

# HIGH EFFICIENCY GEAR RESTRICTIONS ON ARTIFICIAL REEFS IN STATE OCEAN WATERS

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ARTIFICIAL REEFS IN STATE OCEAN WATERS  
INFORMATION PAPER



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February 3, 2021

## MEMORANDUM

**TO:** N.C. Marine Fisheries Commission

**FROM:** Jason Peters, Enhancement Program Supervisor, Habitat and Enhancement  
Jacob Boyd, Section Chief, Habitat and Enhancement

**SUBJECT:** Gear Restrictions as a Management Tool for Artificial Reefs in State Ocean Waters

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### Issue

At its November 2020 business meeting, the N. C. Marine Fisheries Commission (MFC) voted to initiate the rulemaking process to restrict highly efficient fishing gears on artificial reefs in state ocean waters to protect all species of finfish. An issue paper is included in the briefing materials and provides an overview of gear restrictions as a management tool for artificial reefs in North Carolina and recent federal action to restrict highly efficient fishing gears at artificial reef sites in the EEZ. With this paper, management options are presented to establish similar gear restrictions on artificial reefs in state ocean waters, applying to all finfish species.

### Action Needed

At its February 2020 business meeting the commission is scheduled to vote to select their preferred management option and any associated language for rulemaking.

### Findings

- The historical purpose of artificial reefs is to create habitat for fish that is publicly accessible for fishing and diving opportunities.
- Restricting the use of highly efficient fishing gears on artificial reefs can decrease overexploitation of the reefs and increase protection of protected species.
- Implementation of gear restrictions is an effective management tool for artificial reefs.
- While the MFC's current artificial reef rule grants proclamation authority to implement gear restrictions for North Carolina's 13 artificial reefs in state ocean waters, those restrictions are subject to conditions that cannot be met because the rule is obsolete.
- To establish highly efficient fishing gear restrictions, the current artificial reef rule (15A NCAC 03I .0109) is proposed for amendment to remove all reference to artificial reefs, focusing solely on research sanctuaries.
- In addition to amending the existing artificial reef rule, two new rules are proposed for adoption to set coordinates delineating boundaries of the artificial reefs in state ocean waters (15A NCAC 03R .0119) and to set restrictions for the use of highly efficient fishing gears for those artificial reefs (15A NCAC 03J .0404).
- Rule 15A NCAC 03J .0404 includes definitions for the three allowed gear types: "hand line", "hook and line", and "spearfishing gear". Under the rule readoption process and as

part of an examination of all defined terms in MFC rules, DMF staff may recommend these three definitions ultimately be placed in Rule 15A NCAC 03I .0101, Definitions, where they would apply to all rules within Chapter 03. This work will be completed before the formal rulemaking process begins later this year. The content of the definitions will be preserved, consistent with the MFC's selection of its preferred management option.

- If approved, SMZs in the EEZ will provide protections to snapper-grouper species only, while proposed rules for artificial reefs in state ocean waters will protect all species. Differences in these regulations may present issues for enforcement and compliance, given that users commonly transit between reefs in the EEZ and reefs in state waters during a single trip.
- Of note, AR-430 (listed #13 in proposed 15A NCAC 03R .0119) is pending agency review for a boundary modification to encompass reef materials found outside the existing boundary. This modification will not change the total area of the reef, rather shift the center point slightly in a north-northeastward direction. Because of this pending action, the coordinates provided in the proposed rule text are subject to change. The final coordinates will be brought later this year if the commission elects to proceed with the rulemaking process.
- Option 1 provides status quo; no defined boundaries for artificial reefs in state ocean waters, no specific gear restrictions to protect finfish at these locations, and no authority for MFC or DMF Director to establish future restrictions.
- Option 2 is to proceed with rulemaking to protect all species from highly efficient fishing gear on artificial reefs in state ocean waters.

### **Recommendation**

The division recommends proceeding with rulemaking to protect all species from highly efficient fishing gear on artificial reefs in state ocean waters as described in management option 2.

For more information, please refer to the full document titled [“Proposed Rules to Restrict Highly Efficient Fishing Gears on Artificial Reefs in State Ocean Waters Issue Paper”](#) included in this Briefing Book.

**PROPOSED RULES TO RESTRICT HIGHLY EFFICIENT FISHING GEARS ON ARTIFICIAL REEFS  
IN STATE OCEAN WATERS  
ISSUE PAPER**

**Feb. 5, 2021**

**I. ISSUE**

To establish protections for all finfish species on artificial reefs in state ocean waters by adopting rules restricting the use of highly efficient fishing gears.

**II. ORIGINATION**

On Nov. 19, 2020 the MFC voted to initiate the rulemaking process to restrict highly efficient fishing gears on artificial reefs in state ocean waters to protect all species of finfish.

**III. BACKGROUND**

The N.C. Division of Marine Fisheries (DMF) manages 43 ocean artificial reefs located between 0.5 – 38 nautical miles (nm) off the coast of North Carolina in the Atlantic Ocean (Figure 1). The majority of these artificial reefs (30) are located in the federally managed Exclusive Economic Zone (EEZ; 3-200 nm) and the remaining artificial reefs sites (13) are located in state ocean waters (0-3nm; Figure 1).

