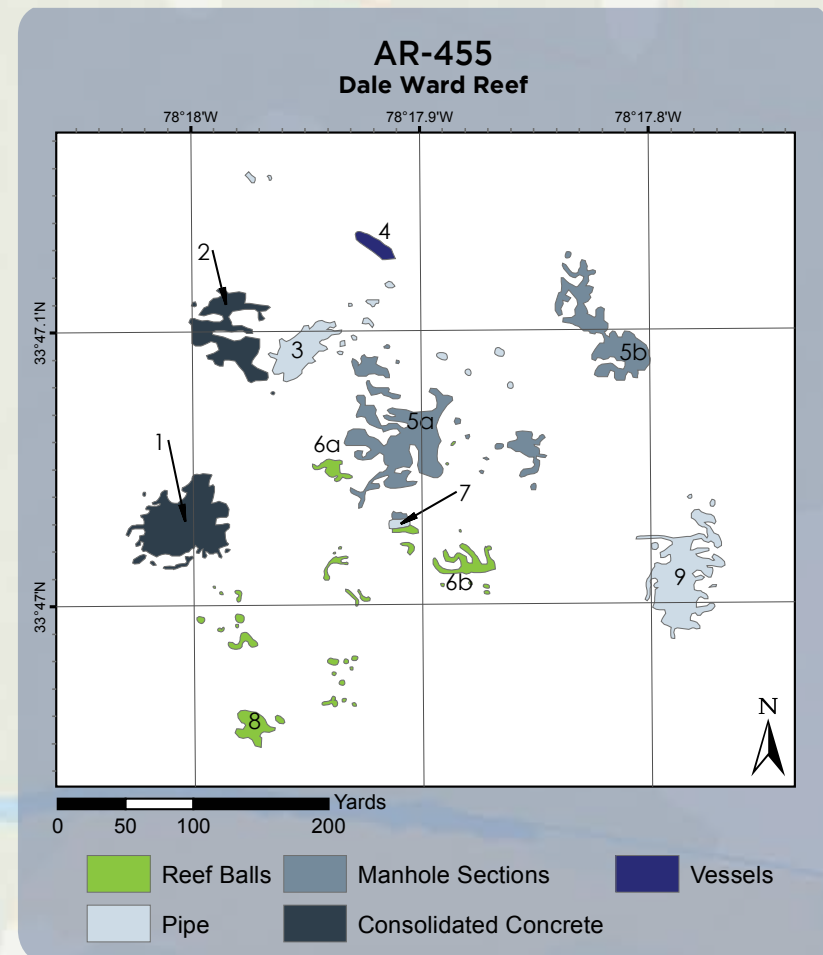
NOTES:



LONG BAY

| AR-455 Dale Ward Reef | | | | |
|---|--|------------|--------------------------|-----------------|
| 263.6° magnetic - 12.4 nautical miles from Cape Fear River Sea Buoy 194.8° magnetic - 7.5 nautical miles from Lockwood's Folly Inlet Sea Buoy 46 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Consolidated Concrete: pipe and manhole sections | 8/2008 | 33° 47.030' N | 78° 18.004' W |
| 2 | Consolidated Concrete: pipe and manhole sections | 2/2004 | 33° 47.099' N | 78° 17.983' W |
| 2 | 50 Ultra Reef Balls | 2/2004 | 33° 47.099' N | 78° 17.983' W |
| 3 | Concrete Pipe | 1992, 1993 | 33° 47.095' N | 78° 17.952' W |
| 4 | 104-Foot Navy Tug Boat <i>Pawtucket</i> | 7/2004 | *33° 47.126' N | *78° 17.911' W |
| | | | **33° 47.136' N | **78° 17.928' W |
| 5a | Manhole Sections 150 pieces | 1993 | 33° 47.061' N | 78° 17.854' W |
| 5b | Manhole Sections 150 pieces | 1993 | 33° 47.100' N | 78° 17.820' W |
| 6a | 100 Reef Balls | 6/2005 | 33° 47.049' N | 78° 17.939' W |
| 6b | 100 Reef Balls | 6/2005 | 33° 47.017' N | 78° 17.885' W |
| 7 | Concrete Pipe | 2001 | 33° 47.030' N | 78° 17.910' W |
| 8 | 100 Reef Balls | 4/2013 | 33° 46.975' N | 78° 17.964' W |
| 9 | Concrete Pipe | 3/2001 | 33° 47.010' N | 78° 17.786' W |

*Bow and **Stern GPS Coordinates



LONG BAY

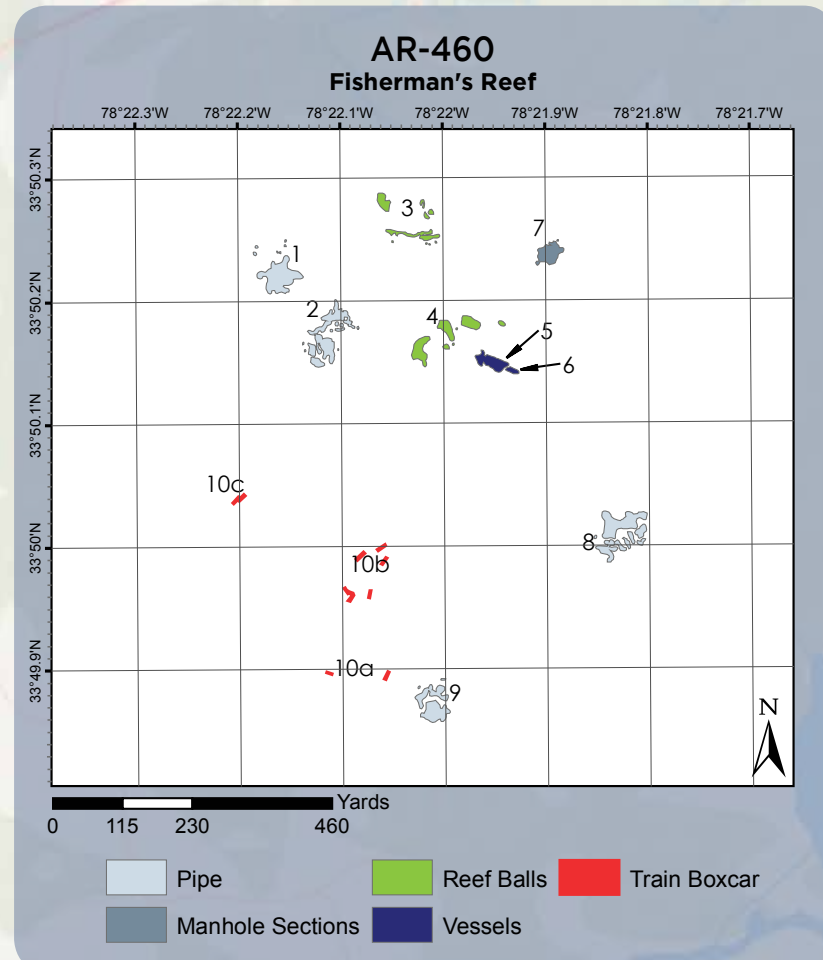
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-460 Fisherman's Reef | | | | |
|--|------------------------------|----------|--------------------------|-----------------|
| 155.4° magnetic - 2.8 nautical miles from Shallotte Inlet Sea Buoy 231.3° magnetic - 7.5 nautical miles from Lockwood's Folly Inlet Sea Buoy 38 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| | | | | |
| 1 | Concrete Pipe 406 pieces | 10/2006 | 33° 50.221' N | 78° 22.160' W |
| 2 | Concrete Pipe 231 pieces | 2/2001 | 33° 50.172' N | 78° 22.113' W |
| 3 | 100 Reef Balls | 6/2005 | 33° 50.266' N | 78° 22.036' W |
| 4 | 100 Reef Balls | 6/2005 | 33° 50.171' N | 78° 21.999' W |
| 5 | 330-Foot Barge | 1990 | *33° 50.155' N | *78° 21.969' W |
| | | | **33° 50.145' N | **78° 21.941' W |
| 6 | 40-Foot USCG Launch | 1990 | *33° 50.140' N | *78° 21.926' W |
| | | | **33° 50.145' N | **78° 21.937' W |
| 7 | Manhole Sections 360 Tons | 3/2005 | 33° 50.239' N | 78° 21.895' W |
| 8 | Concrete Pipe 500 Tons | 2010 | 33° 50.005' N | 78° 21.826' W |
| 9 | Concrete Pipe 500 Tons | 2010 | 33° 49.871' N | 78° 22.012' W |
| 10a | Train Boxcars | 1986 | 33° 49.895' N | 78° 22.074' W |
| 10b | Train Boxcars | 1986 | 33° 49.993' N | 78° 22.070' W |
| 10c | Train Boxcars | 1986 | 33° 50.039' N | 78° 22.201' W |

*Bow and **Stern GPS Locations



NOTES:

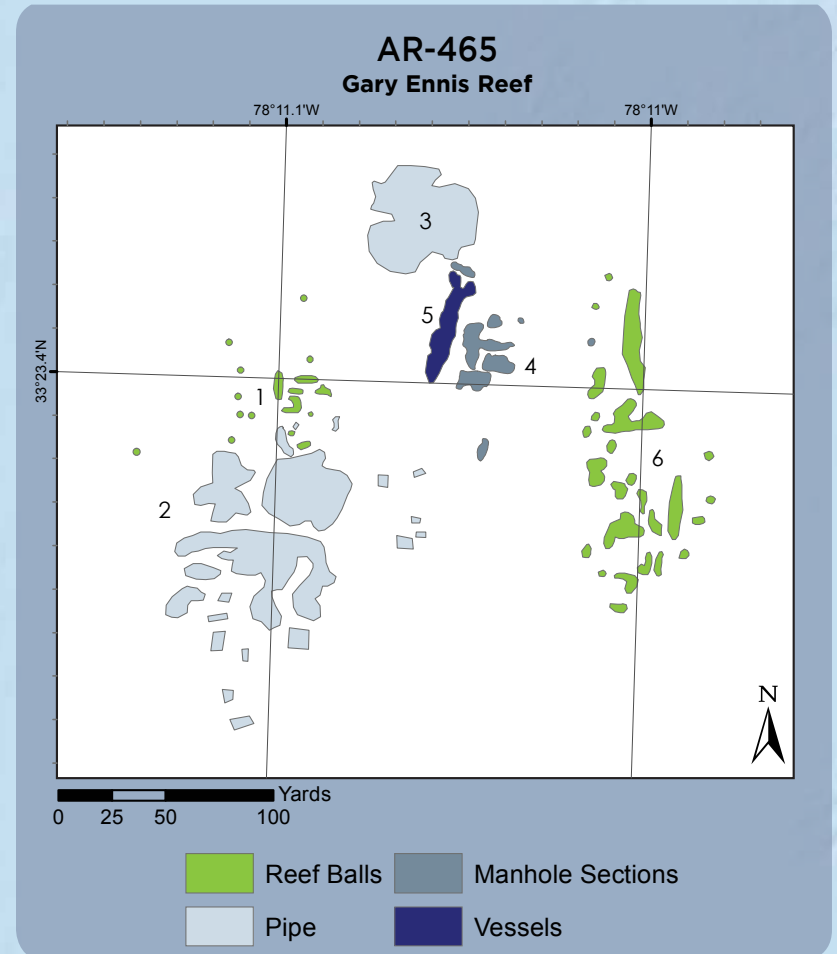
NOTE: Map graphic is not intended for navigation.



