Issues/Reports

N.C. Marine Fisheries Commission
2014-2015 Annual Rulemaking Cycle

February 2015

Time of Year	Action
January 2014	Last opportunity for a new issue to be presented to DMF Rules Advisory Team
February 2014	Second review by DMF Rules Advisory Team
January-July 2014	Fiscal analysis of rules prepared by DMF staff and approved by Office of State Budget and Management
August 2014	MFC considers approval of Notice of Text for Rulemaking
October 2014	Publication of proposed rules in the North Carolina Register
October 2014	Public hearing(s) held
(January)	(Last opportunity for a new issue to be presented to DMF Rules Advisory Team)
(February)	(Second review by DMF Rules Advisory Team)
February 2015	MFC considers approval of permanent rules
March/April 2015	New rulebook formatted
April 15, 2015	Commercial license sales begin
April 16, 2015	Rules reviewed by Office of Administrative Hearings Rules Review Commission
Late April	New rulebook published
May 1, 2015	New rulebook available online and for distribution
May or June 1, 2015	Effective date of new rules

N.C. Department of Environment and Natural Resources

Release: Immediate
Date: Oct. 1, 2014

Contact: Patricia Smith
Phone: 252-726-7021

Public comment sought on proposed rules

MOREHEAD CITY – The N.C. Marine Fisheries Commission is accepting public comment on a slate of proposed rule changes that pertain to various issues to the shrimp, river herring, eel and bay scallop fishery management plans and to establish a for-hire logbook requirement.

The commission will hold the following public hearings on the proposed rule changes:

Oct. 28 at 6 p.m.
N.C. Department of Environment and Natural Resources Washington Regional Office
943 Washington Square Mall, U.S. 17, Washington

Oct. 29 at 6 p.m.
N.C. Department of Environment and Natural Resources Wilmington Regional Office
127 Cardinal Drive Extension, Wilmington

The public may also comment on the proposed rules in writing to Catherine Blum, Rulemaking Coordinator, N.C. Division of Marine Fisheries, P.O. Box 769, Morehead City, N.C. 28557 or send comments by email to Catherine.Blum@ncdenr.gov or fax to 252-726-0254. The public comment period will close at 5 p.m. Dec. 1.

Proposed rules impacting for-hire fishing operations and ocean fishing piers include:

- Eliminating the current For-Hire Permit and Coastal Recreational Fishing License blanket licenses and replacing them with a captain's for-hire license, a blanket for-hire vessel license, and a non-blanket for-hire vessel license.
- Implementing a for-hire endorsement on the commercial fishing vessel registration and requiring weekly logbook reporting from for-hire licensees.
- Combining two separate ocean pier licenses into one Ocean Fishing Pier License with the same net cost.

Proposed rules implementing a draft amendment to the shrimp plan include:

- Modifying the definition of mesh length to apply to diamond-mesh nets, as well as square-mesh nets in support of a management strategy to require an additional bycatch reduction device in all skimmer and otter trawls, which can include a square-mesh T-90 panel.
- Codifying an existing management strategy that prohibits the use of trawl nets, except skimmer trawls, upstream of the N.C. 172 Bridge over the New River in Onslow County.
- Clarifying the Division of Marine Fisheries director's proclamation authority for shrimp harvest restrictions;
- Establishing a maximum combined headrope length of 220 feet in all internal coastal waters where there are no existing maximum combined headrope requirements, allowing for a phase-out period until Jan. 1, 2017.
- Allowing cast-netting of shrimp in all areas otherwise closed to shrimping and increase the harvest limit to 4 quarts, heads-on, or 2 ½ quarts, heads-off.
- Prohibiting shrimp trawling in the Intracoastal Waterway channel from the Sunset Beach Bridge to the South Carolina line, including Shallotte River, Eastern Channel and lower Calabash River, to protect small shrimp.

- More -

Jamie Kritzer, Public Information Officer
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Proposed rules implementing a draft amendment to the river herring plan include:

- Eliminating the discretionary harvest and season.
- Removing blueback herring and alewife from the exemption for possession of mutilated finfish.
- Limiting possession of river herring from sources other than North Carolina coastal fishing waters to less than or equal to 6 inches while fishing or boating.
- Changing the boundary coordinates of the Anadromous Fish Spawning Area to reflect companion changes previously made to the Albemarle Sound and Roanoke River management areas.
- Relocating the description and boundaries of the Albemarle Sound and Chowan River River Herring Management Areas from Subchapter 03J to Subchapter 03R in the rulebook for improved organization and public clarity.

Proposed rules implementing Addendum III to the Atlantic States Marine Fisheries Commission Fishery Management Plan for American Eel include:

- Implementing a minimum mesh length requirement of one-half by one-half inch mesh for eel pots, allowing for a phase-in period until Jan. 1, 2017.
- Increasing the American eel size limit to 9 inches, decreasing the recreational bag limit to 25 fish and implementing a Sept. 1 - Dec. 31 season closure, unless the eels are taken with baited pots.

Proposed rules to implement a draft amendment to the bay scallop plan include:

- Changes in support of a management strategy to encourage the cultivation of bay scallops consistent with other shellfish species grown on private bottom that:
    - Exempt leaseholders and aquaculture operations from the public bottom commercial season, gear, and harvest limits for cultured bay scallops.
    - Allow the sale of cultured bay scallops for further grow out.
- Elimination of the Aug. 1 through Sept. 15 bay scallop season and lowering the maximum daily commercial harvest possession limit to be consistent with adaptive management trip limit measures.

Other proposed rules include:

- Updating and relocating a rule that provides the Division of Marine Fisheries director's authority to issue proclamations to resolve user conflicts concerning public trust resources.
- Updating the name of a canal in Brunswick County.
- Removing the permit fee for the Atlantic Ocean Striped Bass Commercial Gear Permit, which is now provided in statute, and eliminating the Nov. 1 deadline to purchase the annual permit.
- Correcting an error in the inland/coastal waters boundary line in Queens Creek, Onslow County.
- Correcting grammatical errors and spacing in several rules.
- Modifying rules pertaining to the Division of Marine Fisheries director's proclamation authority for consistency.

The Marine Fisheries Commission is scheduled to vote on the proposed rules at its Feb. 18-20 meeting. If approved, the rules could take effect as early as May 1.