Federal fisheries executed off the North Carolina coast in the EEZ are managed under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 U.S.C. § 1801 et. seq.). The responsibility for decision making for many of these fisheries is delegated from the US Secretary of Commerce to the South Atlantic Fishery Management Council (SAFMC), with the final decisions made by the Secretary. The MSA, along with creating regional councils to manage federal fisheries, authorized the creation of Special Management Zones (SMZs). These SMZs are designated marine areas in the EEZ where specific restrictions can be implemented through an existing Fishery Management Plan (FMP).

*Recent Regulatory Action*

In June 2019, at the DMF director's request, the SAFMC began development of proposed gear restrictions at North Carolina artificial reefs in the federal EEZ. In the director's letter, DMF acknowledged the potential for artificial reefs to aggregate fishery resources and requested SMZ designation with restrictions intended to prevent overexploitation of the resources by use of highly efficient fishing gears. Subsequently, proposed rules were prepared under the SMZ framework provided by the SAFMC Snapper Grouper FMP, offering protections to only those species listed within the snapper grouper complex. The goals of these restrictions were to avoid depletion of snapper grouper species on artificial reefs, promote equitable fishing on the artificial reefs, and reduce derelict gear.

In June 2020, the SAMFC approved Regulatory Amendment 34 to the Snapper Grouper FMP, including gear restrictions on North Carolina artificial reefs in the EEZ. These harvest and gear restrictions will apply only within the boundaries of artificial reefs in the EEZ and specify that: harvest of snapper grouper species is only allowed by hand line, rod and reel, and spearfishing gear with spearfishing gear being limited to the applicable recreational bag and possession limits (SAFMC 2020). The text is currently pending review by the US Department of Commerce (USDOC). If approved by the US Secretary of Commerce and subsequently codified into the Code of Federal Regulations (CFR), all 30 ocean artificial reefs off of North Carolina's coast in the EEZ will be designated as SMZs with harvest and gear restrictions. Harvest and gear restrictions would only apply to the snapper grouper fishery, not to other species, within the boundary of the 30 ocean artificial reefs in the EEZ off North Carolina, and not to the remaining 13 artificial reefs located in North Carolina's state ocean waters. Like those in the EEZ, artificial reefs in North Carolina's state ocean waters are designed as publicly accessible fish aggregation areas, susceptible to overexploitation and potentially having negative interactions with protected species listed under the ESA (Jennings et al. 1998; Jennings et al. 1999; Lloret et al. 2008; Barnette 2017).

A presentation titled, “Special Management Zones in State Waters” was delivered during the MFC meeting on Aug. 20, 2020. The presentation included a summary of artificial reefs in North Carolina and the status of the DMF gear restriction request to the SAFMC. Following the presentation, the MFC passed a motion asking the DMF to study making North Carolina’s artificial reefs in state ocean waters SMZs, possibly limiting the allowable gear, and to bring recommendations back to the MFC at its November 2020 meeting.

An information paper titled, “Gear Restrictions as a Management Tool for Artificial Reefs in State Waters” was delivered during the MFC meeting on Nov. 19, 2020. After discussion, the MFC voted to initiate the rulemaking process to restrict highly efficient fishing gears on artificial reefs in state ocean waters to protect all species of finfish as a complement to the restrictions in process for artificial reefs in the EEZ for snapper grouper species.

### *Artificial Reef Fisheries*

North Carolina’s artificial reefs, both in state ocean waters and in the EEZ, are home to a myriad of resident and migratory species. The species abundance, biomass and richness of fish assemblages found on artificial reefs vary according to the type of artificial reef construction and water depth of the site (Paxton et al. 2018). Therefore, the composition of species at reefs in state ocean waters is likely different than that of artificial reefs in the EEZ. While sub-tropical species, like those in the snapper grouper complex, are less likely to be observed at reefs in state ocean waters, a variety of other frequently targeted species such as flounder (*spp.*) are common and subject to overexploitation by highly efficient fishing gears. These reefs in state ocean waters are important habitat for state managed species, including spotted seatrout (*Cynoscion nebulosus*), red drum (*Sciaenops ocellatus*), sheepshead (*Archosargus probatocephalus*), and southern flounder (*Paralichthys lethostigma*). Among recreational fishermen, flounder (*spp.*), red drum, and spotted seatrout are the top three most targeted species, according to a 2018 survey (Table 1; Stemle and Condon 2018). Federally and interjurisdictionally managed species are also found inhabiting North Carolina’s reefs in state ocean waters including black drum (*Pogonias cromis*), summer flounder (*Paralichthys dentatus*), and weakfish (*Cynoscion regalis*) to name a few.

### *Highly Efficient Fishing Gears*

The purpose of state artificial reef programs is to develop hard bottom habitat that aggregate fishery resources and improve user access to fisheries. Fish aggregating on artificial reefs may be subject to overexploitation, particularly when highly efficient fishing gears are used for harvest. Highly efficient fishing gears, for the purposes of artificial reef management, are those that offer advantages over other gears through increased catch per effort. Gears with this characteristic may be considered all those other than hand line, hook and line, rod and reel, and spearfishing gear and can lead to overly exploited artificial reefs. “Hook and line” is considered synonymous with “rod and reel”, the latter of which is defined in the CFR for purposes of management by the SAFMC. Spearfishing gear is considered efficient but differs from other gears with this characteristic because its efficiency is derived from visually selective harvest of individual fish; catch per unit effort does not differ much from hand line and rod and reel gear. By restricting the use of highly efficient fishing gears on artificial reefs, the likelihood of overexploitation is reduced. Overly exploited artificial reefs may negatively affect user access to the resource and result in other negative biological effects. For example, complex reproductive strategies of certain species may be disrupted when larger individuals are disproportionately removed by highly efficient fishing gear, having a cascading effect on long-term sustainability (SAFMC 2020; Jennings et al. 1998; Jennings et al. 1999; Lloret et al. 2008).