LONG BAY

| AR-465 Gary Ennis Reef | | | | |
|---|-----------------------------------|----------|--------------------------|-----------------|
| 186.3° magnetic - 23.8 nautical miles from Cape Fear River Sea Buoy 165.2° magnetic - 30.5 nautical miles from Lockwood's Folly Inlet Sea Buoy 151.5° magnetic - 31.2 nautical miles from Shallotte Inlet Sea Buoy 84 feet average depth | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 100 Reef Balls | 2000 | 33° 23.396' N | 78° 11.096' W |
| 2 | Concrete Pipe 925 Tons | 5/2005 | 33° 23.363' N | 78° 11.099' W |
| 3 | Concrete Pipe | 2000 | 33° 23.438' N | 78° 11.060' W |
| 4 | Concrete Manhole Sections | 1/2002 | 33° 23.407' N | 78° 11.041' W |
| 5 | 180-Foot <i>Mance Lassiter</i> | 6/1996 | *33° 23.399' N | *78° 11.056' W |
| | | | **33° 23.424' N | **78° 11.045' W |
| 6 | 100 Ultra Reef Balls | 4/2001 | 33° 23.385' N | 78° 11.000' W |

*Bow and **Stern GPS Locations

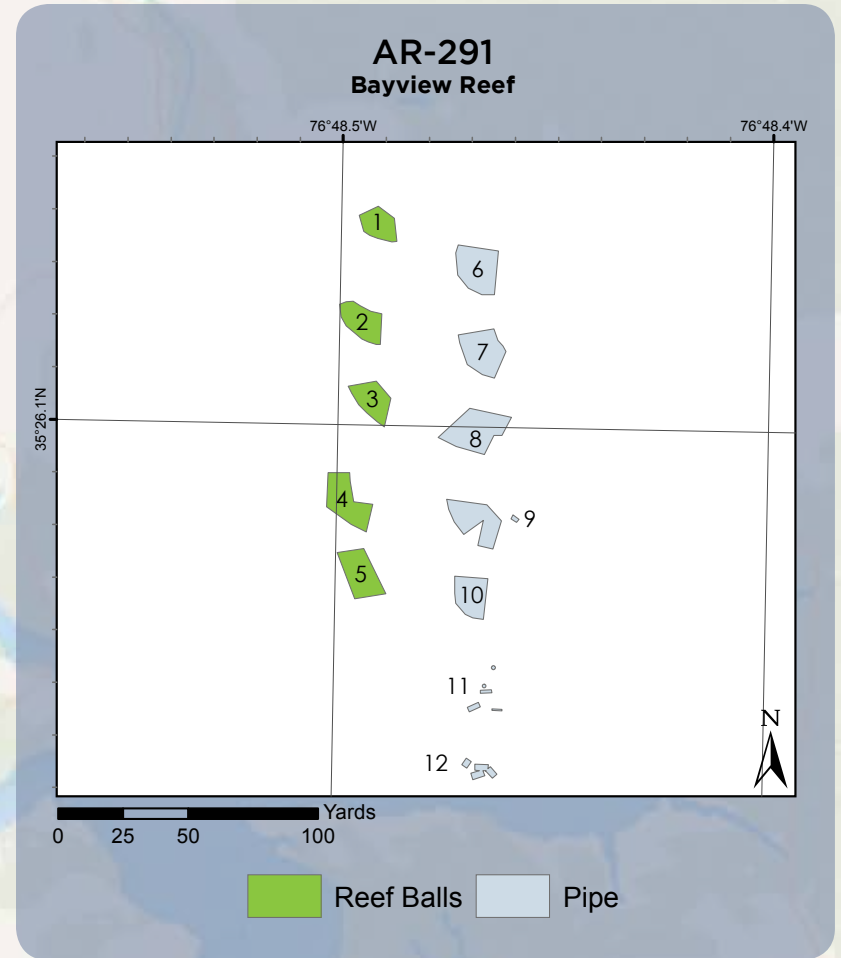


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-291 Bayview Reef | | | | |
|---|------------------------------------|----------|--------------------------|---------------|
| 100' offshore Town of Bayview, near the mouth of Bath Creek | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 15 Mini Bay Reef Balls | 8/2012 | 35° 26.138' N | 76° 48.489' W |
| 2 | 15 Bay Reef Balls | 8/2012 | 35° 26.120' N | 76° 48.493' W |
| 3 | 15 Solid Bottom Pallet Reef Balls | 8/2012 | 35° 26.105' N | 76° 48.490' W |
| 4 | 15 Extended Base Pallet Reef Balls | 8/2012 | 35° 26.085' N | 76° 48.496' W |
| 5 | 15 Ultra Reef Balls | 8/2012 | 35° 26.072' N | 76° 48.492' W |
| 6 | Concrete Pipe 6.48 Tons | 4/2013 | 35° 26.130' N | 76° 48.466' W |
| 7 | Concrete Pipe 8.64 Tons | 4/2013 | 35° 26.114' N | 76° 48.465' W |
| 8 | Concrete Pipe 15.96 Tons | 4/2013 | 35° 26.099' N | 76° 48.466' W |
| 9 | Concrete Pipe 23.18 Tons | 4/2013 | 35° 26.082' N | 76° 48.466' W |
| 10 | Concrete Pipe 23.74 Tons | 4/2013 | 35° 26.068' N | 76° 48.466' W |
| 11 | Concrete Pipe 12.11 Tons | 4/2013 | 35° 26.048' N | 76° 48.463' W |
| 12 | Concrete Pipe 16.38 Tons | 4/2013 | 35° 26.035' N | 76° 48.464' W |

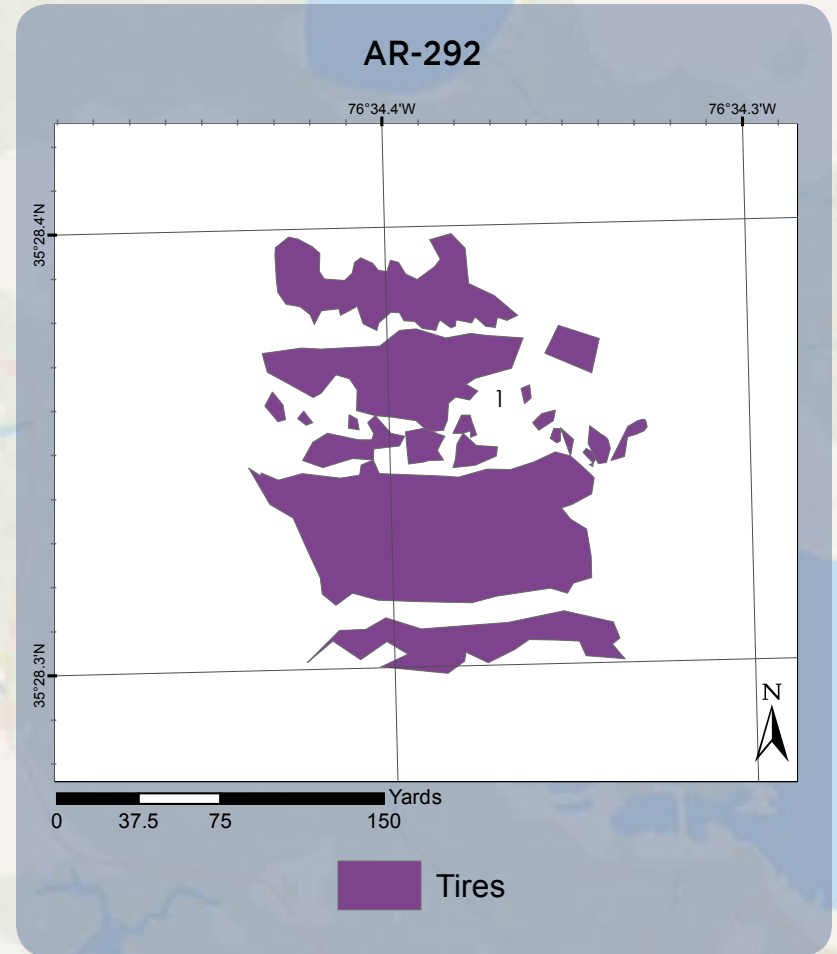


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-292 | | | | |
|---|----------|-----------|--------------------------|---------------|
| 80.9° magnetic - 0.8 nm from Pungo River #5 Day Beacom 227.9° magnetic - 0.5 nm from Quilley Point | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Tires | 4/25/1985 | 35° 28.348' N | 76° 34.385' W |



ESTUARINE

NOTES:

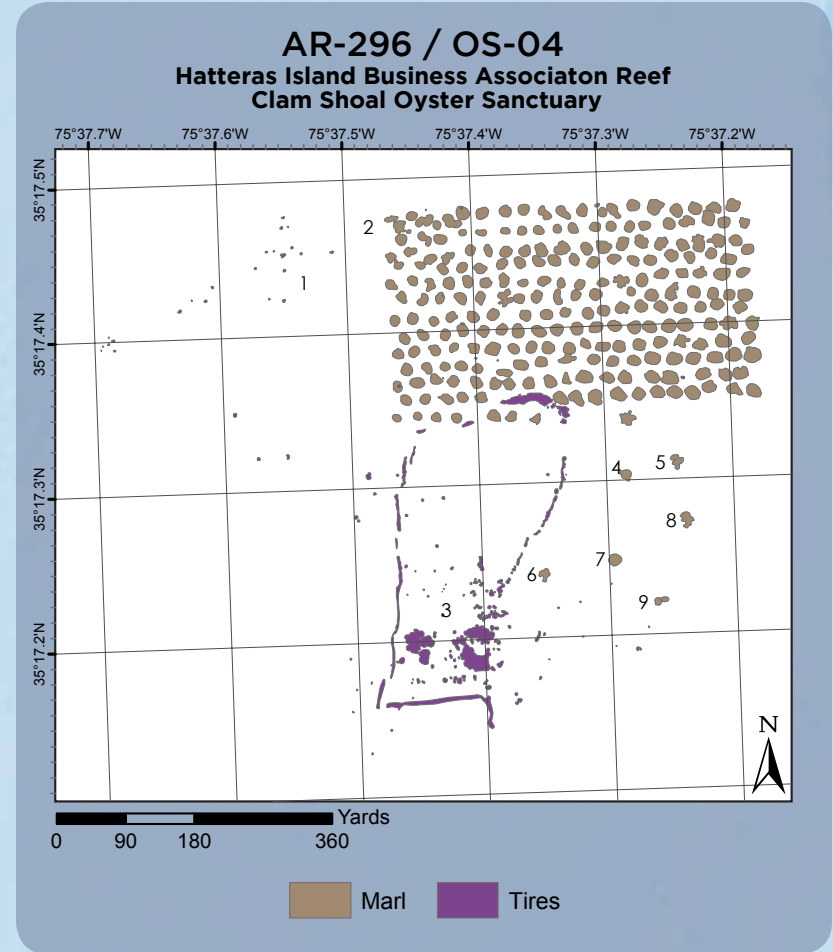
NOTE: Map graphic is not intended for navigation.