For more information on the proposed rules, go to http://portal.ncdenr.org/web/mf/mfc-proposed-rules-links or contact Blum at 252-808-8014 or Catherine.Blum@ncdenr.gov.

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MARINE FISHERIES COMMISSION
SUMMARY OF PUBLIC HEARING FOR PROPOSED RULES
DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES
WASHINGTON REGIONAL OFFICE
WASHINGTON, N.C.
OCT. 28, 2014, 6 PM

Marine Fisheries Commission
Kelly Darden

Division of Marine Fisheries Staff
Catherine Blum
Daniel Ipock
Doug Mumford
Katy West

Public
None

Media
None

Commissioner Kelly Darden opened the public hearing for Marine Fisheries Commission proposed rules at 6 p.m. No one from the public was in attendance. He closed the hearing at 6:10 p.m.

/cb

MARINE FISHERIES COMMISSION
SUMMARY OF PUBLIC HEARING FOR PROPOSED RULES
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
WILMINGTON REGIONAL OFFICE
WILMINGTON, N.C.
OCT. 29, 2014, 6 PM

Marine Fisheries Commission
Sammy Corbett

Division of Marine Fisheries Staff
Catherine Blum
Nancy Fish
Jack Holland
Simon Sabella
Chris Stewart
Stephen Taylor

Public
Debbie Hamrick
Bob Lorenz
Donald Whitney

Media
None

Commissioner Sammy Corbett opened the public hearing for Marine Fisheries Commission proposed rules at 6 p.m. He reviewed guidelines of the public hearing process and explained the hearing is a formal process to receive public comments only about the proposed rules as published in the *N.C. Register*. Commissioner Corbett explained the proposed rules have an intended effective date of May 1, 2015. He said public comments on the proposed rules will be presented to the Marine Fisheries Commission at its February 18-20 meeting prior to its vote on final approval of the rules.

Division staff member Catherine Blum reviewed the proposed rules by explaining the reason for proposed action for each of the 29 rules in the package.

Commissioner Corbett opened the floor for the public to provide comments.

None of the members of the public in attendance had comments on the proposed rules. One person had questions about other fisheries issues.

Hearing no comments on the proposed rules, Commissioner Corbett closed the hearing at 6:25 p.m. After the hearing, staff addressed the questions.

/cb

From: Hesselman, Don
To: Wavelength charters
Cc: Mumford, Doug; Blum, Catherine
Subject: RE: For-Hire Logbook Comments
Date: Wednesday, November 19, 2014 8:07:46 AM
Attachments: Timpy_Response-111914.pdf

Morning Captain Dave,

Attached is a response to your comments from the Division's perspective. The Marine Fisheries Commission will be receiving your written comments and will certainly take them into consideration. I'll keep in mind your comment about commercial and for-hire reporting on different platforms and see if I can push this suggestion to the South Atlantic Council.

Don

From: Blum, Catherine
Sent: Monday, November 17, 2014 9:16 AM
To: Wavelength charters
Cc: Mumford, Doug; Hesselman, Don
Subject: RE: For-Hire Logbook Comments

Dear Capt. Timpy,

Thank you for submitting comments on the proposed for-hire logbook. Your comments will be forwarded to the Marine Fisheries Commission for its consideration prior to voting on final approval of rules. This action is scheduled for the Commission's Feb. 18-20 meeting at the Hilton Riverside in Wilmington.

By way of this email I am also forwarding your comments to our License and Statistics Section Chief Don Hesselman. Don and Doug will provide you additional information related to your individual comments.

If you have any questions about the timing of the current package of proposed Marine Fisheries Commission rules please let me know. Thank you for taking the time to participate in the rulemaking process.

Catherine Blum

Catherine Blum
Fishery Management Plan & Rulemaking Coordinator
N.C. Division of Marine Fisheries
P.O. Box 769 / 3441 Arendell Street
Morehead City, NC 28557-0769
catherine.blum@ncdenr.gov
252-808-8014 (phone)
252-726-0254 (fax)

From: Wavelength charters [mailto:captdave@wavelengthcharters.com]
Sent: Monday, November 17, 2014 6:40 AM
To: Blum, Catherine
Cc: Mumford, Doug
Subject: For-Hire Logbook Comments

Attached are my comments on the proposed for-hire logbook.

Capt Dave Timpy
910-620-1784
www.wavelengthcharters.com

Sent from my IPhone.

Re: Proposed NCDMF For-Hire Logbook Requirement.

Please reference the NCDMF public release dated 10-6-14 regarding the proposed For-Hire log book requirement and the public meeting held at the Wilmington DENR office on 11-4-14. My comments on the proposed For-Hire log book are as follows:

(1) Education. Some charter captains do not have a full understanding on why the log book may be required and what this data will be used for. It is recommended that NCDMF offer free fishery management workshops to for-hire charter captains. This type of information/ technology transfer is an excellent way of bringing charter captains on-board with the requirements of the NC state rules and the Magnuson Stevens Act and may result in more accurate data submittal.
(2) Optional Data. The proposed log book is requiring a substantial amount of data. A large number of charter captains are not computer savvy. Some still use their flip phones for mostly everything. Thus, requiring large volumes of data would likely lead to a high risk for error and inaccurate data. Previous comments on the log book by captains have repeatedly requested to "keep it simple". It is apparent, however, that a simple log book would not meet the data needs of our fishery managers. One remedy could be "optional data". The log book could require a minimum amount of data, including regionally broad location data, and provide an option to submit additional data. Optional data could include data such as specific location of catch/release, time of catch/release, sea and weather conditions, time stamped photos, water clarity estimates, lizard fish caught/released, menhaden, turtle sightings, sharks, etc. Optional data could be confidential. Incentives could be offered by NCDMF and/or NOAA Fisheries to increase optional data participation; for example reduced license fees, free advertising, reduced taxes, grants, tuition discounts, etc.
(3) Consistent Data Requirement. Log book requirements should maintain data consistency among For-Hire Captains, Head Boat Captains, and Commercial Captains. For example, by-catch data required of all captains must be of the same level of detail. Log books for recreational fisherman should also be considered.
(4) Federal For-Hire log book. It is likely that NOAA Fisheries, through the federal fishery commissions, will require a federal for-hire log book for all USCG licensed captains. If this is the case, then states (including NC), may not need to require a duplicate log book. In the event that both state and federal for-hire log books are required, it is recommended that streamlining and duplicate data submittal is addressed.
(5) Marine Technology. All USCG licensed captains have electronics on their vessels. This equipment usually consist of GPS chart plotters, fish finders, etc. Today's chart plotters contain sophisticated software used for navigation, waypoints, routes, tracks, photos, videos, wifi, bluetooth, data recording, and data transfer. It is suggested that consideration be given to working with private industry, such as Furuno, Garmin, Simrad, etc, to imbed a federal/state (selectable) log book option in the software of a GPS Chart Plotter. This option would also provide an easy way to submit reports. And provide equipment discounts to licensed captains that are required to submit log books.
(6) Joint Enforcement Agreement. The required log book should be addressed in the JEA.