### *Fishing Effort on Artificial Reefs and Economic Effects*

While empirical data on fishing activity at artificial reefs are limited, the Marine Recreational Information Program (MRIP) and observational data suggests the artificial reefs in state ocean waters do experience fishing effort. The MRIP seeks to survey recreational fishing effort and estimate catch on the state’s resources, including fishing effort on artificial reefs. The MRIP uses an array of sampling techniques including mail and telephone surveys, vessel logbooks, and the Access Point Angler Intercept Survey (APAIS). Field technicians interview fishermen at fishing access points (e.g., piers, boat ramps) and obtain information from the fisherman such as demographics, where they fished, and what they caught. Notably, one of the questions asks whether the fisherman fished on an artificial reef. The 2016-2019 results from the APAIS show that trips made with private vessels to artificial reefs make up approximately 12-15% of all private vessel ocean trips (Table 2). The MRIP surveys do not gather specific information on which artificial reefs were visited, however on average, a greater proportion of trips were made to artificial reefs

in state waters than in the EEZ. This is noteworthy because there are considerably fewer artificial reef options in state ocean waters, suggesting individual reefs in state ocean waters may be visited more frequently and therefore receive more fishing effort than individual artificial reefs in the EEZ.

Currently, there are not enough data to accurately quantify the economic value of artificial reefs (SAFMC 2020). Estimating economic impacts of gear restrictions at these locations is also difficult to quantify due to limited data on artificial reefs including: use, gear use, harvest, and other direct or indirect expenditures. However, restricting allowable gears on artificial reefs is likely to have a direct impact on fisheries which rely on those gears, through loss of revenue. The 13 artificial reefs in state ocean waters have a cumulative area of approximately 3.45 nm<sup>2</sup> (Table 3). Given the relative size of these sites, maximum revenue losses may be low, as was forecasted for the snapper grouper fishery in Regulatory Amendment 34 (SAFMC 2020). However, gear restriction as an action to maintain abundance of the resource may offer an offsetting positive economic impact through increased user access and subsequent expenditures.

### *Protected Species*

Artificial reefs have also been found to play important roles as habitat and foraging areas for protected species, which are managed by the National Oceanic and Atmospheric Administration (NOAA) Fisheries under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). There are 29 species of fish, mammals, sea turtles, and corals listed under the Southeast US ESA region. While not all of these species occur in North Carolina, notable species of fish that do occur include the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and scalloped hammerhead (*Sphyrna lewini*). Additionally, populations of several endangered whales, including the highly endangered North Atlantic right whale (*Eubalaena glacialis*), occur in North Carolina waters for a portion of the year (Hayes et al. 2017). Sea turtles, all of which are protected species under the ESA, are known visitors to artificial reefs and utilize them for shelter and foraging in the same way they utilize natural reefs (Barnette 2017). Artificial reefs can pose risks of entanglement with fishing line, entrapment inside material or vessels that can lead to drownings, and if in close proximity to newly hatched sea turtles' shoreline sites, may lead to increased predation on the turtles once they enter the water (Barnette 2017). Fishing gear restrictions can reduce the likelihood of gear entanglement and therefore may provide a benefit to sea turtles relative to the current baseline (SAFMC 2020).

Recently, the NOAA Protected Resources Division (PRD) performed an ESA Section 7 programmatic consultation and rendered a biological opinion regarding the effects of North Carolina artificial reefs on protected species. In their biological opinion, NOAA PRD recommended that the DMF Artificial Reef Program take all measures possible to reduce derelict fishing gear on artificial reef material. This directive is intended to prevent entanglement and death of protected species, especially sea turtles that are exposed and may be vulnerable to fishing gear including trawls, gillnets, purse seines, longlines, bandit gear, hand lines, pound nets, and traps (NOAA PRD 2019). Like those proposed for SMZs, restrictions that exclude the aforementioned gears at reefs in state ocean waters may be necessary to ensure permitting for future artificial reef enhancement in North Carolina.

Table 1. Most popularly targeted species by recreational anglers in NC (Stemle and Condon 2018).

Species	% Anglers Who Target
Flounder	47
Red drum	40
Spotted Sea Trout	37
Black Drum	29
Weakfish	26
Spot	25
Bluefish	25
Spanish Mackerel	24
Croakers	23
Sea Mullet/Whiting	20
Striped Bass	19
Other	18
Sheepshead	15
Pompano	15
Cobia	13

Table 2. Access Point Angler Intercept Survey (APAIS) results from ocean artificial reef trips in private vessels only.

Year	Percent (%) of Trips to Artificial Reefs		
	<3nm	>3nm	Total
2016	8.78	6.29	15.07
2017	5.86	8.34	14.19
2018*	UNKNOWN	UNKNOWN	UNKNOWN
2019	7.06	5.74	12.80

\*Data from 2018 are not known due to a categorization error from the artificial reef survey question.