AR-296 / OS-04
Hatteras Island Business Associaton Reef
Clam Shoal Oyster Sanctuary

8.7° magnetic - 1.4 nautical miles from Frisco Channel Light No. 6

| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
|--------|--------------|----------|--------------------------|---------------|
| | | | Latitude | Longitude |
| 1 | Tires | 3/1985 | 35° 17.416' N | 75° 37.582' W |
| 2 | Marl Rip Rap | 6/2002 | 35° 17.412' N | 75° 37.314' W |
| 3 | Tires | 3/1985 | 35° 17.227' N | 75° 37.415' W |
| 4 | Marl Rip Rap | 6/2004 | 35° 17.303' N | 75° 37.284' W |
| 5 | Marl Rip Rap | 6/2004 | 35° 17.311' N | 75° 37.244' W |
| 6 | Marl Rip Rap | 6/2004 | 35° 17.241' N | 75° 37.351' W |
| 7 | Marl Rip Rap | 6/2002 | 35° 17.249' N | 75° 37.295' W |
| 8 | Marl Rip Rap | 6/2002 | 35° 17.273' N | 75° 37.238' W |
| 9 | Marl Rip Rap | 6/2004 | 35° 17.221' N | 75° 37.260' W |



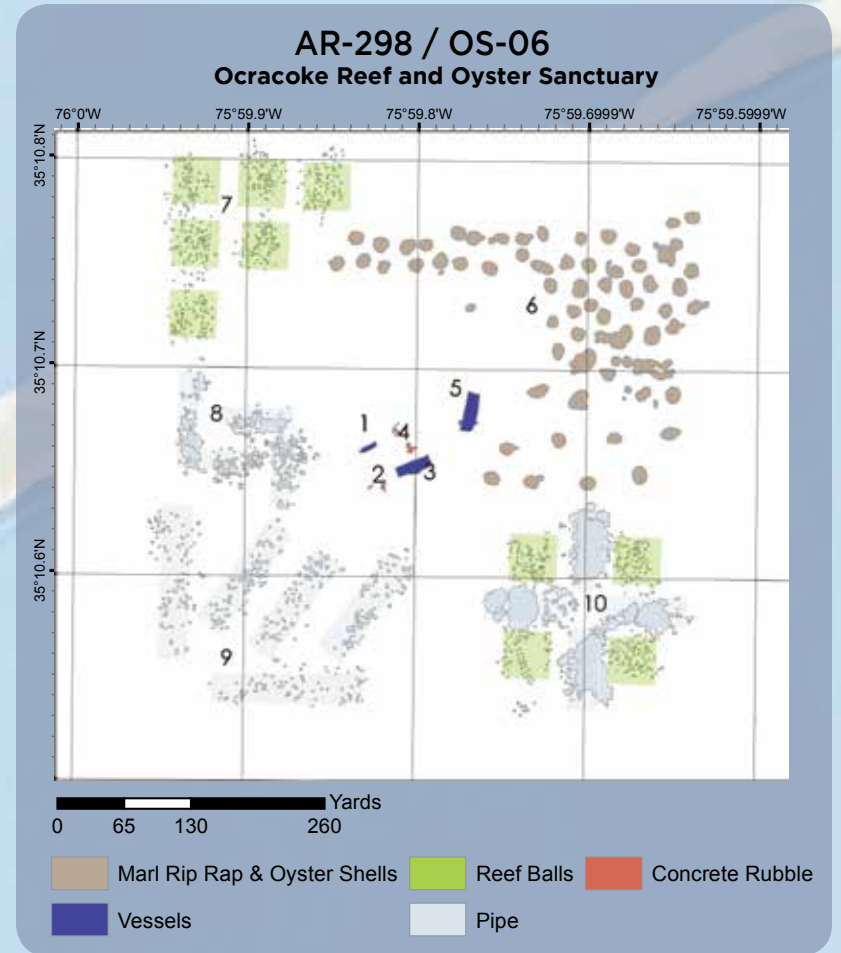
NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-298 / OS-06 Ocracoke Reef and Oyster Sanctuary | | | | |
|---|---|-------------|--------------------------|-----------------|
| 21.9° magnetic - 1.5 nautical miles from Big Foot Slough Channel Light 13 | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 65-Foot Tugboat <i>Lookout</i> | 1996 | *35° 10.664' N | *75° 59.822' W |
| | | | **35° 10.660' N | **75° 59.832' W |
| 2 | Concrete Rubble | 2004 | 35° 10.644' N | 75° 59.819' W |
| 3 | 104-Foot Barge <i>Longbay</i> | 5/1989 | *35° 10.656' N | *75° 59.791' W |
| | | | **35° 10.650' N | **75° 59.810' W |
| 4 | Concrete Rubble | 2004 | 35° 10.665' N | 75° 59.806' W |
| 5 | 130-Foot Barge | 6/1989 | *35° 10.689' N | *75° 59.765' W |
| | | | **35° 10.671' N | **75° 59.770' W |
| 6 | Marl Rock and Oyster Shells (Multiple Mounds) | 2004 - 2009 | 35° 10.716' N | 75° 59.683' W |
| 7 | Reef Balls | 2015 | 35° 10.780' N | 75° 59.900' W |
| 8 | Pipe Field | 2015 | 35° 10.660' N | 75° 59.900' W |
| 9 | Pipe Field | 2015 | 35° 10.590' N | 75° 59.890' W |
| 10 | Pipe and Reef Ball Field | 2015 | 35° 10.589' N | 75° 59.702' W |

*Bow and **Stern GPS Coordinates

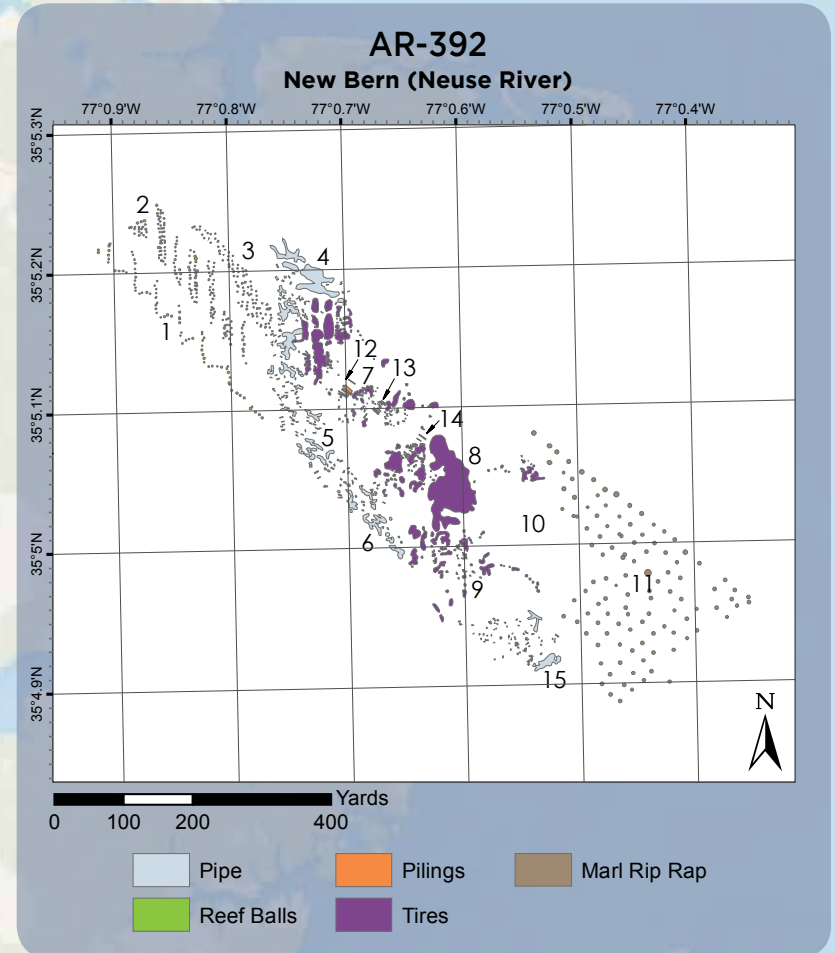


NOTES:

NOTE: Map graphic is not intended for navigation.



| AR-392 New Bern (Neuse River) | | | | |
|---|-----------------------------|----------|--------------------------|--------------|
| 130.1° magnetic - 1.8 nautical miles from Union Point Park, Neuse River | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 490 Reef Balls | 1/2012 | 35° 5.160' N | 77° 0.842' W |
| 2 | 490 Reef Balls | 1/2012 | 35° 5.201' N | 77° 0.837' W |
| 3 | 490 Reef Balls | 1/2012 | 35° 5.192' N | 77° 0.790' W |
| 4 | Concrete Pipe 98 pieces | 2/2011 | 35° 5.192' N | 77° 0.736' W |
| 5 | Concrete Pipe 308 pieces | 2/2011 | 35° 5.109' N | 77° 0.740' W |
| 6 | Concrete Pipe 237 tons | 2/2013 | 35° 5.021' N | 77° 0.678' W |
| 7 | Tires | 1984 | 35° 5.137' N | 77° 0.703' W |
| 8 | Tires | 1984 | 35° 5.045' N | 77° 0.623' W |
| 9 | Tires | 1984 | 35° 4.993' N | 77° 0.614' W |
| 10 | Tires | 1984 | 35° 5.039' N | 77° 0.546' W |
| 11 | 110 Marl Rip Rap Mounds | 2/2011 | 35° 4.972' N | 77° 0.455' W |
| 12 | Concrete Pilings | 1986 | 35° 5.113' N | 77° 0.700' W |
| 13 | Concrete Pilings | 1986 | 35° 5.101' N | 77° 0.672' W |
| 14 | Concrete Pilings | 1986 | 35° 5.071' N | 77° 0.643' W |
| 15 | Concrete Pipe 150 tons | 2/2013 | 35° 4.927' N | 77° 0.539' W |