Thanks.

Captain Dave Timpy, MS
Wavelength Charters
www.wavelengthcharters.com

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

November 18, 2014

Dear Captain Dave,

Catherine Blum forwarded your written comments to me and will also forward them to the Marine Fisheries Commission. Later this week, the commission will be hearing the same presentation you received in Wilmington as well as a verbal summary of the results of the for-hire stakeholders meetings. They will make a final determination on the proposed logbook rule at their February meeting being held in Wilmington.

I thought I would take the time to respond to your comments from the Division's perspective as its unlikely the Commission will respond directly to you.

1. Education- It was apparent from comments made at all four stakeholders meetings that the industry is not fully knowledgeable on the purpose of the logbooks; that is my fault. We have an implementation plan and an issue paper for the Marine Fisheries Commission that was distributed to the public in association with the steps of the rulemaking process. But, in the next few days I will draft up a policy statement clearly outlining the reasons for the regulatory action.

2. Optional data- We realize that there is a need for paper logbooks for those captains who are not computer savvy. We also realize a large percentage of your industry is technologically savvy and for that reason will also be developing a website, tablet and mobile apps for their use. It is fully our intention to allow the industry to report using any one of these methods. Your request for "optional" data was suggested more than once, but mostly as a request for optional data for personal use of the captain. The optional data you describe would fall into that category as we do not have a need for most of that data. Rest assured we are only asking for minimal data elements to meet our needs and the needs of any federal logbook reporting requirements, some of which are delineated in the Code of Federal Regulations with no room for negotiation. By capturing all these data elements we can avoid any redundant reporting requirements while satisfying the data needs of all the various regulatory agencies.

3. Consistent data requirements- We have designed the for-hire logbook to meet the needs for data from the for-hire sector of the industry. The Division also realizes the need for and the importance of discard data from all resource users, but has elected to use different methodologies to capture discard/release data. For the commercial industry, which releases many more fish than the for-hire industry, we have chosen to use observer data and in some cases, logbooks from the commercial fisherman. The commercial trip ticket program is a dealer reporting program and is not designed to capture discards or releases for obvious reasons. The only commercial logbook the Division has is one for eels which has few discards. A state-wide all-encompassing commercial logbook would cost the state nearly what the entire trip ticket program costs, which is unlikely in the current economic

climate. The National Marine Fisheries Service (NMFS) has logbooks for most of its commercial fisheries occurring in federal waters and in some cases does require reporting of discards. We do not consider logbooks from 1.5 million recreational fishermen feasible. Instead, we use interview data conducted via the Marine Recreational Information Program to estimate fish released both dead and alive.

4. Federal for-hire logbook- We have addressed for-hire reporting redundancy with the NMFS Northeast and NMFS Southeast offices and there will be no duplicate reporting from the N.C. for-hire industry. However, and as you pointed out at the meeting, there may be two different systems depending on whether you are reporting a commercial or a for-hire trip. That is a valid point which we will work towards alleviating in the future if at all possible. I realize a demo of the tablet app developed in Rhode Island was unsuccessful, but if it had been successful, you would have seen that it was developed so that the user could select either a commercial or a for-hire trip. Some of the data elements may differ, but this should not be a problem for the developers. Your comment is worthy and one of the reasons we hold these meetings.

5. Marine Technology- I am familiar with the equipment the industry uses, but I do not see the Division working with the all the various makers of marine electronic equipment to provide this service. It would be cost and time prohibitive. If the industry chooses to make this recommendation to the marine electronics industry we would be open to allowing specific data files meeting our specifications to be imported into our system.

6. Joint Enforcement Agreement- We do not see a need to specifically address a for-hire logbook into the JEA as the state has adequate statutory and rule authorities to enforce it as a state regulation. In addition, we have determined that any funds received from a JEA can only be used for equipment for our Marine Patrol.

Thank you very much for your comments, your interest, and for your attendance at the stakeholders meeting in Wilmington. Feedback we receive from the public and members of the industry are invaluable to our resource management endeavors. If you would like to discuss any of these issues in more detail please feel free to call or write.

Sincerely,

Don Hesselman
Chief, License and Statistics
N.C. Division of Marine Fisheries

From:	Blum, Catherine
To:	"Blakely Hildebrand"
Cc:	Sierra Weaver; Tim Gestwicki; David Knight
Subject:	RE: public comments - proposed rules implementing Amendment 1 to NC Shrimp FMP
Date:	Tuesday, December 02, 2014 9:22:00 AM

Dear Ms. Hildebrand,

Thank you for sending the Southern Environmental Law Center's comments on behalf of the North Carolina Wildlife Federation regarding the Marine Fisheries Commission's proposed rules implementing Amendment 1 to the N.C. Shrimp Fishery Management Plan. The comments will be forwarded to the commission for its consideration prior to its vote on permanent approval of the rules. This is scheduled to occur at the commission's Feb. 18-20 business meeting at the Hilton Riverside in Wilmington.

Sincerely,
Catherine Blum

Catherine Blum
Fishery Management Plan & Rulemaking Coordinator
N.C. Division of Marine Fisheries
P.O. Box 769 / 3441 Arendell Street
Morehead City, NC 28557-0769
catherine.blum@ncdenr.gov
252-808-8014 (phone)
252-726-0254 (fax)

From: Blakely Hildebrand [mailto:bhildebrand@selcnc.org]
Sent: Monday, December 01, 2014 5:00 PM
To: Blum, Catherine
Cc: Sierra Weaver; Tim Gestwicki; David Knight
Subject: public comments - proposed rules implementing Amendment 1 to NC Shrimp FMP

Ms. Blum,

Please find comments on the Marine Fisheries Commission's proposed rules implementing Amendment 1 to the North Carolina Shrimp Fisheries Management Plan attached. The Southern Environmental Law Center submits these comments on behalf of the North Carolina Wildlife Federation.

