

FISCAL IMPACTS OF PROPOSED AMENDMENTS TO THE SHRIMP FISHERY MANAGEMENT PLAN

Rule Amendments: 15A NCAC 03I .0101 DEFINITIONS
 15A NCAC 03J .0208 NEW RIVER
 15A NCAC 03L .0101 SHRIMP HARVEST RESTRICTIONS
 15A NCAC 03L .0103 PROHIBITED NETS, MESH SIZES AND AREAS
 15A NCAC 03L .0105 RECREATIONAL SHRIMP LIMITS
 15A NCAC 03R .0114 SHRIMP TRAWL PROHIBITED AREAS

Name of Commission: N.C. Marine Fisheries Commission

Agency Contact: John Hadley, Fisheries Economics Program Manager
 N.C. Division of Marine Fisheries
 3441 Arendell Street
 Morehead City, NC 28557
 (252) 808-8107
 john.hadley@ncdenr.gov

Impact Summary: State government: Yes
 Local government: No
 Federal government: No
 Substantial impact: No

Authority: 113-134. Rules.
 113-182. Regulation of Fishing and Fisheries.
 113-221.1. Proclamations; Emergency Review.
 143B-289.52. Marine Fisheries Commission – Powers and Duties.

Necessity: In accordance with G.S. 113-182.1 (b) and (d), the proposed rule changes (see proposed rule text in the appendix) are necessary to amend and update the N.C. Shrimp Fishery Management Plan to ensure adequate management of the shrimp resource and shrimp fisheries in state waters. Specifically, the rule changes address six separate issues and propose to:

- 1) Modify 15A NCAC 03I .0101 to improve the existing definition of net mesh length to more clearly define how a mesh length is measured;
- 2) Modify 15A NCAC 03J .0208 to provide clarity on trawling in the special secondary nursery area in the New River above the NC 172 Bridge and remove proclamation authority to open and close shrimping between August 16 and November 30;
- 3) Amend 15A NCAC 03L .0101 to clarify proclamation authority for shrimp harvest restrictions and standardize rule language for proclamation authority to match other similar rules;
- 4) Amend 15A NCAC 03L .0103 to create a 220-foot maximum headrope length for trawl gear used in internal waters where no headrope length limit currently exists;
- 5) Modify 15A NCAC 03L .0105 to clarify recreational shrimp harvest limits in areas open and otherwise closed to the taking of shrimp as well as increase the

Fiscal Note for Proposed Rule Changes to 15A NCAC 03I .0101, 15A NCAC 03J .0208, 15A NCAC 03L .0101, 15A NCAC 03L .0103, 15A NCAC 03L .0105, 15A NCAC 03R .0114

- recreational shrimp limit in areas otherwise closed to the taking of shrimp from two quarts to four quarts heads-on or two and one half quarts heads-off;
- 6) Amend 15A NCAC 03R .0114 to permanently close Shallotte River, lower Calabash River, and the Intracoastal Waterway between the Sunset Beach Bridge and the South Carolina state line to shrimp trawling due to consistently low abundance of shrimp that are of marketable size and to reduce shrimp trawl bycatch.

The anticipated effective date of the proposed rule changes is April 1, 2015.

1. Improve the Definition of Net Mesh Length (15A NCAC 03I .0101)

I. Summary

A rule change is needed in the legal definition of a mesh length to maintain consistency and clarity in the enforcement of rules related to mesh-length specifications. North Carolina Division of Marine Fisheries (NCDMF) staff determined that the current rule does not provide enough detail in how to measure mesh length. Therefore, NCDMF is proposing clarifications to the rule defining mesh length.

II. Introduction and Purpose of Rule Changes

During the amendment process of the Shrimp Fishery Management Plan Amendment I, NCDMF staff reviewed several rules related to the shrimp fisheries in North Carolina. As part of this review, staff determined that the rule defining mesh length needed clarification. Multiple fishery regulations involve maximum and/or minimum mesh lengths, and the current definition of a mesh length does not adequately describe how a mesh length is measured. Both the public and law enforcement would benefit from clarification of this definition to more easily and consistently follow mesh length-related fishery management measures.

III. Costs

There are no costs associated with the proposed rule change. The practice of using mesh length as a fisheries management tool nor the implementation of mesh-length rules will not change in a significant way.

IV. Benefits

Both the public and law enforcement will benefit from the proposed rule change, as the rule defining how mesh length is measured will be more clearly stated and will provide a consistent way to measure mesh length.

2. Trawling in the New River Special Secondary Nursery Area Above the NC 172 Bridge (15A NCAC 03J .0208)

I. Summary

The proposed rule change seeks to clarify the rule used for the management of trawling above the NC 172 Bridge in the New River (Onslow County).

II. Introduction and Purpose of Rule Changes

The waters upstream of the NC 172 Bridge in the New River were designated by rule as a Special Secondary Nursery Area (SSNA) in 1996. For information purposes, Primary Nursery Areas are those areas in the estuarine system where initial post-larval development takes place and Secondary Nursery Areas are those areas in the estuarine system where later juvenile development takes place (15A NCAC 03I .0101 (4)(f)). Special Secondary Nursery Areas are Secondary Nursery Areas that can be conditionally opened certain times of the year for shrimp and crab trawling at the discretion of the fisheries director.

For this issue, the portion of the SSNA impacted by trawl openings includes the portion of the New River above the NC 172 Bridge up to the marked closure line running from Grey's Point to the opposite bank of the river. The use of otter trawls in the SSNA of the New River was phased out in 2010 as was specified in the 2006 Shrimp Fishery Management Plan, however skimmer trawls may still be used. Those who wished to continue to harvest shrimp in the SSNA with otter trawl gear were allowed a four-year grace period to convert to skimmer trawl gear. Currently skimmer trawl gear is the only shrimp trawl gear allowed in the New River SSNA. While reviewing rules related to shrimp fishing for the Shrimp Fishery Management Plan Amendment I, NCDMF staff determined that the rule for the use of trawl nets in the SSNA in the New River needed to be amended to address the current management of skimmer trawls by proclamation. The proposed rule changes seek to improve the terms of use for trawl nets in the New River SSNA for improved public clarity.

For clarification, otter trawls are nets which have otter boards or doors fastened to the sides. When the net is in motion underwater, the boards pull away from each other resulting in the net opening up. Skimmer trawls are effective in relatively shallow water and are held in place by a frame on three sides and mounted on the vessel just behind the bow. Skimmer trawls are pushed through the water instead of towed behind the vessel like otter trawls.