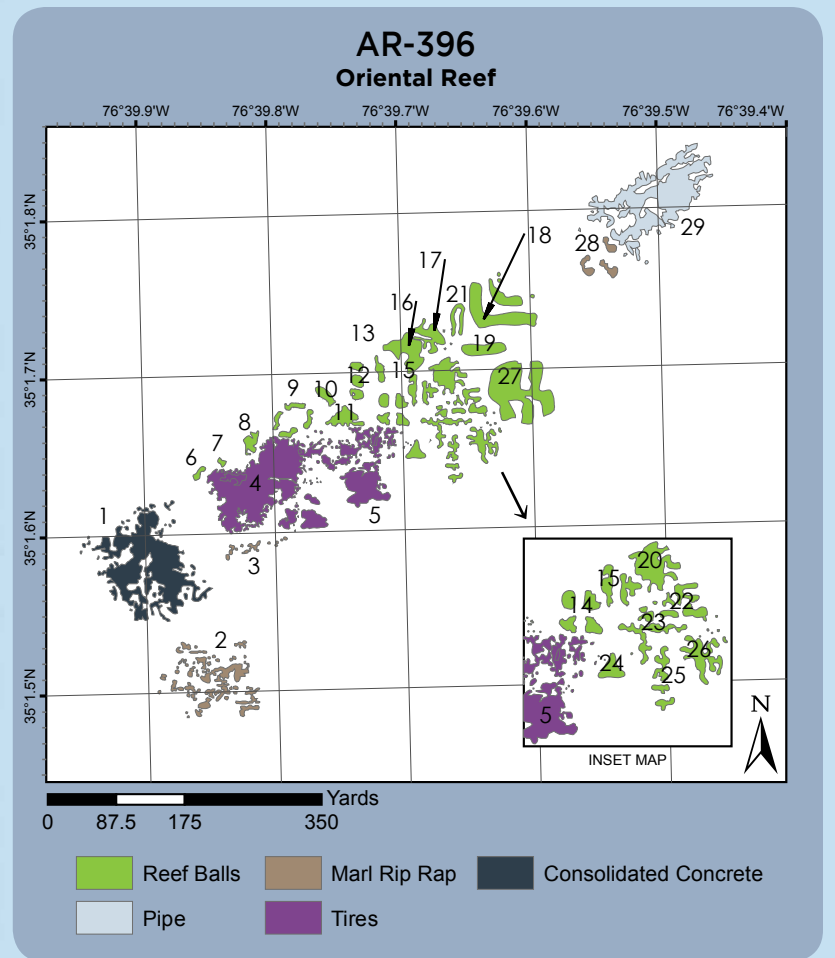
NOTES:

NOTE: Map graphic is not intended for navigation.



ESTUARINE

| AR-396 Oriental Reef | | | | |
|---|---|----------|--------------------------|---------------|
| 900 yards SE of Whithurst Point near Oriental | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Consolidated Concrete: Pipe, Pilings and Risers | 4/2010 | 35° 1.580' N | 76° 39.899' W |
| 2 | Marl Rip Rap | 4/2010 | 35° 1.507' N | 76° 39.848' W |
| 3 | Marl Rip Rap | 4/2010 | 35° 1.591' N | 76° 39.820' W |
| 4 | Tires | 1973 | 35° 1.629' N | 76° 39.806' W |
| 5 | Tires | 1973 | 35° 1.640' N | 76° 39.731' W |
| 6 | 20 Bay Reef Balls | 1/2013 | 35° 1.639' N | 76° 39.858' W |
| 7 | 16 Bay Reef Balls | 1/2013 | 35° 1.645' N | 76° 39.840' W |
| 8 | 36 Bay Reef Balls | 1/2013 | 35° 1.657' N | 76° 39.817' W |
| 9 | 70 Bay Reef Balls | 1/2013 | 35° 1.671' N | 76° 39.784' W |
| 10 | 36 Bay Reef Balls | 1/2013 | 35° 1.686' N | 76° 39.759' W |
| 11 | 36 Layer Cake Reef Balls | 1/2013 | 35° 1.671' N | 76° 39.744' W |
| 12 | 71 Bay Reef Balls | 1/2013 | 35° 1.695' N | 76° 39.734' W |
| 13 | 36 Bay Reef Balls | 1/2013 | 35° 1.701' N | 76° 39.717' W |
| 14 | 72 Bay Reef Balls | 1/2013 | 35° 1.676' N | 76° 39.707' W |
| 15 | 22 Pallet Reef Balls | 3/2012 | 35° 1.689' N | 76° 39.691' W |
| 16 | 50 Solid Bottom Pallet Reef Balls | 4/2010 | 35° 1.713' N | 76° 39.695' W |
| 17 | 25 Bay Reef Balls | 3/2010 | 35° 1.722' N | 76° 39.677' W |
| 18 | 204 Bay Reef Balls | 3/2012 | 35° 1.738' N | 76° 39.629' W |
| 19 | 36 Mini Bay Reef Balls | 3/2012 | 35° 1.713' N | 76° 39.637' W |
| 20 | 47 Pallet Reef Balls | 3/2012 | 35° 1.697' N | 76° 39.665' W |
| 21 | 25 Pallet Reef Balls | 3/2012 | 35° 1.687' N | 76° 39.680' W |
| 22 | 45 Pallet Reef Balls | 3/2012 | 35° 1.678' N | 76° 39.652' W |
| 23 | 41 Pallet Reef Balls | 3/2012 | 35° 1.665' N | 76° 39.669' W |
| 24 | 10 Ultra Reef Balls and 3 Pallet Reef Balls | 1/2013 | 35° 1.649' N | 76° 39.690' W |
| 25 | 48 Pallet Reef Balls | 3/2012 | 35° 1.644' N | 76° 39.661' W |
| 26 | 46 Pallet Reef Balls | 3/2012 | 35° 1.654' N | 76° 39.638' W |
| 27 | 85 Ultra Reef Balls | 3/2012 | 35° 1.686' N | 76° 39.609' W |
| 28 | Marl Rip Rap 150 tons | 4/2010 | 35° 1.767' N | 76° 39.544' W |
| 29 | Concrete Pipe 237 pieces | 2/2011 | 35° 1.806' N | 76° 39.502' W |

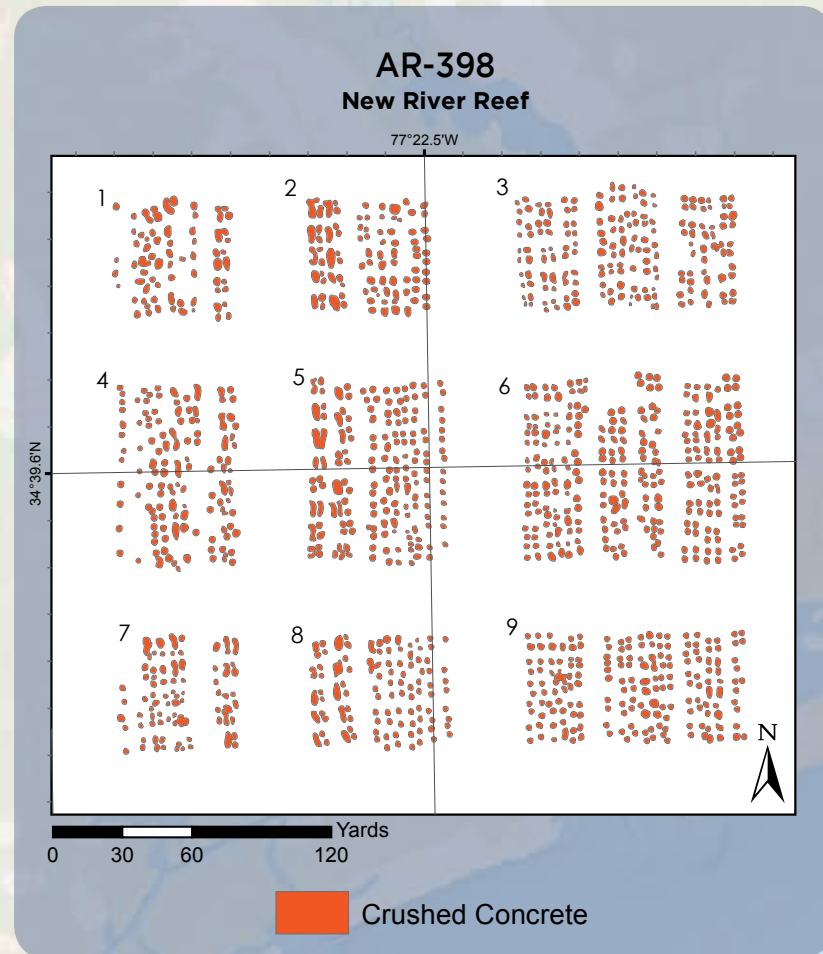


NOTES:



NOTE: Map graphic is not intended for navigation.

| AR-398 New River Reef | | | | |
|--|------------------|-----------|--------------------------|---------------|
| 115° magnetic - 0.4 nautical miles from South of Town Point in the New River | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Crushed Concrete | 11/1/2010 | 34° 39.646' N | 77° 22.565' W |
| 2 | Crushed Concrete | 11/1/2010 | 34° 39.645' N | 77° 22.514' W |
| 3 | Crushed Concrete | 11/1/2010 | 34° 39.645' N | 77° 22.447' W |
| 4 | Crushed Concrete | 11/1/2010 | 34° 39.599' N | 77° 22.565' W |
| 5 | Crushed Concrete | 11/1/2010 | 34° 39.599' N | 77° 22.513' W |
| 6 | Crushed Concrete | 11/1/2010 | 34° 39.598' N | 77° 22.447' W |
| 7 | Crushed Concrete | 11/1/2010 | 34° 39.552' N | 77° 22.565' W |
| 8 | Crushed Concrete | 11/1/2010 | 34° 39.552' N | 77° 22.513' W |
| 9 | Crushed Concrete | 11/1/2010 | 34° 39.552' N | 77° 22.448' W |