Thank you for your consideration of these comments.

Sincerely,
Blakely Hildebrand

Blakely Elizabeth Hildebrand
Associate Attorney | Southern Environmental Law Center

601 West Rosemary Street, Suite 220 | Chapel Hill, NC 27516-2356
T: 919-967-1450 | F: 919-929-9421 | Email: bhildebrand@selcnc.org

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450 | 601 WEST ROSEMARY STREET, SUITE 220 CHAPEL HILL, NC 27516-2356 | Facsimile 919-929-9421

December 1, 2014

VIA EMAIL

Ms. Catherine Blum
Rulemaking Coordinator, N.C. Division of Marine Fisheries
N.C. Department of Environment and Natural Resources
P.O. Box 769
Morehead City, NC 28557
Catherine.blum@ncdenr.gov

Re: Comments on the proposed rules implementing Amendment 1 to the North Carolina Shrimp Fishery Management Plan

Dear Ms. Blum,

The Southern Environmental Law Center ("SELC") submits these comments on the Marine Fisheries Commission ("MFC") proposed rules implementing Amendment 1 to the North Carolina Shrimp Fishery Management Plan ("Amendment 1") on behalf of the North Carolina Wildlife Federation ("NCWF").

NCWF is a statewide, nonprofit conservation organization established in 1945 and dedicated to the sound, scientific management of North Carolina's fish, wildlife, and habitat resources. NCWF is the state affiliate of the National Wildlife Federation and has offices in Charlotte and Raleigh plus thirteen chapters, thirty eight affiliates and thousands of members across the state. NCWF believes that North Carolina's marine resources are a public trust resource, and as such must be protected and sustained for use and enjoyment by all citizens. NCWF holds firmly to the position that North Carolina must change its approaches to the protection, management, and conservation of its marine resources.

NCWF urges the MFC to adopt regulations implementing Amendment 1 that put in place meaningful protections for the millions of juvenile finfish that are caught and discarded every year in North Carolina's shrimp trawl fishery, while allowing a sustainable shrimp harvest and ensuring the conservation of important marine species. NCWF is concerned that Amendment 1 and its proposed implementing regulations do not go far enough in establishing adequate protections for juvenile finfish or their habitat from destructive trawl nets used to harvest shrimp in our state's inshore waters. NCWF's specific objections are described in detail below.

The Problem: Substantial Bycatch in North Carolina's Shrimp Trawl Fishery

In 2012, North Carolina commercial fisherman harvested over six million pounds of pink, brown, and white shrimp using large trawl nets in inshore waters.[1] For every pound of shrimp harvested in the state, approximately four pounds of juvenile finfish, including spot, Atlantic croaker, and weakfish and other organisms were caught by trawl nets and discarded into the state waters.[2] In 2012, nearly twenty four million pounds of juvenile finfish and other organisms were caught by trawl nets and thrown back overboard.[3] These juvenile finfish and other organisms constitute bycatch, defined by the Atlantic States Marine Fisheries Commission as "unintended or non-targeted catch of a particular species or size."[4]

North Carolina's inshore waters are important spawning and nursery grounds for many finfish, including juvenile Atlantic croaker, spot, and weakfish.[5] Primary, secondary, and special

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[1] *See Fish Dealer Report:2012*, N.C. DIV. MARINE FISHERIES (April 2013), at 1, *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=7b19d0c1-1a7a-44f4-97bd-9aefc038c5e3&groupId=38337 (reporting that N.C. commercial fisherman landed 6.1 million pounds of shrimp in 2012, which amounted to a 19 percent increase over 2011 landings). *See also Unintended Consequences*, N.C. WILDLIFE FED'N JOURNAL (Spring 2014), at 2.

[2] The majority of shrimp harvested in North Carolina waters are harvested in the Pamlico Sound. In 2009, in the Pamlico Sound, pink, white, and brown shrimp represented only 23 percent of shrimp trawl net catch, while Atlantic croaker, spot, and weakfish accounted for 33 percent, 13 percent, and 6 percent of the catch, respectively. *See* Kevin Brown, *Characterization of the inshore commercial shrimp trawl fishery in Pamlico Sound and its tributaries, North Carolina: Documentation and Reduction of Bycatch in North Carolina Fisheries*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. (June 2010) at 26 [hereinafter *2010 NC Bycatch Study*] (outlining the findings of the study of bycatch in the Pamlico Sound, which accounted for 68 percent of the total harvest of shrimp in North Carolina in 2009). In North Carolina waters between Carteret County and the South Carolina line, shrimp accounted for only 21 percent of the catch for all shrimp trawls studied, while Atlantic croaker, spot, and weakfish accounted for 25 percent, 7 percent, and 2 percent of the catch, respectively. *See* Kevin Brown, *Characterization of the inshore commercial shrimp trawl fishery from Carteret County to Brunswick County, North Carolina: Documentation and Reduction of Bycatch in North Carolina Fisheries*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. (April 2009) at 27 [hereinafter *2009 NC Bycatch Study*]. *See also Unintended Consequences*, *supra* note 1, at 2 (estimating that 4.5 pounds of bycatch are caught in trawl nets for every pound of shrimp caught in N.C. inshore waters).

[3] Based on 2012 harvest numbers cited above, *see Fish Dealer Report: 2012*, *supra* note 1, and bycatch estimates, *see, e.g.*, *2010 NC Bycatch Study*, *supra* note 2, nearly twenty four million pounds of bycatch were caught and discarded in 2012. *See also Unintended Consequences*, *supra* note 1, at 4 (estimating twenty eight million pounds of bycatch were caught in 2012).

[4] *Special Report No. 78: Summer Flounder Bycatch Regulatory Discards Workshop*, ATLANTIC STATES MARINE FISHERIES COMM'N (July 2003), at 5, *available at* http://www.asmfc.org/uploads/file/sr78SummerFlounderBycatchRegulatoryDiscardsReport.pdf.