Table 3. Size (nautical miles squared) of all 13 artificial reefs in state ocean waters in North Carolina. *Area of Material* is a representation of two-dimensional area of actual reef materials (vessels, bridge rubble, pipe, etc.) within the artificial reef site boundaries. *Total Reef Area* represents the total permitted area of the artificial reef site.

Site	Area Of Material (nm <sup>2</sup> )	Total Reef Area (nm <sup>2</sup> )
AR-160	0.00169	0.19146
AR-165*	--	0.19146
AR-275	0.00095	0.19146
AR-315	0.00960	0.76584
AR-320	0.00791	0.19146
AR-342	0.00387	0.19146
AR-360	0.00202	0.19146
AR-364	0.00197	0.19146
AR-370	0.00382	0.76584
AR-378	0.00391	0.19146
AR-378B	0.00022	0.19146
AR-425	0.00235	0.19146
AR-430	0.01987	0.19146
Total	0.05819	3.44630

\*Area of material at AR-165 has not been calculated due to how recently material has been deployed.

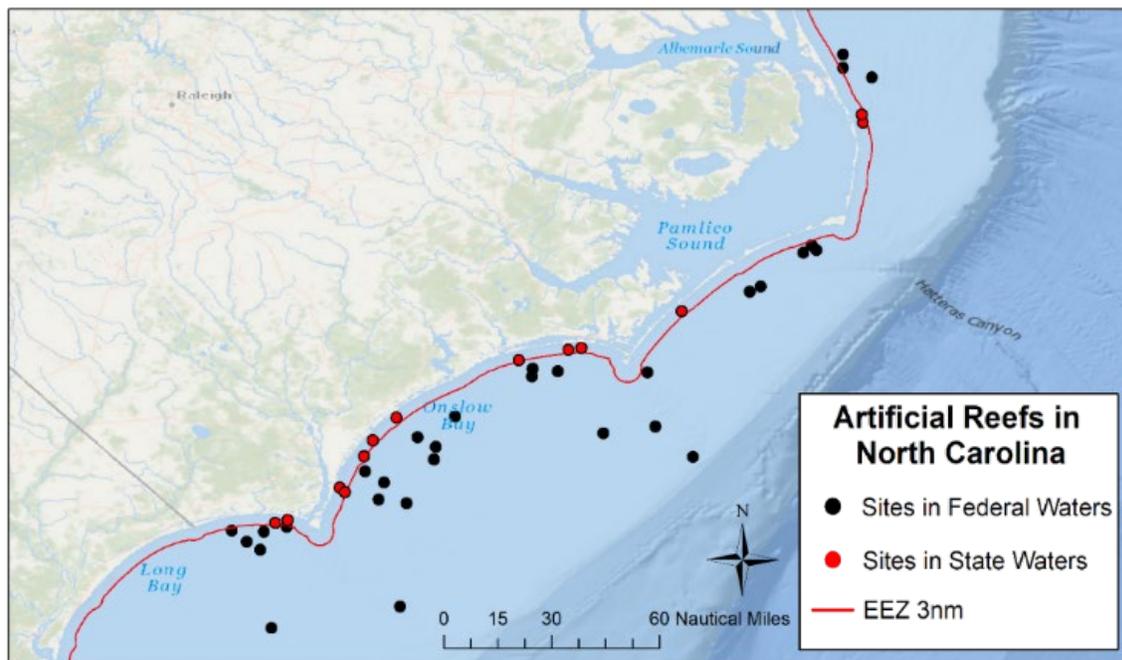


Figure 1. North Carolina ocean artificial reefs separated by state (13 sites; 0-3 nm) and federally (30 sites; 3-200 nm) managed waters.

#### IV. AUTHORITY

##### North Carolina General Statutes

G.S. § 14-4.1.	Legislative review of regulatory crimes.
G.S. § 113-134.	Rules.
G.S. § 113-182.	Regulation of fishing and fisheries.
G.S. § 143B-289.51.	Marine Fisheries Commission – creation; purposes.
G.S. § 143B-289.52. (b) (10)	Marine Fisheries Commission – powers and duties. [artificial reefs]

##### Marine Fisheries Commission Rules

15A NCAC 03I .0102	Temporary Suspension of Rules
15A NCAC 03I .0109	Artificial Reefs and Research Sanctuaries

#### V. DISCUSSION

The MFC has authority to implement management measures regarding ocean and marine fisheries in the Atlantic Ocean (G.S. 143B-289.51) and can adopt rules to regulate fishing and fisheries (G.S. 113-134; G.S. 113-182). Additionally, the MFC has authority to establish standards and adopt rules to regulate the location and utilization of artificial reefs in coastal waters (G.S. 143B-289.52). There is only one current MFC rule for artificial reefs (15A NCAC 03I .0109) and it needs to be updated.

##### *Current Artificial Reef Rule*

Currently, the MFC has one rule specifically pertaining to artificial reefs (15A NCAC 03I .0109) that also addresses research sanctuaries and originally provided a mechanism for implementing gear restrictions at designated locations. This rule does not contain specific gear restrictions; instead, it delegates authority to the DMF director who may issue a proclamation to prohibit or restrict the taking of fish and the use of equipment in and around artificial reefs and research sanctuaries. Restrictions under this rule are limited to one year and to be applied, artificial reefs must be marked in the center by a readily identifiable buoy; distances for closures or restrictions are measured from the buoy.