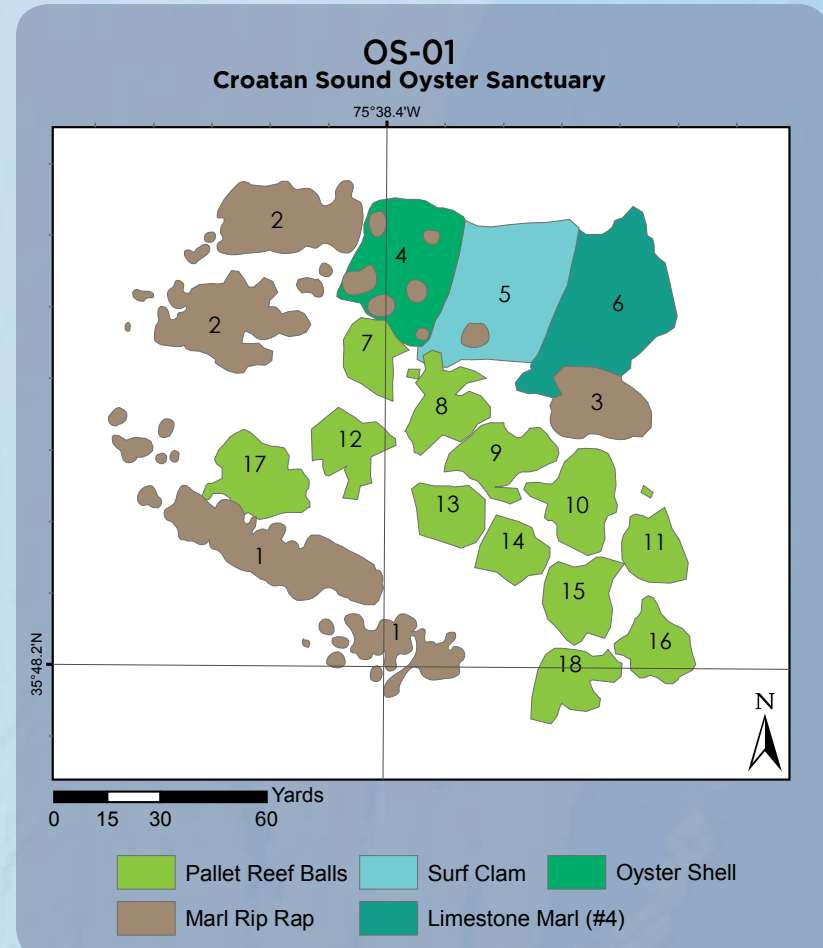


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-01 Croatan Sound Oyster Sanctuary | | | | |
|---|------------------------------------|----------|--------------------------|---------------|
| 87.2° magnetic - 3 nautical miles from Roanoke Marshes Light RM | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 1996 | 35° 48.213' N | 75° 38.413' W |
| 2 | Marl Rip Rap | 1998 | 35° 48.255' N | 75° 38.420' W |
| 3 | Marl Rip Rap | 2003 | 35° 48.251' N | 75° 38.395' W |
| 4 | Oyster Shell Overplanting | 2003 | 35° 48.256' N | 75° 38.395' W |
| 5 | Surf Clam Overplanting | 2003 | 35° 48.252' N | 75° 38.379' W |
| 6 | Limestone Marl (No.4) Overplanting | 2003 | 35° 48.251' N | 75° 38.361' W |
| 7 | 12 Pallet Reef Balls | 2013 | 35° 48.217' N | 75° 38.391' W |
| 8 | 24 Pallet Reef Balls | 2013 | 35° 48.237' N | 75° 38.388' W |
| 9 | 24 Pallet Reef Balls | 2013 | 35° 48.229' N | 75° 38.379' W |
| 10 | 24 Pallet Reef Balls | 2013 | 35° 48.224' N | 75° 38.365' W |
| 11 | 24 Pallet Reef Balls | 2013 | 35° 48.217' N | 75° 38.352' W |
| 12 | 24 Pallet Reef Balls | 2013 | 35° 48.231' N | 75° 38.405' W |
| 13 | 24 Pallet Reef Balls | 2013 | 35° 48.221' N | 75° 38.387' W |
| 14 | 24 Pallet Reef Balls | 2013 | 35° 48.216' N | 75° 38.377' W |
| 15 | 24 Pallet Reef Balls | 2013 | 35° 48.210' N | 75° 38.365' W |
| 16 | 24 Pallet Reef Balls | 2013 | 35° 48.203' N | 75° 38.352' W |
| 17 | 25 Pallet Reef Balls | 2013 | 35° 48.226' N | 75° 38.420' W |
| 18 | 25 Pallet Reef Balls | 2013 | 35° 48.198' N | 75° 38.366' W |

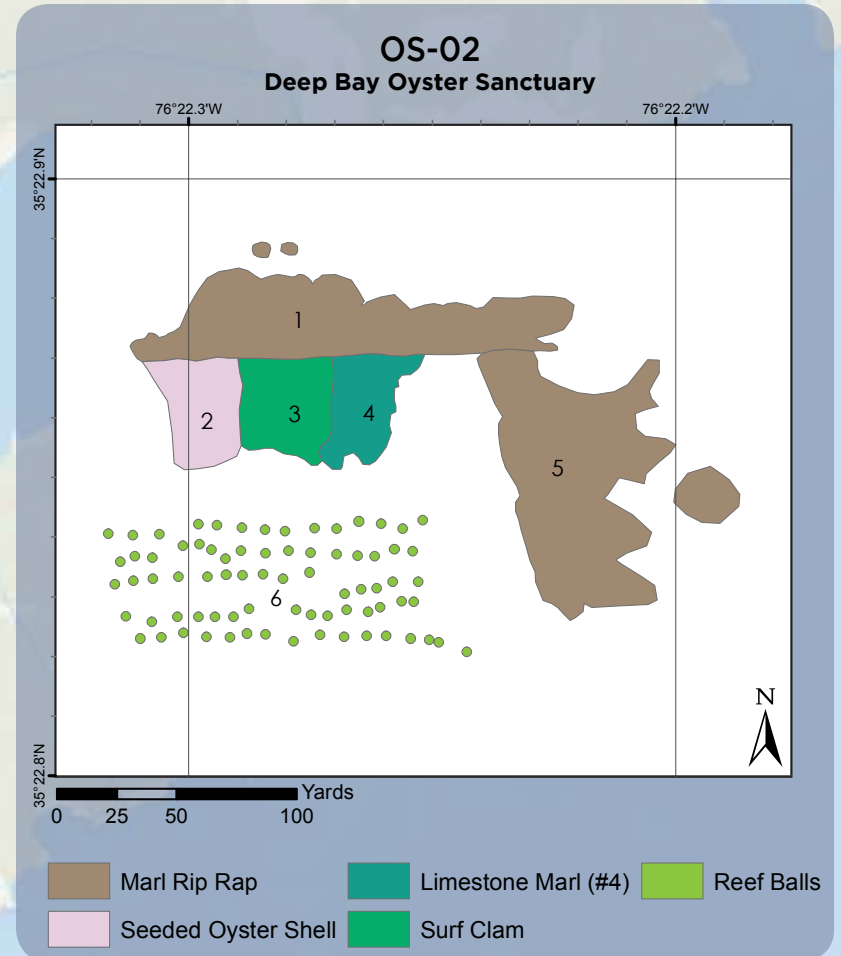


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-02 Deep Bay Oyster Sanctuary | | | | |
|---|------------------------------------|----------|--------------------------|---------------|
| 66.3° magnetic - 0.9 nautical miles from Deep Bay Light 1 | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 2003 | 35° 22.876' N | 76° 22.273' W |
| 2 | Seeded Oyster Shell Overplanting | 2003 | 35° 22.862' N | 76° 22.297' W |
| 3 | Surf Clam Overplanting | 2003 | 35° 22.862' N | 76° 22.280' W |
| 4 | Limestone Marl (No.4) Overplanting | 2003 | 35° 22.862' N | 76° 22.264' W |
| 5 | Marl Rip Rap | 1996 | 35° 22.850' N | 76° 22.228' W |
| 6 | 300 Bay Reef Balls | 2014 | 35° 22.831' N | 76° 22.284' W |

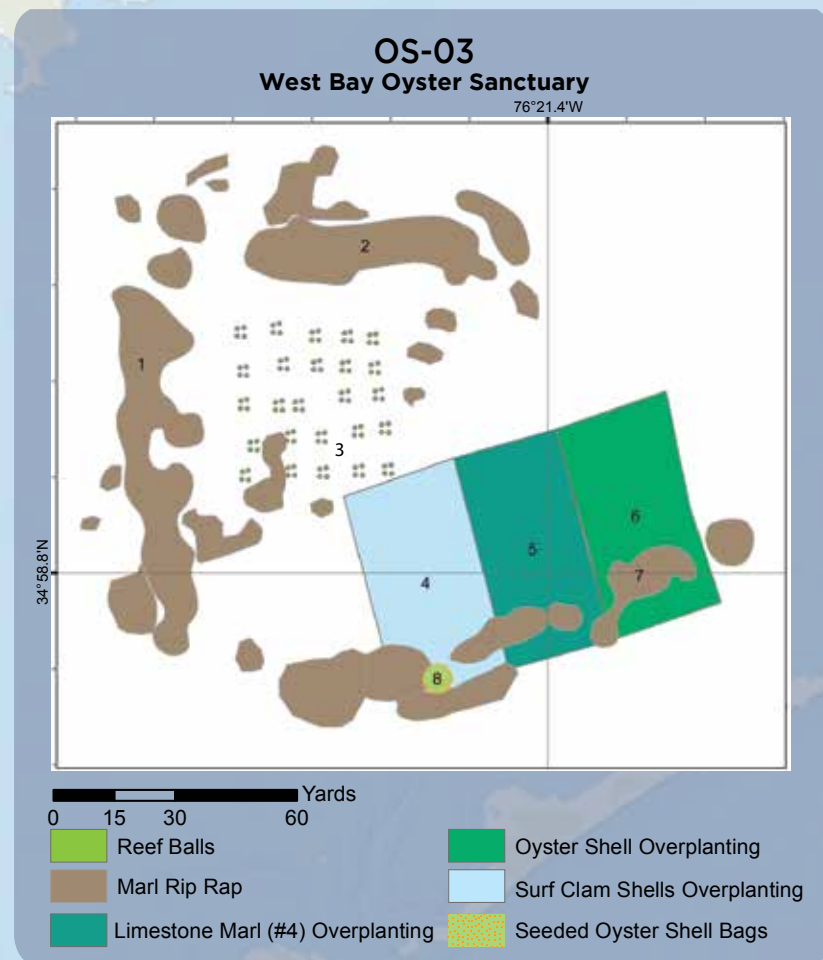


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-03 West Bay Oyster Sanctuary | | | | |
|---|--------------------------------------|----------|--------------------------|---------------|
| 93.7° magnetic - 2.4 nautical miles from West Bay Light 7WB | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 1998 | 34° 58.812' N | 76° 21.450' W |
| 2 | Marl Rip Rap | 1996 | 34° 58.834' N | 76° 21.425' W |
| 3 | 100 Mini Bay Reef Balls | 2014 | 34° 58.818' N | 76° 21.430' W |
| 4 | Surf Clam Overplanting | 2003 | 34° 58.799' N | 76° 21.416' W |
| 5 | Limestone Marl (No.4) Overplanting | 2003 | 34° 58.802' N | 76° 21.402' W |
| 6 | Non-Seeded Oyster Shell Overplanting | 2003 | 34° 58.806' N | 76° 21.389' W |
| 7 | Marl Rip Rap | 2003 | 34° 58.795' N | 76° 21.400' W |
| 8 | Seeded Oyster Shell Bags | 2004 | 34° 58.789' N | 76° 21.414' W |