III. Costs

There are no costs associated with the proposed rule change. Management of the shrimp fishery in the SSNA of the New River above the NC 172 Bridge will remain unchanged.

IV. Benefits

There are no quantifiable economic benefits to the proposed rule change, but both the public and law enforcement will benefit from clarification of the rule used for the management of trawling in the SSNA of the New River above the NC 172 Bridge.

3. Address Clarity and Consistency in Proclamation Authority of Shrimp Season and Harvest Restrictions (15A NCAC 03L .0101)

I. Summary

The proposed rule change seeks to clarify proclamation authority for shrimp seasons and harvest restrictions. This rule change is proposed to address rule clarity and improve consistency with other marine fisheries-related rules for proclamation authority and does not change the intent or application of the current rule.

II. Introduction and Purpose of Rule Changes

The proposed rule change has been put forth as part of an ongoing attempt to standardize rule language granting proclamation authority across North Carolina Marine Fisheries Commission (NCMFC) rules. NCDMF staff has identified that proclamation authority across several rules is often similar in nature; however, the specific rule language stating the proclamation authority often differs greatly from rule to rule. In an attempt to improve consistency across rules and public clarity of proclamation authority, NCDMF seeks to standardize rule language describing proclamation authority when possible. The rule change is not intended to change the scope of the proclamation authority, nor is it being proposed with the intention of changing current management.

III. Costs

There are no expected costs associated with this proposed rule change. The proposed rule change is for the purposes of clarity and consistency and does not represent a change in authority or current management of shrimping.

IV. Benefits

This rule change reflects the current proclamation authority to manage shrimping and makes this rule language consistent with other rules granting proclamation authority. This consistency among rules granting proclamation authority aids in public awareness in what type of fisheries management measures may be specified by proclamation.

4. Capping Shrimp Trawl Headrope Length in Internal Waters (15A NCAC 03L .0103)

I. Summary

In order to put a cap on gear capacity as a management tool, the NCMFC seeks to establish a maximum combined headrope length of 220 feet in all internal coastal waters where there are no existing maximum combined headrope requirements (i.e., 90-foot requirement). A two-year phase-out period will be implemented to mitigate the impact on any trawl operations that may be affected by the proposed rule change.

II. Introduction and Purpose of Rule Changes

The North Carolina shrimp fleet consists of vessels of various sizes and configurations. Roughly 92-percent of North Carolina's commercial shrimp harvest is caught using otter trawls. In North Carolina, the size of a trawl is based on its headrope length. Headrope length is defined as the support structure for the mesh or webbing of a trawl that is nearest to the water surface when in use. Headrope length is measured from the outermost mesh knot at one end of the headrope following along the line to the outermost mesh knot at the opposite end of the headrope (15A NCAC 03I .0101(i)). Currently, it is unlawful to use trawls that have a combined headrope greater than 90 feet in the internal coastal waters of North Carolina, except in the Pamlico Sound and at the mouths of the Pamlico and Neuse rivers (15A NCAC 03L .0103(c)).

In order to put a cap on gear capacity as a management tool, the NCMFC has selected as a preferred management option establishing a maximum combined headrope length of 220 feet per vessel in all internal coastal waters where there are no existing maximum combined headrope requirements (i.e., 90-foot requirement). A phase-out period of two years will be implemented for any vessels that may be using more than 220 feet of combined head rope in internal coastal waters.

III. Costs

An analysis performed by NCDMF in 2013 examining reported trawl headrope lengths shows there were no fishing operations using more than 220 feet of headrope while trawling in internal waters in North Carolina. Based on this information, there will be no cost related to the proposed rule change for current commercial fishing operations that fish in North Carolina's internal waters.

There has been some anecdotal, unverified information brought forth by a member of the public that one fishing operation has made plans to or has purchased otter trawl gear that will exceed 220 feet in combined headrope length when fished. This may be indicative of increased interest in using trawl gear in excess of 220 feet of combined headrope length in internal waters. Based on this information, there may be some future costs associated with this rule change for other fishing operations that would have utilized gear exceeding 220 feet of headrope length in the absence of the proposed rule change. Additionally, there may be some costs to the fishing operation that has purchased or planned to purchase trawl gear that will exceed 220 feet of combined headrope length. However, under the proposed rule changes, there is a two-year phase-out period to allow this operation to obtain a return on their gear investment by allowing the gear to be used for all or almost all of the expected usable lifespan of the gear. Furthermore, this gear will still be allowed for use in Atlantic Ocean shrimp trawling operations and may be modified to be fished in internal waters under the proposed rule change. Finally, future benefits in the form of reduced risk of overharvesting or altering the current shrimp resource allocation will rise in proportion to costs associated with curbing future growth in the use of gear in excess of the proposed limits. For these reasons, the expected potential costs that may occur from the proposed rule change are expected to be minimal.

IV. Benefits

The proposed rule change will serve as a management tool to cap the capacity of shrimp fishing operations that use otter trawl gear in internal waters. Since larger amounts of gear are able to harvest more of the shrimp resource, capping the capacity at or near current levels will help reduce the risk of overharvest as well as maintain the equity of allocation of shrimp harvest among current participants in the shrimp trawl fishery that occurs in North Carolina's internal waters.

5. Increasing the Recreational Shrimp Limit in Areas Closed to the Taking of Shrimp (15A NCAC 03L .0105)

I. Summary

The proposed rule change seeks to increase the recreational shrimp limit in areas otherwise closed to the taking of shrimp from two quarts to four quarts, heads-on or two and one half

quarts heads-off per person when using a cast net. The rule change also seeks to clarify the recreational limit of shrimp in areas open to the taking of shrimp.

II. Introduction and Purpose of Rule Changes

Cast netting for shrimp is a popular method to catch shrimp for bait and for personal consumption. In addition, fishermen are allowed to use cast nets in areas otherwise closed to the taking of shrimp, such as nursery areas, areas closed due to small shrimp size and areas closed due to habitat concerns. The NCMFC changed the limit for cast netted shrimp from closed areas from 100 shrimp per person to two quarts of shrimp per person as of June 1, 2013, to enable law enforcement to more safely and efficiently measure a fisherman's catch and enforce this rule.

In response to requests from the public as well as members of the NCMFC, the proposed rule change seeks to increase the recreational shrimp limit in closed areas from two quarts to four quarts heads-on or two and one half courts heads-off per person when using a cast net. The rule change also seeks to clarify the wording for the higher recreational limit of shrimp that is allowed in areas open to the taking of shrimp.