For many years, the Artificial Reef Program maintained large buoys to mark the center of certain artificial reefs. Presumably, this was an aid to navigation, helping boaters and anglers locate fishing grounds. Mariners could find habitat by navigating within a published distance of the buoys. With the advent of GPS technology and inexpensive marine electronics such as chart plotters, the function of these buoys as navigation aids decreased over time. In 2016, the DMF decommissioned its only vessel capable of maintaining these large and expensive buoy systems. With the help of the US Coast Guard, all remaining buoys at ocean artificial reefs were permanently removed by 2017. While there are no buoys present on ocean artificial reefs, the current rule text still requires them as a condition for the DMF director to establish closures or restrictions. Currently, as the rule is written, neither the DMF director nor the MFC can apply highly efficient fishing gear restrictions at artificial reefs in state ocean waters.

The MFC Rule 15A NCAC 03I .0109 is subject to readoption per G.S. 150B-21.3A by June 30, 2022. As part of that process, the rule is proposed to be amended to relocate the components of the rule pertaining to artificial reefs to new rules proposed for adoption, as discussed below. Removing the components about artificial reefs would focus the rule on research sanctuaries. Research sanctuaries are areas that are protected from fishing gears to provide sanctuary for research. Closures in and around a research sanctuary are for one-year periods with renewals allowed at the discretion of the DMF director by proclamation. Modified rule language is proposed to retain proclamation authority for the DMF director to issue time-limited closures or restrictions for research sanctuaries via 15A NCAC 03I .0109 (see proposed rules section). If DMF staff identify additional amendments needed for readoption of the rule relative to the “research sanctuaries” content, the amendments will be presented to the MFC in a separate document.

##### *Proposed Boundary Rule*

In North Carolina, artificial reefs can be described as broadly designated areas, within which habitat is artificially placed or constructed in a series of patches. Materials placed within these boundaries have been surveyed and mapped by DMF to confirm locations and to advertise to the public. Boundaries for artificial reefs in the ocean are circular and defined by a single centroid coordinate and radius distance. Circular boundaries have been reviewed and

acknowledged by state and federal permitting agencies and apply to all artificial reefs in both state and federal waters (Figure 2). When describing area, managers typically refer to boundary area as the total artificial reef area (acres) within the boundaries delineated in rule or by proclamation. Habitat footprint area refers to the cumulative total area of artificial reef patches only, not to include unconsolidated soft bottom, and so is a sub-set of the total artificial reef area (Figure 2).

To establish gear requirements, area boundaries must first be codified to provide the location of artificial reefs that are subject to the specific gear requirements. A proposed new rule (15A NCAC 03R .0119) would set coordinates delineating boundaries of the artificial reefs in state ocean waters. Then, a second proposed new rule (15A NCAC 03J .0404) would set requirements for those artificial reefs in state ocean waters identified in the first rule (see proposed rules section).

While there are currently 13 artificial reefs in state ocean waters, future development plans may include additional new sites. Further, extreme environmental conditions may result in artificial reef material movement and a subsequent need to modify boundaries. The proposed new rules, in conjunction with existing rule 15A NCAC 03I .0102 for rule suspensions, would provide proclamation authority to the DMF director to designate new or modified artificial reef boundaries to account for these variable conditions until rules could be amended with updated boundaries.

In the proposed rule text, it is of note that AR-430 (listed #13) is presently under review by the N.C. Division of Coastal Management and the US Army Corps of Engineers. The DMF has submitted its application to those agencies to modify the existing boundary. After a physical survey of the reef, it was determined that some artificial reef materials were inadvertently placed beyond the permitted boundaries. To encompass these materials, a slight north-northeastward shift of the center point of this reef is required. No change in the total reef area is proposed. Because of this pending action, the coordinates provided in the proposed rule text below are subject to change. The final coordinates will be brought to the MFC when the formal rulemaking process begins later this year.

#### *Proposed Gear Restrictions Rule*

Highly efficient fishing gears offer exceptional advantages through increased catch per effort and reduce or eliminate the incentive of users with other fishing gears to fish on or promote artificial reefs (SAFMC 1983). Limitations on the use of highly efficient fishing gears, as proposed, also moderate the potential for disproportionate user access and reduce the potential for negative interactions with protected species listed under the ESA.

For consistency with SAFMC gear restrictions for artificial reefs in the EEZ, the proposed new gear restrictions rule (15A NCAC 03J .0404) would restrict the harvest of all finfish within the artificial reef boundaries in state ocean waters from all gears other than hand line, hook and line, and spearfishing gear (which includes bang sticks and powerheads). “Hook and line” is considered synonymous with “rod and reel”, the latter of which is defined in the CFR for purposes of management by the SAFMC. Definitions for “hand line”, “hook and line”, and “spearfishing gear” are proposed in the new rule. All harvest by spearfishing gear would be restricted to recreational limits. The proposed new rule does not explicitly name any species to ensure the rule would apply to all finfish species within the artificial reef site boundaries in state ocean waters, as requested by the MFC at its meeting on Nov. 19, 2020.

The proposed new rule would also provide authority to the DMF director to close the designated artificial reefs in state ocean waters to the use of specific fishing gear, including the gears otherwise allowed (hook and line, hand line, and spearfishing gear). This additional authority is intended as a mechanism to address variable conditions at the artificial reefs such as biological impacts and user conflicts (e.g., overharvest by bang sticks, protected species concerns, protection of future additional ocean artificial reefs).