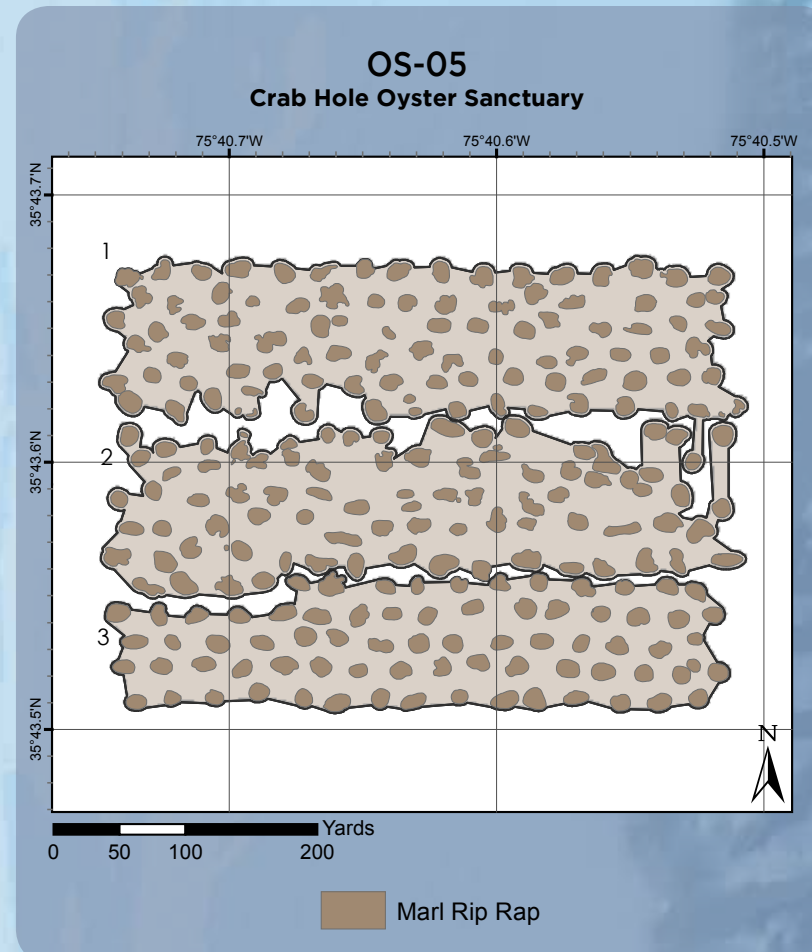


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-05 Crab Hole Oyster Sanctuary | | | | |
|---|--------------|------------------------|--------------------------|---------------|
| 354.6° magnetic - 1.9 nautical miles from Pamlico Sound North Light N | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 2003, 2004 and 2009 | 75° 40.626' W | 35° 43.646' N |
| 2 | Marl Rip Rap | 2006 and 2008 | 75° 40.632' W | 35° 43.583' N |
| 3 | Marl Rip Rap | 2009 | 75° 40.624' W | 35° 43.531' N |

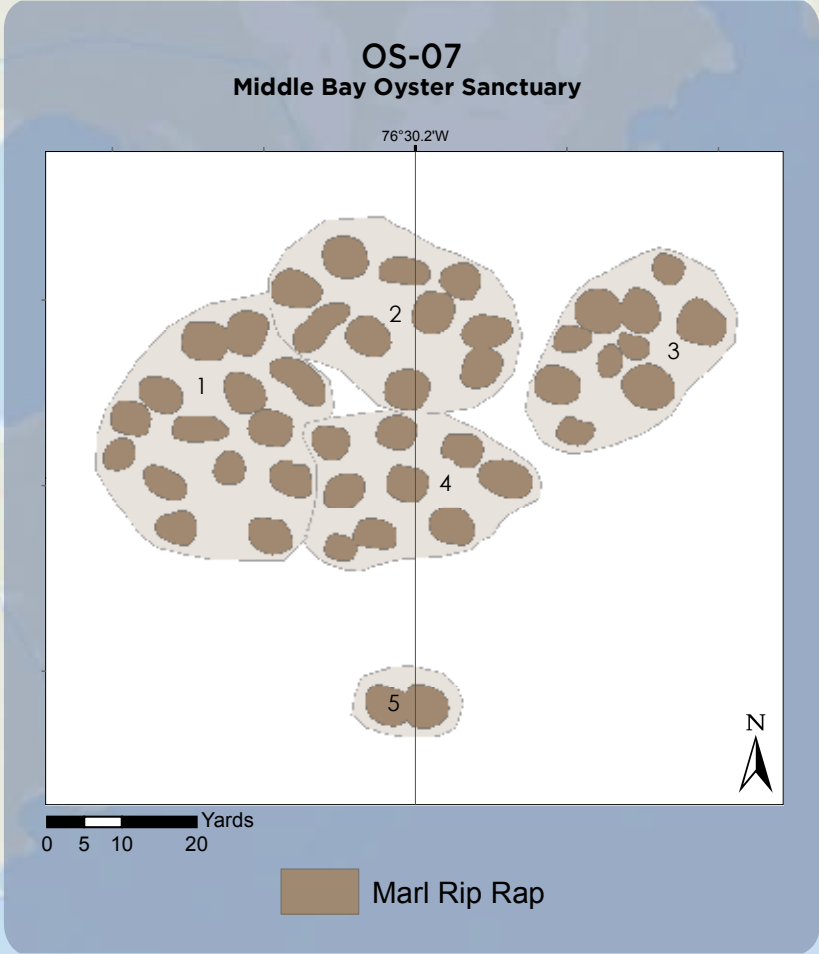


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-07 Middle Bay Oyster Sanctuary | | | | |
|--|--------------|----------|--------------------------|---------------|
| 231.5° magnetic - 1.4 nm from Middle Bay Point | | | | |
| ID # | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 2004 | 35° 14.133' N | 76° 30.213' W |
| 2 | Marl Rip Rap | 2004 | 35° 14.139' N | 76° 30.201' W |
| 3 | Marl Rip Rap | 2004 | 35° 14.137' N | 76° 30.186' W |
| 4 | Marl Rip Rap | 2004 | 35° 14.130' N | 76° 30.200' W |
| 5 | Marl Rip Rap | 2004 | 35° 14.118' N | 76° 30.201' W |

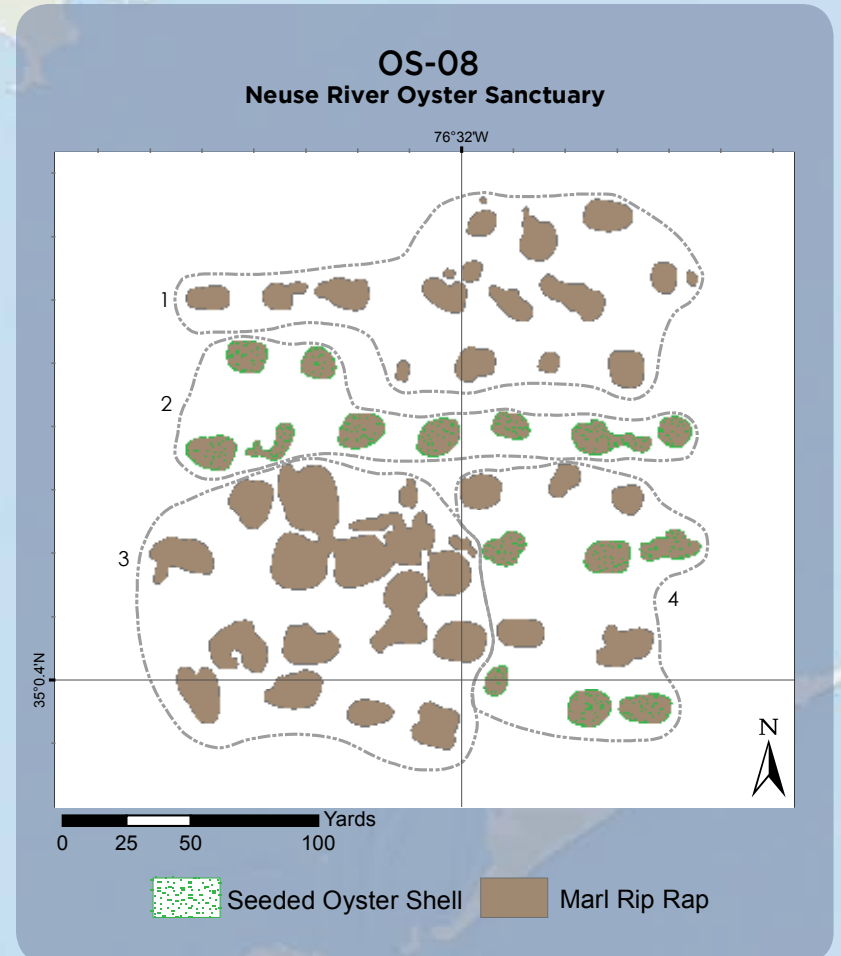


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-08 Neuse River Oyster Sanctuary | | | | |
|---|---------------|----------|--------------------------|---------------|
| 140.2° magnetic - 3.9 nautical miles from Neuse River Light 6 | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 2006 | 35° 0.461' N | 76° 31.995' W |
| 2 | *Marl Rip Rap | 2006 | 35° 0.441' N | 76° 32.017' W |
| 3 | Marl Rip Rap | 2006 | 35° 0.410' N | 76° 32.028' W |
| 4 | *Marl Rip Rap | 2006 | 35° 0.413' N | 76° 31.978' W |
| * Marl Rip Rap overplanted with Seeded Oyster Shells | | | | |