[5] *See Atlantic Croaker*, ATLANTIC STATES MARINE FISHERIES COMM'N, http://www.asmfc.org/species/atlantic-croaker (last visited Nov. 25, 2014) (noting that Atlantic croaker "spawn in warm pelagic waters during the fall and winter months, and the larvae and juveniles settle in estuaries to mature"); *Atlantic Croaker – 2014*, N.C. DIV. MARINE FISHERIES, http://portal.ncdenr.org/web/mf/08-atlantic-croaker-ssr-2014 (last visited Nov. 25, 2014) (indicating that Atlantic croaker spawning season peaks in October in N.C. waters). *See also Weakfish (Gray Trout) – 2014*, N.C. DIV. MARINE FISHERIES, http://portal.ncdenr.org/web/mf/33-weakfish-ssr-2014 (last visited Nov. 25, 2014) (indicating that the weakfish is "dependent on estuarine habitat as critical nursery areas"). *See also Spot – 2014*, N.C. DIV. MARINE FISHERIES, http://portal.ncdenr.org/web/mf/30-spot-ssr-2014 (last visited Nov. 25, 2014) (discussing the migration of juvenile spot to the "upper reaches of the estuaries" and of adult spot between the estuarine and near-shore ocean).

secondary nursery areas are fragile estuarine and marine areas supporting juvenile finfish and shrimp. Trawling in these areas results in a substantial level of bycatch, and has a damaging impact on juvenile finfish populations in state waters. The North Carolina Division of Marine Fisheries ("DMF") has listed the Atlantic croaker as "concerned," spot as "concerned," and weakfish as "depleted" in its annual Stock Status Report.[6] These species are important sources of food and forage, and are often target catch for commercial and recreational fishermen.[7] The MFC acknowledges that bycatch is a substantial problem in the state shrimp trawl fishery, and committed its 2014 revision of the shrimp FMP to examining and adopting strategies to mitigate bycatch in the state's shrimp trawl fishery.[8]

Available Tools to Reduce Bycatch: North Carolina Fishery Management Plans

The MFC is required to adopt fishery management plans for "all commercially or recreationally significant species or fisheries" in the state with the stated goal of "ensur[ing] long-term viability" of such species.[9] Fishery management plans must include "conservation and management measures that will provide . . . [for] the protection of marine ecosystems, and that will produce a sustainable harvest."[10] The development of these plans requires input from advisory committees consisting of commercial fishermen, recreational fishermen, and scientists with expertise in fishery management.[11] Fishery management plans must be reviewed every five years.[12] The fishery management plan itself is not binding; the MFC must adopt rules to implement the plan in accordance with the North Carolina Administrative Procedures Act.[13] Additionally, the Fisheries Director has the authority to issue proclamations on a range of issues relating to fisheries management; compliance with proclamations is mandatory.[14] In these plans and through proclamations, the MFC may regulate fishing times, areas open to fishing, fishing gear, seasons, size limits, allowable quantities of fish harvested and possessed by fishermen.[15]

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[6] *See Stock Status Report: 2014*, N.C. DIV. OF MARINE FISHERIES, http://portal.ncdenr.org/web/mf/2014-stock-status-report (last visited Nov. 18, 2014).
[7] *See, e.g.*, *Atlantic Croaker*, *supra* note 5 (indicating that commercial and recreational fisherman seek out Atlantic croaker and that recreational landings of this species have increased over time). *See also Atlantic Croaker*, CHESAPEAKE BAY PROGRAM, http://www.chesapeakebay.net/fieldguide/critter/atlantic_croaker (last visited Nov. 25, 2014) (noting that the Atlantic croaker's predators include bluefish and striped bass).
[8] Existing protections against bycatch include minimal gear restrictions, limited areas closed to trawling, and minimal reporting requirements *See, e.g.*, 15A. N.C. ADMIN. CODE. 03L.0103 (2014) (limiting the type of gear used in trawling), 03R.0114 (2014) (prohibiting shrimp trawling in certain areas).
[9] N.C. GEN. STAT. § 113-182.1 (2014).
[10] N.C. GEN. STAT. § 113-182.1(b)(3).
[11] *Id.* at (c).
[12] *Id.* at (d).
[13] *Id.* at (f).
[14] *See* 15A N.C. ADMIN. CODE 03H.0103 (2014) ("It is unlawful to violate the provisions of any proclamation issued by the authority of the Marine Fisheries Commission Rule. . . variable conditions triggering the use of the Fisheries Director's proclamation authority may include any of the following . . . (2) biological impacts; (3) environmental conditions; (4) compliance with Fishery Management Plans . . . [and] (6) bycatch issues.").
[15] N.C. GEN. STAT. §§ 113-182 (a)-(b) (2014).

The original shrimp fishery management plan was adopted in April 2006 ("2006 shrimp FMP"), and was up for review under the five-year review requirement in 2011.[16] Based on public concern regarding the substantial level of bycatch in the state's shrimp trawl fishery, the MFC limited the scope of the revision of the 2006 shrimp FMP to bycatch issues.[17] In so doing, the MFC articulated numerous objectives in revising the 2006 shrimp FMP, including "minimiz[ing] waste . . . minimiz[ing] the harvest of non-target species of finfish . . . and promot[ing] the protection restoration and enhancement of habitats and environmental quality necessary for enhancing the shrimp resource."[18] MFC's six regional committees met to review the 2006 shrimp FMP, MFC regulations, and existing MFC proclamations to propose recommendations for updates to the 2006 shrimp FMP and its implementing rules. After a one-year review of the 2006 shrimp FMP, the MFC proposed Amendment 1 and several proposed amendments to existing rules that implement Amendment 1 on which NCWF provides comments today.

Inadequate Solutions: Proposed Rules Implementing Amendment 1 to the Shrimp Fishery Management Plan

The MFC has proposed amendments to numerous rules implementing Amendment 1 to the 2006 shrimp FMP.[19] While NCWF supports several amendments to the rules proposed by the Commission, the MFC has fallen short of proposing adequate requirements and restrictions on allowable gear, bycatch reduction devices, and areas open to trawling.