III. Costs

Costs associated with the proposed rule changes are expected to be minor and unquantifiable. There may be additional shrimp removed from certain waterbodies that would have otherwise been caught by other users of the resource at a later date in commercial or other recreational fishing activities. Additionally, there may be a decrease in sales of shrimp at some seafood retailers and fishing tackle shops, as recreational shrimp fishermen will be able to harvest more shrimp for themselves that otherwise they would have had to purchase. However, there are currently no estimates of how many shrimp are recreationally caught with cast nets in areas otherwise closed to the taking of shrimp, nor are the costs to other users expected to be noteworthy or noticeable.

III. Benefits

There will be benefits to some recreational shrimpers, as the recreational limit of shrimp in closed areas will increase. This will allow fishermen using cast nets to keep more shrimp for personal consumption or for use as bait, thereby offsetting the cost of purchasing additional quantities of shrimp. Additionally, the proposed rule change will clarify the recreational limit of shrimp in areas open to the taking of shrimp.

6. Area Restrictions to Reduce Shrimp Trawl Bycatch in North Carolina's Internal Coastal Waters (15A NCAC 03R .0114)

I. Summary

The proposed rule change seeks to permanently close shrimp trawling in the lower Calabash River, Shallotte River, and Intracoastal Waterway from the Sunset Beach Bridge to the South Carolina state line. These areas are relatively small in size. While the Intracoastal Waterway does open every year to shrimp trawling, the lower Calabash River and Shallotte River have not been opened to shrimp trawling in recent years due to low abundance of shrimp of marketable

size. The proposed rule change will still allow shrimp trawling in adjacent waters and remove the need for NCDMF to sample these areas for shrimp count size.

II. Introduction and Purpose of Rule Changes

The Brunswick County coastline stretches for approximately 33 miles and is bound by the Cape Fear River Inlet on the east end and by the Little River Inlet on the west end. Four barrier islands, all of which are densely developed, are separated by five inlets along the coastline. Within this area, the lower Calabash River, Shallotte River, and Intracoastal Waterway from Sunset Beach Bridge to the South Carolina state line may be opened to shrimp trawling if shrimp of marketable size are present. NCDMF periodically samples these areas for shrimp count size to assess if these areas warrant opening for trawling. Lower Calabash and Shallotte rivers have remained closed due to small shrimp size and minimal requests to open these waterbodies by fishermen (one request in the past five years). The Intracoastal Waterway from Sunset Beach Bridge to the South Carolina state line has opened every year but is typically the last area to open in Brunswick County due to the small size of shrimp.

The proposed rule change seeks to permanently close these areas to shrimp trawling. This will remove the need for NCDMF to sample these areas for shrimp, thereby allocating staff time to other biological sampling activities. Additionally, bycatch of unwanted species from shrimp trawls will be permanently reduced in these areas.

III. Costs

The proposed rule change is expected to create some costs; however, these costs are expected to be minimal and may be offset by fishing activities in waters adjacent to the areas proposed for closure. The areas that are proposed for closure to shrimp trawling make up a minority of the total fishable area in the Intracoastal Waterway along the southern edge of Brunswick County. Furthermore, some of the specified areas often do not open to trawling as shrimp in these areas rarely reach a size large enough to warrant the opening of shrimp trawling (40-50 count shrimp in Brunswick County).

According to the NCDMF trip ticket program, there have been no landings of trawl-caught shrimp recorded from the Shallotte River over the past ten years (2004-2013), as this water body has remained closed due to inadequate abundance of shrimp of marketable size. The NCDMF trip ticket program does not have a water body code specifically for the section of the Intracoastal Waterway from the Sunset Beach Bridge to the South Carolina state line or the lower Calabash River; however, landings may be estimated based on the total landings of shrimp from the Intracoastal Waterway in Brunswick County. The area being proposed for closure to shrimp trawling makes up approximately 17 percent of the entire area included in the trip ticket water body of the "Inland Waterway-Brunswick County". Over the past ten years (2004-2013), trawl-caught shrimp landings from the "Inland Waterway-Brunswick County" have had an annual ex-vessel value that ranged from \$9,356 to \$34,789, with a 10-year average value of \$22,332. Applying the approximate coverage of the water bodies being examined (17%) to this average value, the estimated annual landings in this area are \$3,796 when opened to shrimp trawling.

The estimated average annual cost of the proposed rule change to commercial shrimp fishermen is approximately \$3,800. This should be viewed as a conservatively high estimate, as some of the waters proposed for permanent closure often do not open for shrimp trawling each

year due to lack of shrimp of adequate marketable size. Additionally, adjacent waters will still be open to trawling, which is likely to partially offset some of this cost. There are no expected changes in enforcement costs due to the proposed rule change, as the areas will still need to be regularly patrolled to enforce laws in other fisheries.

IV. Benefits

Prohibiting the use of otter trawl gear is expected to incur an unquantifiable benefit in the specified areas from a reduction in bycatch that is associated with otter trawl gear. Additionally, there will be some opportunity-cost savings for the state through decreased sampling efforts in the areas proposed for permanent closure to shrimp trawling. These areas may currently be opened when NCDMF sampling indicates the presence of shrimp that are of marketable size. Based on sampling effort over the past 12 years, there has been an average of 6 sampling trips to the east of the Sunset Beach Bridge per year and 4 sampling trips to the west of the Sunset Beach Bridge taken per year to test for adequate quantities of marketable-sized shrimp. The area to the west of the Sunset Beach Bridge is proposed for permanent closure and will no longer need to be sampled. Each sampling trip requires three NCDMF staff (one Marine Fisheries Biologist II and two Marine Fisheries Technicians II) to adequately complete and takes approximately four hours. There is an additional one hour of staff time (Marine Fisheries Technician II) required for data processing to log the results of the trip. Therefore each trip takes approximately 13 hours of total staff time. Assuming the midpoint wage of a Marine Fisheries Biologist II with benefits included of \$36.03 per hour and Marine Fisheries Technician II with benefits included of \$26.71 per hour, it is estimated that opportunity cost of sampling these areas for shrimp is approximately \$1,500 per year on average.¹ While this savings will not be fully received monetarily by the state, as staff time will be dedicated elsewhere, the proposed rule change will allow staff to dedicate time to other biological sampling programs and thereby incur a savings in opportunity costs.

¹ Hourly compensation estimates based on the midpoints of the salary ranges for the relevant positions published in the *State of North Carolina Salary Plan* for FY 2013-14 (<http://www.oshr.nc.gov/Guide/CompWebSite/Current%20Salary%20Plan%20Book.pdf>) and the Employee Total Compensation Calculator on the website of the North Carolina Office of State Human Resources (<http://www.oshr.nc.gov/Reward/benefits/Compensation%20Calculator.htm>). The total-compensation calculations assume five years of service in state government for relevant employees working a 2080-hour work year, and the total dollar amount is rounded to the nearest hundred dollars.