Finally, the MFC Rule 15A NCAC 03I .0101 (Definitions) is subject to readoption per G.S. 150B-21.3A by June 30, 2022. As part of that process, DMF staff is examining the defined terms within this rule as well as defined terms in other MFC rules. An important distinction about the location of a defined term within rules is its scope of applicability. Definitions in 15A NCAC 03I .0101 apply to all rules within Chapter 03, Marine Fisheries, whereas definitions in other MFC rules only apply to a specific rule or section of rules (as indicated). As a result of the effort to examine all defined terms, three defined terms proposed in 15A NCAC 03J .0404 for this issue may be more appropriately located in the broader definition rule, 15A NCAC 03I .0101. Based on the MFC’s selection of its preferred management option

for this issue paper and remaining consistent with the content of the proposed defined terms, the final recommended location of the defined terms will be brought to the MFC when the formal rulemaking process begins later this year.

### *Enforcement Considerations*

Many artificial reefs in the ocean are in relatively close proximity to one another (<10 nm) and as a result, users often visit multiple sites in a single trip, including state and EEZ sites. The artificial reefs in the EEZ are managed by the SAFMC and are proposed to be designated as SMZs while the artificial reefs in state ocean waters are managed by the MFC. The primary difference between the two management strategies is that proposed rules at EEZ artificial reefs place restrictions on the harvest of certain species, while proposed rules for artificial reefs in state ocean waters place restrictions on certain gears for all finfish species. At EEZ artificial reefs, restrictions are placed on the harvest of snapper grouper species, per the FMP, such that only certain gears may be used to harvest those species. At these artificial reefs, there are no specific gear restrictions or possession limits for finfish species other than snapper grouper species. At artificial reefs in state ocean waters, proposed rules will not be implemented through an FMP, therefore regulations are on the gears themselves and protections subsequently apply to all finfish species.

From an enforcement perspective, similarities among restrictions at the artificial reefs in the EEZ and in the state ocean waters may be viewed positively. However, some compliance and enforcement challenges will likely exist, considering that license holders often visit multiple sites with different regulations in a single trip. Perhaps most notably for spearfishing, possession limits for finfish harvested with this gear may be different at EEZ artificial reefs than at artificial reefs in state ocean waters because snapper grouper species harvested with spearfishing gear at EEZ artificial reefs is limited to the applicable recreational bag and possession limits (SAFMC 2020). For example, a commercial quantity of a non-snapper-grouper species may be legally taken by spear and possessed at AR-330 in the EEZ, however that catch becomes illegal if the fisherman then transits to nearby AR-315, an artificial reef in state ocean waters, and uses spears to harvest different species of finfish while still possessing an otherwise legally harvested catch from AR-330. This is because at AR-315, harvest by spear of any species would be restricted to the recreational limit, but that is not the case at AR-330. For enforcement, it is critical for the proposed Rule 15A NCAC 03J .0404 to prohibit possession of any finfish (not just snapper grouper species) taken with spearfishing gear in excess of a recreational limit within the boundaries of an artificial reef in state ocean waters because the regulations are on the gears themselves and applicable to all finfish species, as explained above. In effect, any license holder who harvests a commercial limit of any finfish species by spear may not visit an artificial reef in state ocean waters while in possession of those finfish.

With respect to gear, neither the SMZ rules or the proposed MFC rules restrict possession of highly efficient fishing gears, only the use of those gears in certain fishing practices. Under proposed rule language, users are free to occupy any artificial reef site regardless of location with highly efficient fishing gears onboard.