The MFC proposes an excessive phase-in period for new restrictions on the maximum combined length of trawl nets used to harvest shrimp in state waters.[20] NCWF strongly opposes these amendments, and encourages MFC to adopt a much shorter phase-in period for the required combined headrope length and a shorter allowable maximum combined headrope length on shrimp trawls. Notably, the MFC focused its multi-year review and revision of the 2006 shrimp FMP exclusively on adopting strategies to reduce bycatch. Delaying the adoption of gear restrictions for an additional two years is unacceptable. While NCWF has advocated for a reduced maximum headrope length and supports the Commission's efforts to impose a restriction in areas where no restriction exists, the MFC's proposed restriction and the timeframe within which the restriction will be imposed are inadequate to address substantial bycatch resulting from large shrimp trawl nets.

MFC's proposed rule allows an unreasonably long phase-in period for compliance with the limit on headrope length; the proposed rule requires all shrimp trawlers to comply with the

[16] *See North Carolina Shrimp Fishery Management Plan*, N.C. DIV. OF MARINE FISHERIES (April 2006), *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=7dc55c67-c6df-4a39-9ffc-32471c055c23&groupId=38337 [hereinafter *2006 Shrimp FMP*].
[17] *North Carolina Shrimp Fishery Management Plan, Draft Amendment 1*, N.C. DIV. OF MARINE FISHERIES (February 2014), at 20, *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=a7825b9a-14ae-4e0b-8795-bfb16fd6ed2a&groupId=38337 [hereinafter *Amendment 1*].
[18] *Id.*
[19] *See* 29:07 N.C. Reg. 735-738 (Oct. 1, 2014).
[20] 29:07 N.C. Reg. 735-738 (Oct. 1, 2014) (proposing an amendment to 15A N.C. ADMIN. CODE 03L.0103).

220 foot limit by January 1, 2017.[21] Under current regulatory conditions, almost twenty four million pounds of bycatch, including juvenile finfish, are caught and discarded in inshore waters each year.[22] With no meaningful restrictions in place for another two years, the level of bycatch caught and discarded will amount to almost fifty million pounds.[23] This is unacceptable. The North Carolina General Assembly entrusted the protection and conservation of the state's marine resources to the MFC, and the General Assembly specifically requires that the fishery management plans adopted and implemented by MFC include conservation and management measures that provide for the "protection of marine ecosystems and that will produce a sustainable harvest."[24] Allowing fishermen to continue to use trawl nets unabated for two more years is in direct conflict with these legislative requirements. NCWF proposes that all fishermen be required to comply with MFC's proposed restriction on combined headrope length by July 1, 2015. This timeframe provides fishermen with advance notice of the rule change and adequate time to comply with the new requirements.

In addition to the timeline for phase-in, the MFC's proposal is also substantively inadequate. The excessive maximum headrope length allowed under the proposed rules will continue to result in substantial bycatch in the state's shrimp trawl fishery. A combined headrope length of 220 feet allows for the continued use of large trawl nets that are responsible for habitat destruction and significant bycatch. NCWF advocated for a combined maximum headrope length of 110 feet in its January 2014 letter to the Commission. After further review and research, NCWF now recommends that the MFC adopt a ninety foot combined maximum headrope length on all shrimp trawl nets. As NCWF noted in their comments on Amendment 1, not only do large trawl nets result in substantial bycatch, these nets also limit trawling activities by small shrimping operations. Reducing the combined maximum headrope length to ninety feet would benefit all shrimpers in the state while protecting juvenile finfish and other organisms caught in large trawl nets.[25] Further, the MFC proposes a ninety foot combined headrope length for internal waters in designated areas.[26] A consistent limitation on the combined maximum headrope length in all inshore waters will provide clarity for fishermen and result in more efficient fishing practices in state waters. Additionally, a consistent limitation on combined headrope length supports a shorter phase-in period for compliance with the MFC's proposed rules.

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[21] *Id.* at 736, 748 (proposing an amendment to 15A N.C. ADMIN. CODE 03L.0103(d)).
[22] *See* text and notes accompanying *supra* notes 2-3.
[23] *See 2010 NC Bycatch Study*, *supra* note 2, at 26 (estimating that approximately one-quarter of catch in trawl nets is targeted shrimp, while the remaining approximately 75 percent of the catch is non-targeted bycatch). If these statistics are applied the total shrimp harvest numbers in 2012, *see Fish Dealer Report: 2012 supra* note 1, the bycatch estimated over the two year phase-in period amounts to approximately 50 million pounds of bycatch.
[24] N.C. GEN. STAT. §§ 113-131, 182.1(b)(3).
[25] Other states with significant shrimp fisheries have established combined headrope length limits well below the 220 feet proposed by MFC. For example, the maximum combined headrope length for shrimp trawls allowed in Mississippi waters is 100 feet. *See* 21-1 MISS. CODE. R. § 15:05 (restricting individual trawl net sizes in different coastal areas to twelve, twenty five, and fifty feet and placing limitations on the size of trawl doors). In Alabama, recreational shrimp trawl nets cannot exceed sixteen feet (only one net per boat) and commercial trawl nets cannot exceed a combined fifty feet in length (limit of two nets per boat). *See* ALA. ADMIN CODE. R. 220-3-.01(8) (2014).
[26] *See* 29:07 N.C. Reg. at 748 (proposing an amendment to 15 15A N.C. ADMIN. CODE 03L.0103(c)).

Additionally, the MFC proposes to amend the definition of "mesh length" so that the definition may be applied to square- and diamond-mesh nets.[27] The description of this rule change suggests that this proposed amendment supports "a management strategy to require one additional bycatch reduction device in all skimmer and otter trawls."[28] NCWF notes that the proposed rules themselves do not require the use of an additional bycatch reduction device ("BRD"). In fact, no North Carolina statute, regulation, or proposed regulation requires the use of BRDs by shrimp trawlers in inshore waters other than turtle excluder devices ("TEDs").[29] NCWF encourages the MFC to amend its rules to require all fishermen to use a BRD when trawling in state waters. The Fisheries Director may, but is not required to, issue a proclamation mandating the use of BRDs to reduce the number of finfish caught by shrimp trawl nets.[30] The Fisheries Director must have the consent of the MFC to issue such a proclamation; the MFC meets only four times each year.[31] The current Fisheries Director Dr. Louis B. Daniel, III, issued a proclamation requiring one of three BRDs beginning June 1, 2012.[32] While proclamations issued by the Fisheries Director are binding on all fishermen fishing in North Carolina waters,[33] and NCWF is pleased that the current Fisheries Director has issued such a proclamation, a rule requiring BRDs would put in place a permanent and consistent requirement for the use of BRDs and signal to fishermen MFC's commitment to reducing bycatch in the state's shrimp trawl fishery.