V. Comprehensive Statement of Costs and Benefits

Rule changes associated with the Shrimp Fishery Management Plan Amendment I are expected to have a combined cost and benefit that is relatively low and will not meet the impact threshold of \$1 million in aggregate costs and benefits to be considered rule change with a substantial economic impact. Specifically:

- 1) Modification to 15A NCAC 03I .0101 will improve the existing definition of net mesh length to more clearly define how a mesh length is measured. This rule change will benefit the public and law enforcement by providing a better definition of how mesh length is measure and is not expected to impose any noticeable costs.
- 2) Modification to 15A NCAC 03J .0208 will improve clarity on trawling specifications in the special secondary nursery area in the New River above the NC 172 Bridge. This rule change will benefit the public and law enforcement through more clear and consistent rule language regarding the management of trawling in the SSNA in the New River and is not expected to impose any noticeable costs.
- 3) Amendment to 15A NCAC 03L .0101 will benefit the public by clarifying proclamation authority for shrimp harvest restrictions and standardizing rule language for proclamation authority to match other similar rules. This rule change is not expected to impose any noticeable costs, as there is no intended change in authority when compared to current rule.
- 4) Amendment to 15A NCAC 03L .0103 will create a 220-foot maximum headrope length for trawl gear used in internal waters where no headrope length limit currently exists. This rule change is expected to benefit the public by capping the capacity of current shrimp trawl operations, which will help to preserve the equitable allocation of the shrimp resource among current users and reduce the risk of overharvest of the shrimp resource.

Costs associated with this rule change are expected to be minimal. An analysis of NCDMF commercial license and trip ticket data indicate that there were no fishing operations using in excess of 220 feet of headrope in internal waters. Anecdotal information suggests that one shrimp trawling operation may have purchased or may intend to purchase gear that would be affected by this rule change; however, a phase-out period of two years is being implemented to minimize costs that may occur to this operation. Furthermore, this gear may still be used in the Atlantic Ocean and can be modified to fall within the 220-foot headrope limit, thereby mitigating the impact of any possible costs that the rule may impose. Should this be an indication of increased interest in using gear with a combined headrope length of more than 220 feet in internal waters, there may be some future costs to fishing operations that would have used gear in excess of the proposed limits in the absence of the rule change. Future benefits in the form of reduced risk of overharvesting or altering the current shrimp resource allocation will rise in proportion to costs associated with curbing future growth in the use of gear in excess of the proposed limits.

- 5) Modification to 15A NCAC 03L .0105 will clarify recreational shrimp harvest limits in areas open and closed to the taking of shrimp as well as increase the recreational shrimp limit in areas otherwise closed to the taking of shrimp from two quarts to four quarts heads-on or two and one half quarts heads-off. This will benefit the participants of this fishery by increasing the

allowed harvest in closed areas, thereby potentially reducing some expenses that may be incurred in otherwise having to purchase shrimp. Participants will also benefit from the improved clarity of the limit of recreational shrimp harvest in areas open to the taking of shrimp. This rule change will incur some costs to other users of the shrimp resource, such as commercial fishermen as well as some seafood retailers and fishing tackle shops that sell shrimp; however, the costs is unquantifiable and is expected to be minimal.

6) Amendment to 15A NCAC 03R .0114 will permanently close Shallotte River, lower Calabash River, and the Intracoastal Waterway between the Sunset Beach Bridge and the South Carolina state line to shrimp trawling due to consistently low abundance of shrimp that are of marketable size and to reduce shrimp-trawl bycatch. The benefits of this rule change will be a permanent reduction in shrimp-trawl bycatch in the specified areas as well as a reduction in opportunity costs to the State due to fewer sampling trips being required in these areas to test the abundance of shrimp of marketable size. The benefit from the reduction in shrimp trawl bycatch is unmeasurable, but the expected reduction in opportunity costs is estimated to be \$1,500 annually on average. Costs associated with this rule change are expected to be minimal, as shrimp size in the specified areas is often below that of marketable size. Much of the specified area does not open at all to shrimp trawling for this reason. Based on NCDMF trip ticket data, the annual landings in the areas that are opened to shrimp trawling are estimated to be approximately \$3,800. Therefore, the measurable cost associated with this rule change is up to \$3,800 annually; however, some of this cost may be offset through increased fishing activity in adjacent waters that will remain open to shrimp trawling.

Table 1. Summary of estimated annual costs and benefits from proposed rule changes.

Rule	Annual Estimated Cost	Annual Estimated Benefit
15A NCAC 03I .0101	None	Unquantified
15A NCAC 03J .0208	None	Unquantified
15A NCAC 03L .0101	None	Unquantified
15A NCAC 03L .0103	Unquantified	Unquantified
15A NCAC 03L .0105	Unquantified	Unquantified
15A NCAC 03R .0114	\$3,800 (private)	\$1,500 (State)

Appendix: Proposed Rule Changes

NOTE: CHANGES TO 15A NCAC 03I .0101 INCLUDE BOTH CHANGES FOR THE MANAGEMENT OF SHRIMP AND CHANGES TO FOR-HIRE LICENSE STRUCTURE WHICH ARE COVERED IN A SEPARATE ANALYSIS.

15A NCAC 03I .0101 DEFINITIONS

All definitions set out in G.S. 113, Subchapter IV and the following additional terms apply to this Chapter:

- (1) Enforcement and management terms:
 - (a) Commercial Quota. Total quantity of fish allocated for harvest by commercial fishing operations.
 - (b) Educational Institution. A college, university or community college accredited by an accrediting agency recognized by the U.S. Department of Education; an Environmental Education Center certified by the N.C. Department of Environment and Natural Resources Office of Environmental Education and Public Affairs; or a zoo or aquarium certified by the Association of Zoos and Aquariums.
 - (c) Internal Coastal Waters or Internal Waters. All Coastal Fishing Waters except the Atlantic Ocean.
 - (d) Length of finfish.
 - (i) Curved fork length. A length determined by measuring along a line tracing the contour of the body from the tip of the upper jaw to the middle of the fork in the caudal (tail) fin.
 - (ii) Fork length. A length determined by measuring along a straight line the distance from the tip of the snout with the mouth closed to the middle of the fork in the caudal (tail) fin, except that fork length for billfish is measured from the tip of the lower jaw to the middle of the fork of the caudal (tail) fin.
 - (iii) Pectoral fin curved fork length. A length of a beheaded fish from the dorsal insertion of the pectoral fin to the fork of the tail measured along the contour of the body in a line that runs along the top of the pectoral fin and the top of the caudal keel.
 - (iv) Total length. A length determined by measuring along a straight line the distance from the tip of the snout with the mouth closed to the tip of the compressed caudal (tail) fin.
 - (e) Recreational Possession Limit. Restrictions on size, quantity, season, time period, area, means, and methods where take or possession is for a recreational purpose.
 - (f) Recreational Quota. Total quantity of fish allocated for harvest for a recreational purpose.
 - (g) Regular Closed Oyster Season. March 31 through October 15, unless amended by the Fisheries Director through proclamation authority.
 - (h) Scientific Institution. One of the following entities:

- (i) An educational institution as defined in this Item;
 - (ii) A state or federal agency charged with the management of marine or estuarine resources; or
 - (iii) A professional organization or secondary school working under the direction of, or in compliance with mandates from, the entities listed in Subitems (h)(i) and (ii) of this Item.
- (i) Seed Oyster Management Area. An open harvest area that, by reason of poor growth characteristics, predation rates, overcrowding or other factors, experiences poor utilization of oyster populations for direct harvest and sale to licensed dealers and is designated by the Marine Fisheries Commission as a source of seed for public and private oyster culture.
- (2) Fishing Activities:
- (a) Aquaculture operation. An operation that produces artificially propagated stocks of marine or estuarine resources or obtains such stocks from permitted sources for the purpose of rearing in a controlled environment. A controlled environment provides and maintains throughout the rearing process one or more of the following:
 - (i) food;
 - (ii) predator protection;
 - (iii) salinity;
 - (iv) temperature controls; or
 - (v) water circulation,
 utilizing technology not found in the natural environment.
 - (b) Attended. Being in a vessel, in the water or on the shore, and immediately available to work the gear and be within 100 yards of any gear in use by that person at all times. Attended does not include being in a building or structure.
 - (c) Blue Crab Shedding. The process whereby a blue crab emerges soft from its former hard exoskeleton. A shedding operation is any operation that holds peeler crabs in a controlled environment. A controlled environment provides and maintains throughout the shedding process one or more of the following:
 - (i) food;
 - (ii) predator protection;
 - (iii) salinity;
 - (iv) temperature controls; or
 - (v) water circulation,
 utilizing technology not found in the natural environment. A shedding operation does not include transporting pink or red-line peeler crabs to a permitted shedding operation.

- (d) Depuration. Purification or the removal of adulteration from live oysters, clams, or mussels by any natural or artificially controlled means.
 - (e) Long Haul Operations. Fishing a seine towed between two vessels.
 - (f) Peeler Crab. A blue crab that has a soft shell developing under a hard shell and having a white, pink, or red-line or rim on the outer edge of the back fin or flipper.
 - (g) Possess. Any actual or constructive holding whether under claim of ownership or not.
 - (h) Recreational Purpose. A fishing activity that is not a commercial fishing operation as defined in G.S. 113-168.
 - (i) Shellfish marketing from leases and franchises. The harvest of oysters, clams, scallops, or mussels from privately held shellfish bottoms and lawful sale of those shellfish to the public at large or to a licensed shellfish dealer.
 - (j) Shellfish planting effort on leases and franchises. The process of obtaining authorized cultch materials, seed shellfish, and polluted shellfish stocks and the placement of those materials on privately held shellfish bottoms for increased shellfish production.
 - (k) Shellfish production on leases and franchises:
 - (i) The culture of oysters, clams, scallops, or mussels on shellfish leases and franchises from a sublegal harvest size to a marketable size.
 - (ii) The transplanting (relay) of oysters, clams, scallops or mussels from areas closed due to pollution to shellfish leases and franchises in open waters and the natural cleansing of those shellfish.
 - (l) Swipe Net Operations. Fishing a seine towed by one vessel.
 - (m) Transport. Ship, carry, or cause to be carried or moved by public or private carrier by land, sea, or air.
 - (n) Use. Employ, set, operate, or permit to be operated or employed.
- (3) Gear:
- (a) Bunt Net. The last encircling net of a long haul or swipe net operation constructed of small mesh webbing. The bunt net is used to form a pen or pound from which the catch is dipped or bailed.
 - (b) Channel Net. A net used to take shrimp that is anchored or attached to the bottom at both ends or with one end anchored or attached to the bottom and the other end attached to a vessel.
 - (c) Commercial Fishing Equipment or Gear. All fishing equipment used in Coastal Fishing Waters except:
 - (i) Cast nets;
 - (ii) Collapsible crab traps, a trap used for taking crabs with the largest open dimension no larger than 18 inches and that by design is collapsed at all times

- when in the water, except when it is being retrieved from or lowered to the bottom;
- (iii) Dip nets or scoops having a handle not more than eight feet in length and a hoop or frame to which the net is attached not exceeding 60 inches along the perimeter;
 - (iv) Gigs or other pointed implements which are propelled by hand, whether or not the implement remains in the hand;
 - (v) Hand operated rakes no more than 12 inches wide and weighing no more than six pounds and hand operated tongs;
 - (vi) Hook-and-line and bait-and-line equipment other than multiple-hook or multiple-bait trotline;
 - (vii) Landing nets used to assist in taking fish when the initial and primary method of taking is by the use of hook and line;
 - (viii) Minnow traps when no more than two are in use;
 - (ix) Seines less than 30 feet in length;
 - (x) Spears, Hawaiian slings or similar devices that propel pointed implements by mechanical means, including elastic tubing or bands, pressurized gas, or similar means.
- (d) Corkline. The support structure a net is attached to that is nearest to the water surface when in use. Corkline length is measured from the outer most mesh knot at one end of the corkline following along the line to the outer most mesh knot at the opposite end of the corkline.
 - (e) Dredge. A device towed by engine power consisting of a frame, tooth bar or smooth bar, and catchbag used in the harvest of oysters, clams, crabs, scallops, or conchs.
 - (f) Fixed or stationary net. A net anchored or staked to the bottom, or some structure attached to the bottom, at both ends of the net.
 - (g) Fyke Net. An entrapment net supported by a series of internal or external hoops or frames, with one or more lead or leaders that guide fish to the net mouth. The net has one or more internal funnel-shaped openings with tapered ends directed inward from the mouth, through which fish enter the enclosure. The portion of the net designed to hold or trap fish is completely enclosed in mesh or webbing, except for the openings for fish passage into or out of the net (funnel area).
 - (h) Gill Net. A net set vertically in the water to capture fish by entanglement of the gills in its mesh as a result of net design, construction, mesh ~~size~~length, webbing diameter, or method in which it is used.
 - (i) Headrope. The support structure for the mesh or webbing of a trawl that is nearest to the water surface when in use. Headrope length is measured from the outer most mesh knot