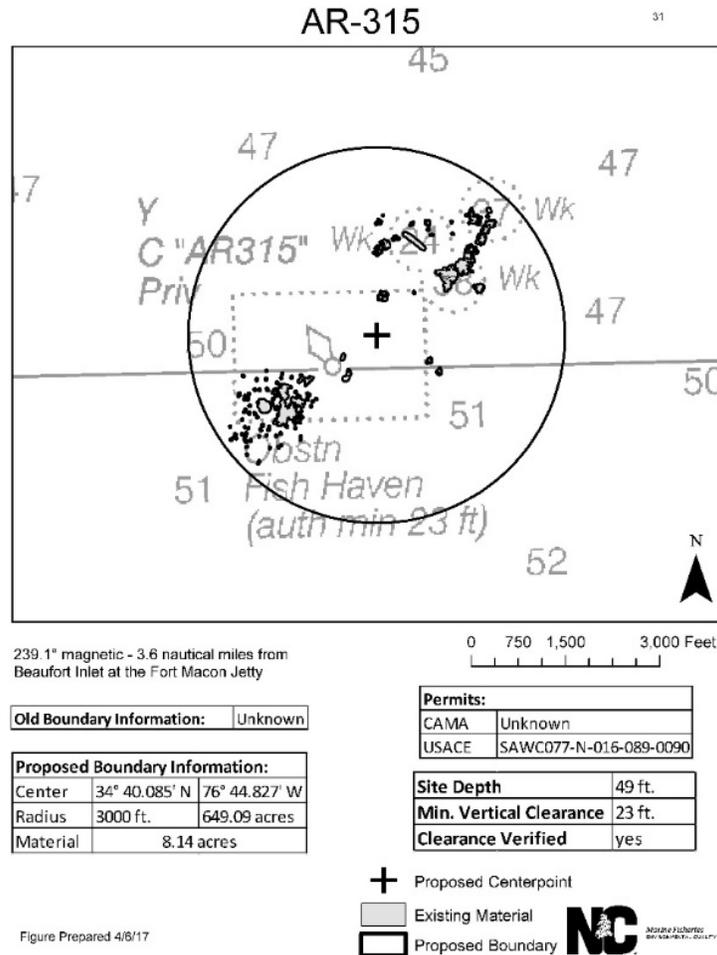


Figure 2. An excerpt from the document titled, “North Carolina Division of Marine Fisheries Artificial Reef and Oyster Sanctuary Site Information.” This document was reviewed and approved by the N.C. Division of Coastal Management (July 10, 2017) and The US Corps of Engineers (October 25, 2017). The excerpted page provides an example of site-specific information for AR-315, Atlantic Beach Reef, including a descriptive location, center point coordinates, radius, and water depth, along with chart depictions of existing artificial reef habitat on site. Similar pages have been created for every artificial reef and oyster sanctuary managed by DMF. “Boundary area” is all area within the circular boundary. “Footprint area” refers to the cumulative total area of artificial reef patches only, within the artificial reef boundary.

### Summary

The artificial reefs located in North Carolina’s state ocean waters are managed under the authority of the MFC. To establish highly efficient fishing gear restrictions for artificial reefs in state ocean waters, the current rule (15A NCAC 03I .0109) is proposed for amendment to remove all reference to artificial reefs, focusing solely on research sanctuaries. In addition to amending the existing rule, two new rules are proposed for adoption to set coordinates delineating boundaries of the artificial reefs in state ocean waters (15A NCAC 03R .0119) and to set restrictions for the use of highly efficient fishing gears for those artificial reefs (15A NCAC 03J .0404). This is similar to the management of other designated types of areas set forth in Subchapter 03R Section .0100 (Descriptive Boundaries) with restrictions set forth in a corresponding Subchapter such as 03J for gears. It should be noted that any rule on gear restrictions will be subject to legislative review under G.S. 14-4.1 due to a conviction under the rule carrying criminal penalties. Satisfying these requirements will take additional time before the rules can become effective.

VI. PROPOSED RULE(S)

1 15A NCAC 03I .0109 is proposed for readoption with substantive changes as follows:

2  
3 **15A NCAC 03I .0109 ARTIFICIAL REEFS AND RESEARCH SANCTUARIES**

4 (a) The Fisheries Director may, by proclamation, prohibit or restrict the taking of fish and the use of any equipment  
5 in and around any ~~artificial reef or~~ research sanctuary. Any closure or restriction shall be for no more than one year,  
6 subject to renewal at the discretion of the Fisheries Director. ~~is subject to the following conditions:~~

7 (1) ~~Artificial reefs shall not be closed or restricted beyond 500 yards in the Atlantic Ocean or 250 yards~~  
8 ~~in internal coastal waters. Artificial reefs shall be marked as near center as feasible by one readily~~  
9 ~~identifiable official buoy and distances for closures or restrictions shall be measured from such buoy.~~

10 (2) ~~Any closure or restriction shall be for no more than one year, subject to renewal in the discretion of~~  
11 ~~the Fisheries Director.~~

12 (3) ~~The economic effect of the closure or restriction on fishing interests with respect to the size and~~  
13 ~~location of the area and the nature of the equipment affected shall be considered before such closure~~  
14 ~~is made and findings shall be made in writing which findings shall be available for public inspection~~  
15 ~~at the office of Division of Marine Fisheries in Morehead City.~~

16 (b) It ~~is~~ shall be unlawful to engage in any fishing activity, use any equipment, or conduct any other operation ~~which~~  
17 that has been prohibited by proclamation issued under this authority.

18  
19 *History Note: Authority G.S. 113-134; 113-181; 113-182; 113-221.1; 143B-289.52;*

20 *Eff. January 1, 1991;*

21 *Recodified from 15A NCAC 3I .0009 Eff. December 17, 1996;*

22 *Readopted Eff. April 1, 2022 (Pending legislative review pursuant to S.L. 2019-198).*

1 15A NCAC 03R .0119 is proposed for adoption as follows:

2  
3 **15A NCAC 03R .0119 OCEAN ARTIFICIAL REEFS**

4 The Ocean Artificial Reefs referenced in 15A NCAC 03J .0404 are delineated in the following Coastal Fishing Waters  
5 of the Atlantic Ocean:

- 6 (1) AR-160: within the circular area described by a center point at 35° 43.8880' N - 75° 26.7710' W and  
7 radius extending 1,500 feet.
- 8 (2) AR-165: within the circular area described by a center point at 35° 41.6720' N - 75° 26.3130' W and  
9 radius extending 1,500 feet.
- 10 (3) AR-275: within the circular area described by a center point at 34° 50.0930' N - 76° 16.8800' W and  
11 radius extending 1,500 feet.
- 12 (4) AR-315: within the circular area described by a center point at 34° 40.0850' N - 76° 44.8270' W and  
13 radius extending 3,000 feet.
- 14 (5) AR-320: within the circular area described by a center point at 34° 39.5330' N - 76° 48.4170' W and  
15 radius extending 1,500 feet.
- 16 (6) AR-342: within the circular area described by a center point at 34° 36.6720' N - 77° 2.1890' W and  
17 radius extending 1,500 feet
- 18 (7) AR-360: within the circular area described by a center point at 34° 20.9830' N - 77° 36.1830' W and  
19 radius extending 1,500 feet
- 20 (8) AR-364: within the circular area described by a center point at 34° 14.8060' N - 77° 42.8550' W and  
21 radius extending 1,500 feet
- 22 (9) AR-370: within the circular area described by a center point at 34° 10.4530' N - 77° 45.2810' W and  
23 radius extending 3,000 feet.
- 24 (10) AR-378: within the circular area described by a center point at 34° 1.8070' N - 77° 52.0910' W and  
25 radius extending 1,500 feet
- 26 (11) AR-378b: within the circular area described by a center point at 34° 0.6420' N - 77° 50.6540' W and  
27 radius extending 1,500 feet
- 28 (12) AR-425: within the circular area described by a center point at 33° 53.0480' N - 78° 6.5250' W and  
29 radius extending 1,500 feet
- 30 (13) AR-430: within the circular area described by a center point at 33° 52.1900' N - 78° 10.0000' W and  
31 radius extending 1,500 feet

32  
33 *History Note: Authority G.S. 113-134; 113-182; 143B-289.52;*  
34 *Eff. April 1, 2022.*

1 15A NCAC 03J .0404 is proposed for adoption as follows:

2  
3 **15A NCAC 03J .0404 OCEAN ARTIFICIAL REEF GEAR RESTRICTIONS**

4 (a) For the purpose of this Rule:

5 (1) "hand line" shall mean fishing gear that is set and pulled by hand and consists of one vertical line to  
6 which may be attached leader lines with hooks.

7 (2) "hook and line" shall mean one or more hooks attached to one or more lines and shall include rod  
8 and reel, a fishing rod designed to be hand-held with a manually or electrically operated reel  
9 attached.

10 (3) "spearfishing gear" shall mean spears, Hawaiian slings, or similar devices that propel pointed  
11 implements by mechanical means, including elastic tubing or bands, pressurized gas, or similar  
12 means.

13 (b) It shall be unlawful to use fishing gear in Ocean Artificial Reefs designated in 15A NCAC 03R .0119 except hand  
14 line, hook and line, and spearfishing gear, and except as further limited in accordance with Paragraph (d) of this Rule.

15 (c) It shall be unlawful to possess finfish taken with spearfishing gear in excess of a recreational limit within the  
16 boundaries of a designated Ocean Artificial Reef.

17 (d) The Fisheries Director may, by proclamation, close the areas designated in 15A NCAC 03R .0119 to the use of  
18 specific fishing gear, including the gears otherwise allowed in Paragraph (b) of this Rule, based on biological impacts  
19 or user conflicts.

20 (e) The Fisheries Director may, by proclamation, designate and modify Ocean Artificial Reefs in Coastal Fishing  
21 Waters of the Atlantic Ocean, based on biological impacts or variable spatial distribution, including shifted artificial  
22 reef material.

23  
24 *History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;*  
25 *Eff. April 1, 2022 (Pending legislative review pursuant to S.L. 2019-198).*

## VII. PROPOSED MANAGEMENT OPTIONS

1. Status quo: do not proceed with rulemaking to protect all species from highly efficient fishing gear on artificial reefs in state ocean waters.
  - + No rule changes are required.
  - + Avoids any economic impact on some N.C. commercial license holders.
  - Does not resolve outdated rule language for artificial reefs.
  - Does not comply with MFC motion.
  - Does not provide the MFC or the DMF director the ability to implement restrictions for highly efficient fishing gears as a management tool for artificial reefs in state ocean waters.
  - Does not resolve disproportionate user access at artificial reefs in state ocean waters.
  - Does not resolve inconsistencies with federal regulations expected for artificial reefs in the EEZ.
  
2. Adopt MFC Rule 15A NCAC 03R .0119 to set coordinates delineating boundaries of the artificial reefs in state ocean waters and MFC Rule 15A NCAC 03J .0404 to establish highly efficient fishing gear restrictions at those locations. Also, amend MFC Rule 15A NCAC 03I .0109 to remove all references to artificial reefs.
  - + Resolves outdated rule language for artificial reefs.
  - + Achieves the goal of the MFC motion.
  - + Gives the MFC the ability to implement restrictions for highly efficient fishing gears as a management tool for artificial reefs in state ocean waters.
  - + Improves disproportionate user access at artificial reefs in state ocean waters.
  - + Helps ensure sustainable use of public resources.
  - + Takes a proactive measure to reduce derelict gear and protect ESA listed species.
  - + Provides proclamation authority to the DMF director to designate new or modified artificial reef boundaries in state ocean waters.
  - + Provides proclamation authority to the DMF director to modify restricted gears at artificial reefs in state ocean waters in accordance with stated variable conditions.
  - +/- Improves consistency with federal regulations expected for artificial reefs in the EEZ.
  - May have a negative economic impact for some N.C. commercial license holders.
  - Presents enforcement and compliance challenges.

## VIII. RECOMMENDATION

The DMF recommends option two.

## IX. LITERATURE CITED

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**MFC Rulebook Index Worksheet**

Rule	Subject	Index Entry ( <b>Bold</b> major headings)	Add/Delete/ No Change

**Ancillary Items:**