In Amendment 1, the DMF suggests that adopting certain gear restrictions and requirements for BRDs may violate state law prohibiting the adoption of a state regulation that is more strict that any existing federal regulation.[34] This provision of state law may not be applicable to state fishery management plans because federal law likely does not apply in this context. Even if federal law does apply, however, federal regulations require the use of BRDs on shrimp trawls. The Magnuson-Stevens Act ("MSA") governs fishery management plans for fishery resources in the federal exclusive economic zone ("EEZ") and in certain areas beyond the EEZ.[35] The MSA requires that conservation and management measures adopted through fishery management plans developed under the Act "minimize bycatch and to the extent bycatch cannot be avoided, minimize the mortality of such bycatch."[36] Federal regulations implementing the MSA require the use of bycatch reduction devices for shrimp fisheries operating in the South

[27] *See* 29:07 N.C. Reg. at 735, 741 (proposing an amendment to 15A N.C. ADMIN. CODE 03I.0101(3)(n)).
[28] *Id.* at 735.
[29] 15A N.C. ADMIN. CODE 03L.0103(g) (2014).
[30] 15 N.C. ADMIN. CODE 3J.0104(d) (2014).
[31] *See* N.C. GEN. STAT. § 153B-289.56(a) (2014) (requiring the Commission to meet at least once each quarter). *See also* 15A N.C. ADMIN. CODE 03J.0104(d) (requiring that the Fisheries Director get consent from the Commission to issue proclamations).
[32] *See Proclamation Re: Shrimp Trawling N.C. Bycatch Reduction Device (BRD) Specifications* (SH-3-2012), N.C. DIV. MARINE FISHERIES (May 24, 2012), *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=79d27a57-6b0b-4664-b6ae-2df70a3ca132&groupId=38337.
[33] 15 N.C. ADMIN. CODE 3H.0103(a) (2014).
[34] *See Amendment 1*, *supra* note 17, at 284 (referring to N.C. GEN. STAT. 150B-19.3 (2014)).
[35] *See* 16 U.S.C. § 1811 (2012).
[36] 16 U.S.C. § 1851(a)(9) (2012).

Atlantic EEZ.[37] Generally speaking, the MSA does not pre-empt state fishery management plans that regulate fishing activity in state territorial waters only.[38] Further, the MSA preserves states' jurisdiction to develop fishery management plans for fisheries in state waters.[39] A state's waters include waters within three miles of its coast line.[40] The State of North Carolina has the authority to regulate fishing activities within its waters. The North Carolina General Assembly delegated all regulatory authority over marine resources "to the extent of the State jurisdiction over the resources" to the MFC.[41] In sum, the MFC and DMF should re-consider its position requiring the use BRDs and adopt a rule requiring the use of such devices in North Carolina waters.[42]

The MFC further proposes closing certain areas to trawling. Specifically, the MFC proposes closing the New River to trawl nets except skimmer trawls upstream from the N.C. Highway 172 Bridge.[43] The 2006 shrimp FMP proposed closing these areas to otter trawls over a four-year period because this area includes fragile nursery areas.[44] In furtherance of that recommendation in the 2006 shrimp FMP, this area has been closed to trawling for many years by proclamation by the Fisheries Director.[45] This proposed rule follows through on the 2006 shrimp FMP recommendation and permanently closes this special secondary nursery area to

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[37] *See* 50 C.F.R. § 622.207(a) (2014). *See also* 50 C.F.R. Part 622, Appendix D (outlining specifications for certified BRDs).

[38] *See, e.g.*, *Louisiana Seafood Management Council, Inc. v. Foster*, 917 F.Supp. 439, 443-34 (E.D.La. 1996) (upholding a Louisiana law that attempted to regulate fishing activity in state territorial waters and finding that the law was not pre-empted by MSA because the state did not attempt to enforce the state law in the exclusive economic zone).

[39] *See* 16 U.S.C. § 1856(a) ("Except as provided in subsection (b) of this section, nothing in this chapter shall be construed as extending or diminishing the jurisdiction or authority of any State within its boundaries.").

[40] *See* 43 U.S.C. § 1312 (2012).

[41] N.C. GEN. STAT. § 113-134.1 (2014).

[42] Under Amendment 1, the MFC has proposed only to convene a stakeholder group to test BRDs, including minimum tail bag mesh sizes, T-90 panels, skylight panels, and reduced bar spacing in TEDs to reduce finfish bycatch. *See Amendment 1*, *supra* note 17, at 27 (outlining all of the Commission's preferred management strategies under Amendment 1 and listing the convening of a stakeholder group to initiate industry testing of multiple BRDs with a 40 percent bycatch reduction target). As discussed above, the MFC should adopt a BRD requirement as part of the current proposed changes to MFC rules and enforce such a requirement. At the very least, however, NCWF encourages the MFC to expedite the work of the stakeholder group and provide the public progress reports on the status of the group's study of BRDs.

[43] 29:07 N.C. Reg. at 735, 744 (proposing an amendment to 15A N.C. ADMIN. CODE 03J.0208).

[44] *2006 Shrimp FMP*, *supra* note 16, at 97. *See also* 15A N.C. ADMIN. CODE 03R.0105(7) (2014) (designating all waters upstream of the N.C. Highway 172 Bridge over the New River as special secondary nursery areas).