- at one end of the headrope following along the line to the outer most mesh knot at the opposite end of the headrope.
- (j) Hoop Net. An entrapment net supported by a series of internal or external hoops or frames. The net has one or more internal funnel-shaped openings with tapered ends directed inward from the mouth, through which fish enter the enclosure. The portion of the net designed to hold or trap the fish is completely enclosed in mesh or webbing, except for the openings for fish passage into or out of the net (funnel area).
 - (k) Lead. A mesh or webbing structure consisting of nylon, monofilament, plastic, wire, or similar material set vertically in the water and held in place by stakes or anchors to guide fish into an enclosure. Lead length is measured from the outer most end of the lead along the top or bottom line, whichever is longer, to the opposite end of the lead.
 - (l) Mechanical methods for clamming. Dredges, hydraulic clam dredges, stick rakes and other rakes when towed by engine power, patent tongs, kicking with propellers or deflector plates with or without trawls, and any other method that utilizes mechanical means to harvest clams.
 - (m) Mechanical methods for oystering. Dredges, patent tongs, stick rakes and other rakes when towed by engine power, and any other method that utilizes mechanical means to harvest oysters.
 - (n) Mesh Length. The ~~diagonal~~ distance from the inside of one knot to the outside of the ~~other opposite knot~~, when the net is stretched ~~hand-tight, hand-tight~~ in a manner that closes the mesh opening.
 - (o) Pound Net Set. A fish trap consisting of a holding pen, one or more enclosures, lead or leaders, and stakes or anchors used to support the trap. The holding pen, enclosures, and lead(s) are not conical, nor are they supported by hoops or frames.
 - (p) Purse Gill Nets. Any gill net used to encircle fish when the net is closed by the use of a purse line through rings located along the top or bottom line or elsewhere on such net.
 - (q) Seine. A net set vertically in the water and pulled by hand or power to capture fish by encirclement and confining fish within itself or against another net, the shore or bank as a result of net design, construction, mesh ~~size, length,~~ webbing diameter, or method in which it is used.
- (4) Fish habitat areas. The estuarine and marine areas that support juvenile and adult populations of fish species, as well as forage species utilized in the food chain. Fish habitats as used in this definition, are vital for portions of the entire life cycle, including the early growth and development of fish species. Fish habitats in all Coastal Fishing Waters, as determined through marine and estuarine survey sampling, include:
- (a) Anadromous fish nursery areas. Those areas in the riverine and estuarine systems utilized by post-larval and later juvenile anadromous fish.

- (b) Anadromous fish spawning areas. Those areas where evidence of spawning of anadromous fish has been documented in Division sampling records through direct observation of spawning, capture of running ripe females, or capture of eggs or early larvae.
- (c) Coral:
 - (i) Fire corals and hydrocorals (Class Hydrozoa);
 - (ii) Stony corals and black corals (Class Anthozoa, Subclass Scleractinia); or
 - (iii) Octocorals; Gorgonian corals (Class Anthozoa, Subclass Octocorallia), which include sea fans (*Gorgonia* sp.), sea whips (*Leptogorgia* sp. and *Lophogorgia* sp.), and sea pansies (*Renilla* sp.).
- (d) Intertidal Oyster Bed. A formation, regardless of size or shape, formed of shell and live oysters of varying density.
- (e) Live rock. Living marine organisms or an assemblage thereof attached to a hard substrate, excluding mollusk shells, but including dead coral or rock. Living marine organisms associated with hard bottoms, banks, reefs, and live rock include:
 - (i) Coralline algae (Division Rhodophyta);
 - (ii) *Acetabularia* sp., mermaid's fan and cups (*Udotea* sp.), watercress (*Halimeda* sp.), green feather, green grape algae (*Caulerpa* sp.) (Division Chlorophyta);
 - (iii) *Sargassum* sp., *Dictyopteris* sp., *Zonaria* sp. (Division Phaeophyta);
 - (iv) Sponges (Phylum Porifera);
 - (v) Hard and soft corals, sea anemones (Phylum Cnidaria), including fire corals (Class Hydrozoa), and Gorgonians, whip corals, sea pansies, anemones, *Solenastrea* (Class Anthozoa);
 - (vi) Bryozoans (Phylum Bryozoa);
 - (vii) Tube worms (Phylum Annelida), fan worms (*Sabellidae*), feather duster and Christmas treeworms (*Serpulidae*), and sand castle worms (*Sabellaridae*);
 - (viii) Mussel banks (Phylum Mollusca: Gastropoda); and
 - (ix) Acorn barnacles (Arthropoda: Crustacea: *Semibalanus* sp.).
- (f) Nursery areas. Areas that for reasons such as food, cover, bottom type, salinity, temperature, and other factors, young finfish and crustaceans spend the major portion of their initial growing season. Primary nursery areas are those areas in the estuarine system where initial post-larval development takes place. These are areas where populations are uniformly early juveniles. Secondary nursery areas are those areas in the estuarine system where later juvenile development takes place. Populations are composed of developing sub-adults of similar size which have migrated from an upstream primary nursery area to the secondary nursery area located in the middle portion of the estuarine system.

- (g) Shellfish producing habitats. Historic or existing areas that shellfish, such as clams, oysters, scallops, mussels, and whelks use to reproduce and survive because of such favorable conditions as bottom type, salinity, currents, cover, and cultch. Included are those shellfish producing areas closed to shellfish harvest due to pollution.
- (h) Strategic Habitat Areas. Locations of individual fish habitats or systems of habitats that provide exceptional habitat functions or that are particularly at risk due to imminent threats, vulnerability, or rarity.
- (i) Submerged aquatic vegetation (SAV) habitat. Submerged lands that:
 - (i) are vegetated with one or more species of submerged aquatic vegetation including bushy pondweed or southern naiad (*Najas guadalupensis*), coontail (*Ceratophyllum demersum*), eelgrass (*Zostera marina*), horned pondweed (*Zannichellia palustris*), naiads (*Najas* spp.), redhead grass (*Potamogeton perfoliatus*), sago pondweed (*Stuckenia pectinata*, formerly *Potamogeton pectinatus*), shoalgrass (*Halodule wrightii*), slender pondweed (*Potamogeton pusillus*), water stargrass (*Heteranthera dubia*), water starwort (*Callitriche heterophylla*), waterweeds (*Elodea* spp.), widgeongrass (*Ruppia maritima*), and wild celery (*Vallisneria americana*). These areas may be identified by the presence of above-ground leaves, below-ground rhizomes, or reproductive structures associated with one or more SAV species and include the sediment within these areas; or
 - (ii) have been vegetated by one or more of the species identified in Sub-item (4)(i)(i) of this Rule within the past 10 annual growing seasons and that meet the average physical requirements of water depth (six feet or less), average light availability (secchi depth of one foot or more), and limited wave exposure that characterize the environment suitable for growth of SAV. The past presence of SAV may be demonstrated by aerial photography, SAV survey, map, or other documentation. An extension of the past 10 annual growing seasons criteria may be considered when average environmental conditions are altered by drought, rainfall, or storm force winds.