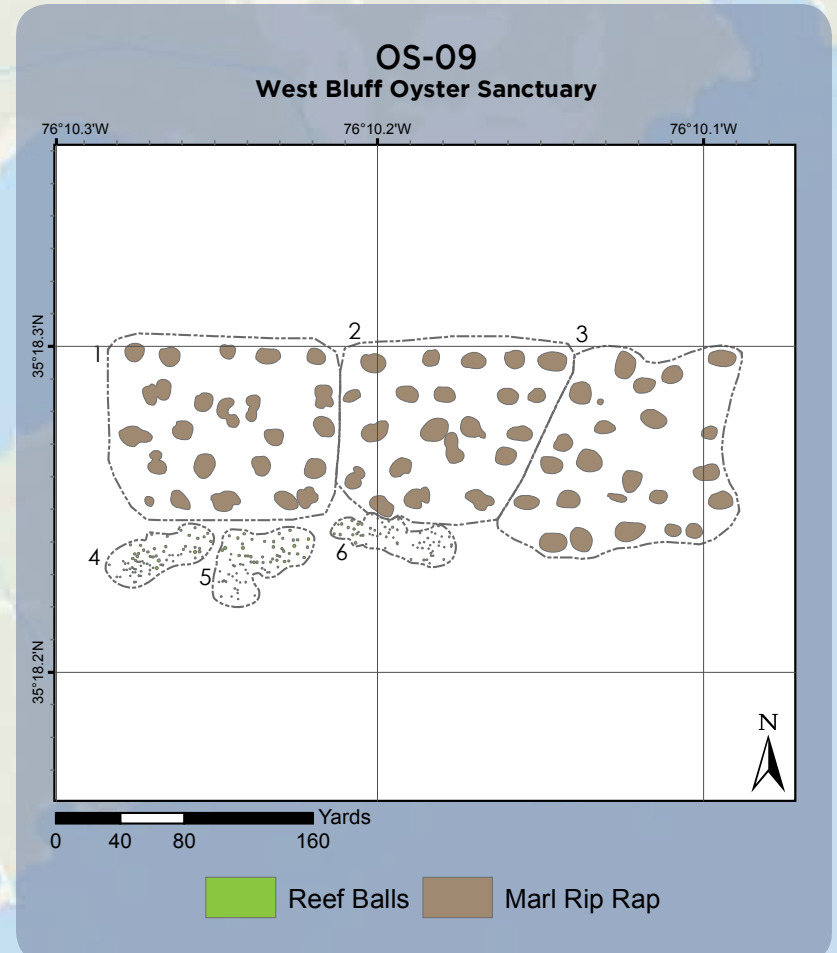


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-09 West Bluff Oyster Sanctuary | | | | |
|---|--------------|-----------|--------------------------|---------------|
| 65.7° magnetic - 3.1 nautical miles from Juniper Bay Approach Light 1 | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 2005-2009 | 35° 18.276' N | 76° 10.247' W |
| 2 | Marl Rip Rap | 2005-2009 | 35° 18.276' N | 76° 10.179' W |
| 3 | Marl Rip Rap | 2005-2009 | 35° 18.266' N | 76° 10.122' W |
| 4 | Reef Balls | 2013 | 35° 18.236' N | 76° 10.267' W |
| 5 | Reef Balls | 2013 | 35° 18.234' N | 76° 10.237' W |
| 6 | Reef Balls | 2013 | 35° 18.241' N | 76° 10.193' W |

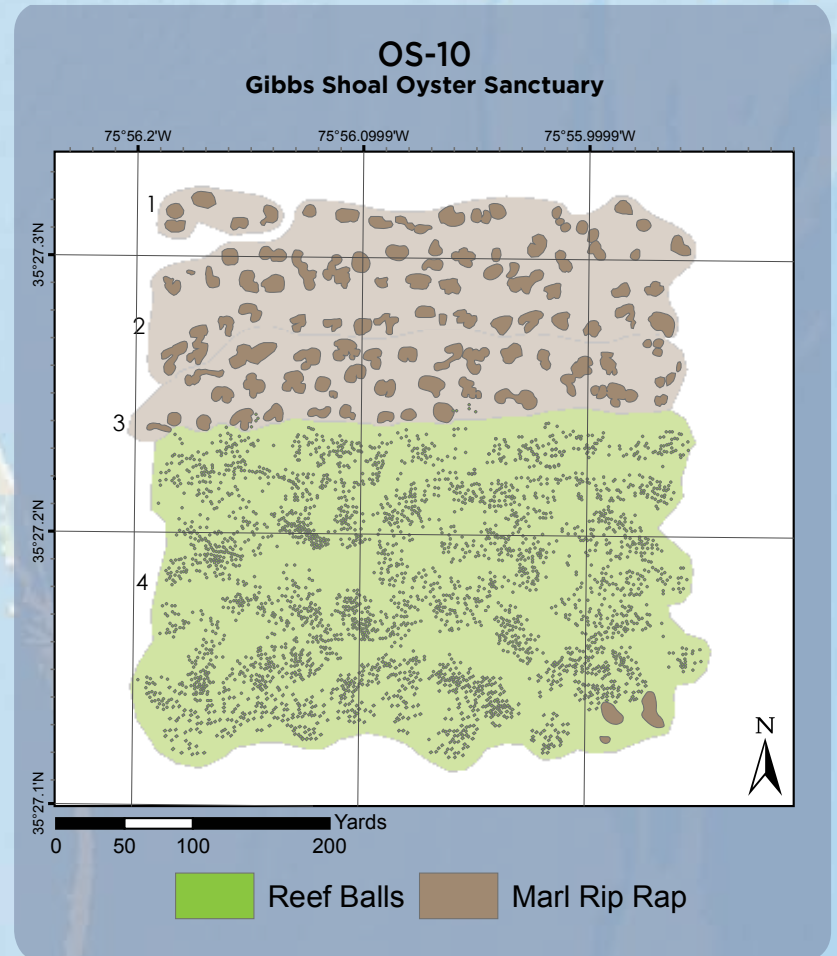


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-10 Gibbs Shoal Oyster Sanctuary | | | | |
|---|---|-----------|--------------------------|---------------|
| 151.5° magnetic - 0.1 nautical miles from Gibbs Shoal Light GBS | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Marl Rip Rap | 2009 | 35° 27.316' N | 75° 56.163' W |
| 2 | Marl Rip Rap | 2010 | 35° 27.293' N | 75° 56.070' W |
| 3 | Marl Rip Rap | 2011 | 35° 27.256' N | 75° 56.077' W |
| 4 | Reef Balls, Reef Cubes and Marl Rip Rap | 2012-2013 | 35° 27.181' N | 75° 56.073' W |

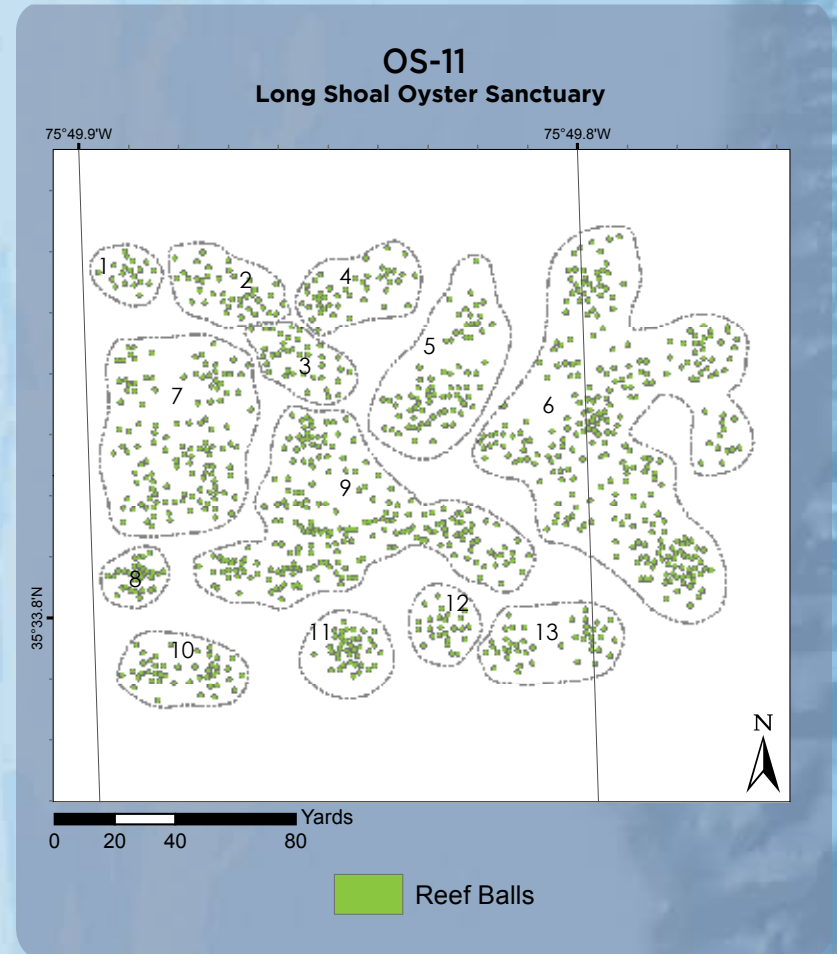


NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-11 Long Shoal Oyster Sanctuary | | | | |
|--|------------------|----------|--------------------------|---------------|
| 36.5° magnetic - 1.5 nautical miles from Pingleton Shoal Light 1PS | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Ultra Reef Balls | 2013 | 35° 33.856' N | 75° 49.891' W |
| 2 | Ultra Reef Balls | 2013 | 35° 33.853' N | 75° 49.872' W |
| 3 | Ultra Reef Balls | 2013 | 35° 33.840' N | 75° 49.857' W |
| 4 | Ultra Reef Balls | 2013 | 35° 33.852' N | 75° 49.845' W |
| 5 | Ultra Reef Balls | 2013 | 35° 33.839' N | 75° 49.828' W |
| 6 | Ultra Reef Balls | 2013 | 35° 33.828' N | 75° 49.793' W |
| 7 | Ultra Reef Balls | 2013 | 35° 33.829' N | 75° 49.882' W |
| 8 | Ultra Reef Balls | 2013 | 35° 33.806' N | 75° 49.891' W |
| 9 | Ultra Reef Balls | 2013 | 35° 33.814' N | 75° 49.848' W |
| 10 | Ultra Reef Balls | 2013 | 35° 33.791' N | 75° 49.883' W |
| 11 | Ultra Reef Balls | 2013 | 35° 33.792' N | 75° 49.849' W |
| 12 | Ultra Reef Balls | 2013 | 35° 33.797' N | 75° 49.830' W |
| 13 | Ultra Reef Balls | 2013 | 35° 33.793' N | 75° 49.808' W |



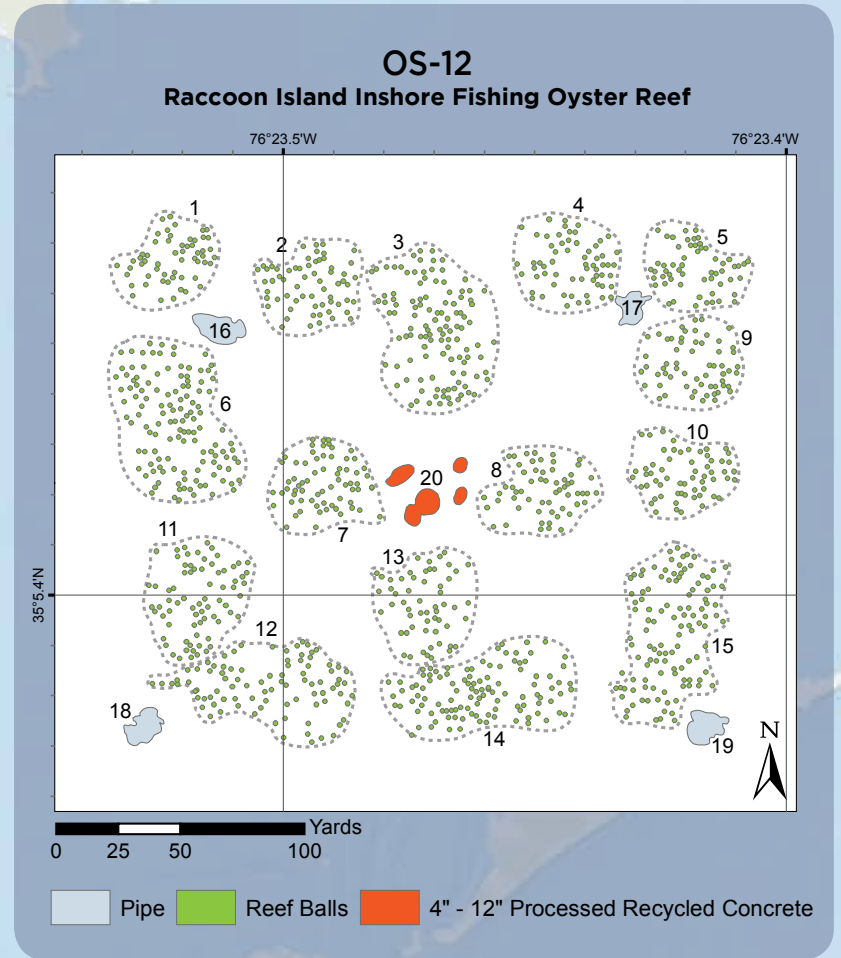
NOTES:

NOTE: Map graphic is not intended for navigation.



| OS-12 Raccoon Island Inshore Fishing Oyster Reef | | | | |
|--|-------------------------|----------|--------------------------|---------------|
| 96.1° magnetic - 4.3 nautical miles from Neuse River Entrance Light NR | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | 43 Ultra Reef Balls | 2013 | 35° 5.466' N | 76° 23.523' W |
| 2 | 55 Ultra Reef Balls | 2013 | 35° 5.461' N | 76° 23.494' W |
| 3 | 100 Ultra Reef Balls | 2013 | 35° 5.453' N | 76° 23.470' W |
| 4 | 59 Ultra Reef Balls | 2013 | 35° 5.466' N | 76° 23.444' W |
| 5 | 55 Ultra Reef Balls | 2013 | 35° 5.465' N | 76° 23.419' W |
| 6 | 120 Ultra Reef Balls | 2013 | 35° 5.434' N | 76° 23.522' W |
| 7 | 64 Ultra Reef Balls | 2013 | 35° 5.421' N | 76° 23.492' W |
| 8 | 55 Ultra Reef Balls | 2013 | 35° 5.420' N | 76° 23.449' W |
| 9 | 59 Ultra Reef Balls | 2013 | 35° 5.446' N | 76° 23.419' W |
| 10 | 56 Ultra Reef Balls | 2013 | 35° 5.424' N | 76° 23.421' W |
| 11 | 65 Ultra Reef Balls | 2013 | 35° 5.400' N | 76° 23.517' W |
| 12 | 79 Ultra Reef Balls | 2013 | 35° 5.381' N | 76° 23.502' W |
| 13 | 53 Ultra Reef Balls | 2013 | 35° 5.398' N | 76° 23.471' W |
| 14 | 98 Ultra Reef Balls | 2013 | 35° 5.392' N | 76° 23.423' W |
| 15 | 98 Ultra Reef Balls | 2013 | 35° 5.381' N | 76° 23.459' W |
| 16 | 12" Concrete Pipe | 2013 | 35° 5.453' N | 76° 23.513' W |
| 17 | 24" Concrete Pipe | 2013 | 35° 5.457' N | 76° 23.431' W |
| 18 | 15" Concrete Pipe | 2013 | 35° 5.374' N | 76° 23.528' W |
| 19 | 18" Concrete Pipe | 2013 | 35° 5.374' N | 76° 23.416' W |
| 20 | 4-12" Recycled Concrete | 2013 | 35° 5.420' N | 76° 23.472' W |

NOTE: Map graphic is not intended for navigation.

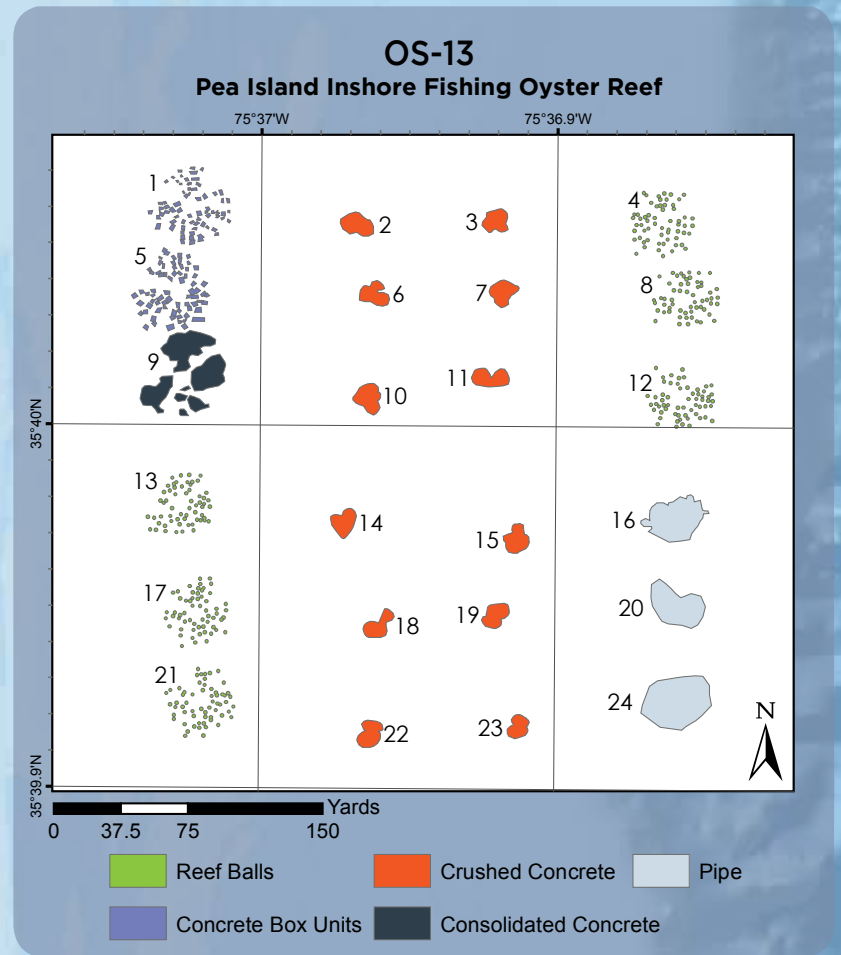


NOTES:



| OS-13 Pea Island Inshore Fishing Oyster Reef | | | | |
|---|-----------------------|----------|--------------------------|---------------|
| 111.5° magnetic - 3.6 nautical miles from Pamlico Sound North Light N | | | | |
| ID No. | Material | Deployed | GPS (Decimal Minutes) | |
| 1 | Concrete Box Units | 1/2015 | 35° 40.059' N | 75° 37.023' W |
| 2 | Crushed Concrete | 4/2015 | 35° 40.055' N | 75° 36.966' W |
| 3 | Crushed Concrete | 4/2015 | 35° 40.057' N | 75° 36.919' W |
| 4 | Reef Balls | 7/2015 | 35° 40.056' N | 75° 36.864' W |
| 5 | Concrete Box Units | 2/2015 | 35° 40.036' N | 75° 37.028' W |
| 6 | Crushed Concrete | 4/2015 | 35° 40.036' N | 75° 36.960' W |
| 7 | Crushed Concrete | 5/2015 | 35° 40.037' N | 75° 36.917' W |
| 8 | Reef Balls | 7/2015 | 35° 40.036' N | 75° 36.855' W |
| 9 | Consolidated Concrete | 2/2015 | 35° 40.015' N | 75° 37.024' W |
| 10 | Crushed Concrete | 5/2015 | 35° 40.008' N | 75° 36.962' W |
| 11 | Crushed Concrete | 5/2015 | 35° 40.013' N | 75° 36.921' W |
| 12 | Reef Balls | 8/2015 | 35° 40.007' N | 75° 36.856' W |
| 13 | Reef Balls | 8/2015 | 35° 39.978' N | 75° 37.025' W |
| 14 | Crushed Concrete | 6/2015 | 35° 39.973' N | 75° 36.970' W |
| 15 | Crushed Concrete | 6/2015 | 35° 39.969' N | 75° 36.912' W |
| 16 | Pipe | 3/2015 | 35° 39.975' N | 75° 36.858' W |
| 17 | Reef Balls | 8/2015 | 35° 39.948' N | 75° 37.019' W |
| 18 | Crushed Concrete | 7/2015 | 35° 39.945' N | 75° 36.958' W |
| 19 | Crushed Concrete | 7/2015 | 35° 39.948' N | 75° 36.919' W |
| 20 | Pipe | 3/2015 | 35° 39.951' N | 75° 36.858' W |
| 21 | Reef Balls | 10/2015 | 35° 39.923' N | 75° 37.018' W |
| 22 | Crushed Concrete | 7/2015 | 35° 39.915' N | 75° 36.961' W |
| 23 | Crushed Concrete | 7/2015 | 35° 39.917' N | 75° 36.911' W |
| 24 | Pipe | 4/2015 | 35° 39.924' N | 75° 36.857' W |

NOTE: Map graphic is not intended for navigation.



NOTES:



Artificial Reef Etiquette

- Observe all state and federal fishing regulations.
- Do not tamper with commercial fishing gear – it's illegal!
- Do not harvest oysters from oyster sanctuaries – it's illegal!
- Do not litter or throw any trash overboard. Remember, fishing line, plastic, and other garbage can kill fish, turtles, and birds. It can also entangle and endanger divers. Bring garbage back to the dock and dispose in an appropriate receptacle.
- First come, first served: Be courteous and give anchored boats a wide berth.
- Watch for divers. Stay away from boats displaying a Diver Down flag.
- Always proceed with caution if there are Diver Down flags. Watch for diver's bubbles.
- Immediately release all live fish and shellfish that you are not planning to keep.
- Fish responsibly; use circle hooks.
- Follow federal regulations and vent when necessary.



Diving North Carolina's Artificial Reefs

- Complete dive courses and obtain all necessary certifications.
- Be aware of your surroundings, and use caution when diving.
- Display an appropriate Diver Down flag when divers are in the water.
- Do not dive on artificial reefs where fishermen are drift fishing, due to the presence of moving fishing gear.
- Be aware:
 - Artificial reefs may contain sharp or jagged surfaces.
 - Fishing lines, hooks, nets or other gear may be fouled in reef structures. These can snag divers or equipment.
- Respect the environment you're visiting.
- Please do not touch coral or pick up any marine creatures. This can damage or even kill the creatures you're visiting.
- Dive at your own risk.

Public Support

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For more information, please visit:
<http://portal.ncdenr.org/web/mf/artificial-reefs-program>

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