This habitat occurs in both subtidal and intertidal zones and may occur in isolated patches or cover extensive areas. In defining SAV habitat, the Marine Fisheries Commission recognizes the Aquatic Weed Control Act of 1991 (G.S. 113A-220 et. seq.) and does not intend the submerged aquatic vegetation definition, or this Rule or Rules 03K .0304 and .0404, to apply to or conflict with the non-development control activities authorized by that Act.

- (5) Licenses, permits, leases and franchises, and record keeping:

- (a) Assignment. Temporary transferal to another person of privileges under a license for which assignment is permitted. The person assigning the license delegates the privileges permitted under the license to be exercised by the assignee, but retains the power to revoke the assignment at any time, and is still the responsible party for the license.
- (b) Designee. Any person who is under the direct control of the permittee or who is employed by or under contract to the permittee for the purposes authorized by the permit.
- (c) For Hire Vessel. As defined by G.S. 113-174, when the vessel is fishing in state waters or when the vessel originates from or returns to a North Carolina port.
- (d) Logbook. Paper forms provided by the Division and electronic data files generated from software provided by the Division for the reporting of fisheries statistics by persons engaged in commercial or recreational fishing or for-hire operators.
- ~~(d)~~(e) Holder. A person who has been lawfully issued in his or her name a license, permit, franchise, lease, or assignment.
- ~~(e)~~(f) Land:
 - (i) For commercial fishing operations, when fish reach the shore or a structure connected to the shore.
 - (ii) For purposes of trip tickets, when fish reach a licensed seafood dealer, or where the fisherman is the dealer, when the fish reaches the shore or a structure connected to the shore.
 - (iii) For recreational fishing operations, when fish are retained in possession by the fisherman.
- ~~(f)~~(g) Licensee. Any person holding a valid license from the Department to take or deal in marine fisheries resources.
- ~~(g)~~(h) Master. Captain of a vessel or one who commands and has control, authority, or power over a vessel.
- ~~(h)~~(i) New fish dealer. Any fish dealer making application for a fish dealer license who did not possess a valid dealer license for the previous license year in that name. For purposes of license issuance, adding new categories to an existing fish dealers license does not constitute a new dealer.
- ~~(i)~~ ~~North Carolina Trip Ticket. Paper forms provided by the Division, and electronic data files generated from software provided by the Division, for the reporting of fisheries statistics that include quantity, method, and location of harvest.~~
- (j) Office of the Division. Physical locations of the Division conducting license and permit transactions in Wilmington, Washington, Morehead City, Roanoke Island and Elizabeth City, North Carolina. Other businesses or entities designated by the Secretary to issue Recreational Commercial Gear Licenses or Coastal Recreational Fishing Licenses are not considered Offices of the Division.

- (k) Responsible party. Person who coordinates, supervises, or otherwise directs operations of a business entity, such as a corporate officer or executive level supervisor of business operations, and the person responsible for use of the issued license in compliance with applicable statutes and rules.
- (l) Tournament Organizer. The person who coordinates, supervises, or otherwise directs a recreational fishing tournament and is the holder of the Recreational Fishing Tournament License.
- (m) Transaction. Act of doing business such that fish are sold, offered for sale, exchanged, bartered, distributed, or landed.
- (n) Transfer. Permanent transferal to another person of privileges under a license for which transfer is permitted. The person transferring the license retains no rights or interest under the license transferred.
- (o) Trip Ticket. Paper forms provided by the Division and electronic data files generated from software provided by the Division for the reporting of fisheries statistics by licensed fish dealers.

Authority G.S. 113-134; 113-174; 143B-289.52

15A NCAC 03J .0208 NEW RIVER

- (a) It is unlawful to use trawl nets except skimmer trawls upstream of the Highway 172 Bridge over New River.
- (b) It is unlawful to use ~~trawl nets~~ skimmer trawls upstream of the Highway 172 Bridge over New River from 9:00 P.M. through 5:00 A.M. when opened by proclamation from August 16 through November 30.

Authority G.S. 113-134; 113-182; 143B-289.52

15A NCAC 03L .0101 SEASONSHRIMP HARVEST RESTRICTIONS

- (a) It is unlawful to take shrimp with nets until the Fisheries Director, by proclamation, opens the ~~season~~ season in various waters. Proclamations may specify any hours of day or night or both and any other conditions appropriate to management of the fishery. If sampling indicates primarily undersized shrimp or juveniles of any other species of major economic importance, the Fisheries Director may close such waters to shrimping and prohibit the use of nets for any purpose except cast nets as provided in 15A NCAC 3L .0102. Prominent landmarks or other permanent type markers shall be considered when establishing closure lines even if such lines extend beyond the area of concern.
- (b) The Fisheries Director may, by proclamation, impose any or all of the following restrictions on the taking of shrimp:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods;
- (4) specify season;

Fiscal Note for Proposed Rule Changes to 15A NCAC 03I .0101, 15A NCAC 03J .0208, 15A NCAC 03L .0101, 15A NCAC 03L .0103, 15A NCAC 03L .0105, 15A NCAC 03R .0114

(5) specify size; and

(6) specify quantity.

Authority G.S. 113-134; 113-182; 113-221; 143B-289.52

15A NCAC 03L .0103 PROHIBITED NETS, MESH SIZES-LENGTHS AND AREAS

(a) It is unlawful to take shrimp with nets with mesh lengths less than the following:

- (1) Trawl net - one and one-half inches;
- (2) Fixed nets, channel nets, float nets, butterfly nets, and hand seines - one and one-fourth inches; and
- (3) Cast net - no restriction.

(b) It is unlawful to take shrimp with a net constructed in such a manner as to contain an inner or outer liner of any mesh ~~size-length~~. Net material used as chafing gear shall be no less than four inches mesh length except that chafing gear with smaller mesh may be used only on the bottom one-half of the tailbag. Such chafing gear shall not be tied in a manner that forms an additional tailbag.

(c) It is unlawful to take shrimp with trawls which have a combined headrope of greater than 90 feet in ~~internal coastal waters except~~ Internal Coastal Waters in the following areas:

- (1) ~~Pamlico Sound;~~ North of the 35° 46.3000' N latitude line;
- (2) Core Sound south of a line beginning at a point 34° 59.7942' N - 76° 14.6514' W on Camp Point; running easterly to a point 34° 58.7853' N - 76° 09.8922' W on Core Banks; to the South Carolina State Line;
- ~~(2)~~(3) Pamlico River ~~downstream~~ upstream of a line from a point 35° 18.5882' N - 76° 28.9625' W at Pamlico Point; running northerly to a point 35° 22.3741' N - 76° 28.6905' W at Willow Point; and
- ~~(3)~~(4) Neuse River ~~northeast~~ southwest of a line from a point 34° 58.2000' N - 76° 40.5167' W at Winthrop Point on the eastern shore of the entrance to ~~Adam's Creek~~ Adams Creek; running northerly to a point 35° 01.0744' N - 76° 42.1550' W at Windmill Point at the entrance of Greens Creek at Oriental.

(d) Effective January 1, 2017 it is unlawful to take shrimp with trawls which have a combined headrope of greater than 220 feet in Internal Coastal Waters in the following areas:

- (1) Pamlico Sound south of the 35° 46.3000' N latitude line and north of a line beginning at a point 34° 59.7942' N - 76° 14.6514' W on Camp Point; running easterly to a point 34° 58.7853' N - 76° 09.8922' W on Core Banks;
- (2) Pamlico River downstream of a line from a point 35° 18.5882' N - 76° 28.9625' W at Pamlico Point; running northerly to a point 35° 22.3741' N - 76° 28.6905' W at Willow Point; and

- (3) Neuse River northeast of a line from a point 34° 58.2000' N - 76° 40.5167' W at Winthrop Point on the eastern shore of the entrance to Adams Creek; running northerly to a point 35° 01.0744' N - 76° 42.1550' W at Windmill Point at the entrance of Greens Creek at Oriental.

~~(d)~~(e) It is unlawful to use a shrimp trawl in the areas described in 15A NCAC 03R .0114.

~~(e)~~(f) It is unlawful to use channel nets except as provided in 15A NCAC 03J .0106.

~~(f)~~(g) It is unlawful to use shrimp pots except as provided in 15A NCAC 03J .0301.

~~(g)~~(h) It is unlawful to use a shrimp trawl that does not conform with the federal rule requirements for Turtle Excluder Devices (TED) as specified in 50 CFR Part 222.102 Definitions, 50 CFR Part 223.205 (a) and Part 223.206 (d) Gear Requirements for Trawlers, and 50 CFR Part 223.207 Approved TEDs. Copies of these rules are available via the Code of Federal Regulations posted on the Internet at <http://www.gpoaccess.gov/cfr/index.html> and at the Division of Marine Fisheries, P.O. Box 769, Morehead City, North Carolina 28557 at no cost.

Authority G.S. 113-134; 113-182; 143B-289.52

15A NCAC 03L .0105 RECREATIONAL SHRIMP LIMITS

It is unlawful to:

- (1) Possess from areas open to the harvest of shrimp more than 48 quarts, heads on or 30 quarts, heads off, of shrimp per person per day or if a vessel is used, per vessel per day for recreational purposes except as provided in 15A NCAC 03O .0303 (e) and (f).
- ~~(2) Take or possess shrimp from areas closed to the taking of shrimp except two quarts of shrimp per person per day may be taken while fishing in a closed area with a cast net.~~
- (2) Take or possess more than four quarts, heads on or two and one-half quarts, heads off, of shrimp per person per day with a cast net from areas closed to the taking of shrimp in accordance with 15A NCAC 03L .0101.

Authority G.S. 113-134; 113-182; 143B-289.52

15A NCAC 03R .0114 SHRIMP TRAWL PROHIBITED AREAS

The shrimp trawl prohibited areas referenced in ~~15A NCAC 03L .0103(d)~~ 15A NCAC 03L .0103(e) are delineated in the following coastal water areas:

- (1) Pungo River - all waters upstream of a line from a point 35° 23.3166' N - 76° 34.4833' W at Wades Point; running ~~westerly~~ easterly to a point 35° 23.6463' N - 76° 31.0003' W on the north shore of the entrance to Abels Bay.
- (2) Pamlico River - all waters upstream of a line from a point 35° 20.5108' N - 76° 37.7218' W on the western shore of the entrance to Goose Creek; running northeasterly to a point 35° 23.3166' N - 76° 34.4833' W at Wades Point.

- (3) Neuse River - all waters upstream of a line from a point $34^{\circ} 56.3658' N - 76^{\circ} 48.7110' W$ at Cherry Point; running northerly to a point $34^{\circ} 57.9116' N - 76^{\circ} 48.2240' W$ at ~~Wilkerson~~ Wilkinson Point.
- (4) Shalotte River - all waters upstream of a line beginning at a point $33^{\circ} 54.8285' N - 78^{\circ} 22.3657' W$ on the west side of Shalotte River; running southeasterly to a point $33^{\circ} 54.6276' N - 78^{\circ} 21.7882' W$ on the east side of the river.
- (5) Eastern Channel - all waters of Eastern Channel east and north of a line beginning at a point $33^{\circ} 52.6734' N - 78^{\circ} 28.7339' W$ at Jinks Creek; running southerly to a point $33^{\circ} 52.5942' N - 78^{\circ} 28.6759' W$ at Tubbs Inlet; and south and west of a line beginning at a point $33^{\circ} 53.6266' N - 78^{\circ} 26.6262' W$; running easterly to a point $33^{\circ} 53.6501' N - 78^{\circ} 26.5635' W$.
- (6) Sunset Beach - all waters of the IWW west of a line beginning at a point $33^{\circ} 52.9247' N - 78^{\circ} 30.7041' W$ on the north end of the Highway 1172 Bridge; running southerly to a point $33^{\circ} 52.8417' N - 78^{\circ} 30.6490' W$ at the south end of the bridge.
- (7) Calabash River - all waters west of a line beginning at a point $33^{\circ} 53.4368' N - 78^{\circ} 32.9720' W$ on the north end of the Highway 1164 Bridge; running southerly to a point $33^{\circ} 53.3534' N - 78^{\circ} 32.9720' W$ at the south end of the bridge.

Authority G.S. 113-134; 113-182; 143B-289.52