[45] *See Proclamation Re: 2011 Shrimping and Crab Trawling* (SH-10-2011), N.C. DIV. MARINE FISHERIES (Aug. 15, 2011) , *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=4432d317-88ba-4092-b757-278577c32614&groupId=38337 (prohibiting the use of otter trawls upstream of Highway 172 Bridge over the New River after August 17, 2013); *Proclamation Re: Shrimp and Crab Trawling* (SH-2-2012), N.C. DIV. OF MARINE FISHERIES (Apr. 27, 2012), *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=24650202-b862-444d-b9c3-945051fde4a9&groupId=38337 (prohibiting otter trawls upstream of the Highway 172 Bridge over the New River after May 1, 2012); *Proclamation Re: 2013 Shrimping and Crab Trawling* (SH-7-2013), N.C. DIV. MARINE FISHERIES (Aug. 26, 2013), *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=a51a305f-954d-43d7-bc5a-ab0848fdb561&groupId=38337 (prohibiting the use of otter trawls upstream of the Highway 172 Bridge over the New River after Aug. 30, 2013).

damaging otter trawling. MFC also proposes closing the Intracoastal Waterway channel from the Sunset Beach Bridge south to the South Carolina line, including the Shallotte River, Eastern Channel, and lower Calabash River to trawling.[46] This change was also contemplated during the development of the 2006 shrimp FMP.[47] Much of the area covered by this rule has been closed to trawling by proclamation.[48] The areas covered by this proposed rule are important habitat for young and small shrimp and juvenile finfish, and should be protected from destructive shrimp trawls.[49] NCWF strongly supports these changes to existing MFC rules. NCWF encourages the MFC to limit trawling in additional inshore waters, as well. Specifically, NCWF asks the MFC to re-designate nursery areas to take into consideration all economically beneficial species to the commercial and recreational fishing industries. Primary, secondary, and special secondary nursery areas are fragile estuarine and marine areas supporting juvenile finfish, and these areas should be permanently closed under MFC regulations.[50]

The MFC proposes restructuring the rule granting the Fisheries Director authority to "impose . . . restrictions" on time, area, means and methods, season, size, and quantity for the taking of shrimp.[51] The language of this proposed rule broadens the Fisheries Director's discretion to impose restrictions without providing any criteria guiding the imposition of such restrictions, including, notably, the Director's discretion to restrict areas open to the taking of shrimp. Despite language in the regulation indicating that this proclamation power is only to "impose . . . restrictions," NCWF is concerned that the lack of language limiting the proclamation power may be read to allow the Fisheries Director to open protected areas to shrimp trawling. The exercise of proclamation power described in this section must be limited by existing MFC rules permanently closing primary, secondary, and special secondary nursery areas and other designated areas to trawling. As noted above, designated nursery areas are important spawning grounds for juvenile finfish and are protected under MFC rules.[52] The Director should be guided by conservation principles in exercising proclamation authority under this proposed rule.

Finally, the MFC proposes restricting the taking of shrimp until the Director opens the season;[53] allowing hand cast netting of shrimp in areas currently closed to the taking of shrimp[54];

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[46] 29:07 N.C. Reg. at 737, 795 (proposing an amendment to 15A N.C. ADMIN. CODE 03R.0114).
[47] *See Amendment 1*, *supra* note 17, at 342. *See also 2006 Shrimp FMP*, *supra* note 16, at 102.
[48] *See, e.g. Proclamation Re: Crab Trawling and Taking Shrimp With Nets* (SH-10-2014), N.C. DIV. MARINE FISHERIES (Sept. 17, 2014), *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=43d0c8ca-47c1-4491-80b1-c648234f9c5e&groupId=38337 (closing the Intracoastal Waterway west of Sunset Beach High Rise Bridge to the South Carolina line to shrimp trawls). *But see Proclamation Re: Crab Trawling and Taking Shrimp with Nets* (SH-14-2014), N.C. DIV. OF MARINE FISHERIES (Oct. 28, 2014), *available at* http://portal.ncdenr.org/c/document_library/get_file?uuid=7fa5d873-3178-4cf9-a14f-dee81551a392&groupId=38337 (opening only the main channel of the Intracoastal Waterway from Sunset Beach High Rise Bridge to the South Carolina line to shrimp nets).
[49] See text and notes accompanying *supra* note 5.
[50] 15A N.C. ADMIN. CODE 3N.0101 – 0105 (2014).
[51] 29:07 N.C. Reg. at 736, 747-48 (proposing an amendment to 15A N.C. ADMIN. CODE 03L.0101(a)-(b)).
[52] *See* text accompanying *supra* note 4.
[53] *Id.* at 736, 747 (proposing an amendment to 15A N.C. ADMIN. CODE 03L.0101(a)).
[54] *Id.* at 736, 748 (proposing an amendment to 15A N.C. ADMIN. CODE 03L.0105 (1)-(2)).

and increasing the amount of shrimp that may be taken from these areas.[55] NCWF does not oppose these amendments.

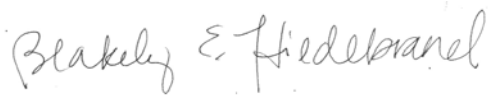
Conclusion

Moving forward, NCWF encourages the MFC to establish rational and sustainable goals for bycatch reduction in the shrimp trawl fishery, adopt meaningful management strategies to achieve those goals, set a timetable for implementing management strategies, enforce the implementation of these strategies, evaluate the status of the management strategies, and update management strategies as needed. To this end, MFC should consider limiting tow times, creating seasons for shrimping, requiring monitoring and reporting of bycatch from all commercial and recreational fishermen, and establishing a goal of reducing finfish bycatch by 40 percent.[56] Further, the MFC should incorporate the findings and goals of the Coastal Habitat Protection Plan into the 2006 shrimp FMP.[57]

In sum, the MFC had an opportunity to meaningfully address issues associated with bycatch, taking into account the overwhelming evidence that the level of bycatch in inshore waters is unacceptably high and the public call for efforts to reduce bycatch. The MFC's proposed rules fall short of implementing meaningful strategies to reduce the level of bycatch in North Carolina inshore waters, protecting juvenile finfish and their habitat, and ensuring sustainable fisheries resources management. NCWF encourages MFC to consider the recommendations discussed herein when adopting rules implementing Amendment 1 to the 2006 shrimp FMP.

Thank you in advance for your consideration of these comments.

Sincerely,



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[55] *Id.*
[56] *See Amendment 1*, *supra* note 17, at 356 (outlining MFC's preferred management strategies).
[57] *See North Carolina Coastal Habitat Protection Plan*, N.C. DEP'T. OF ENV'T AND NATURAL RES. (Dec. 2010), *available at* http://portal.ncdenr.org/web/mf/59.

Division of Marine Fisheries' Overview of Amendment 1 to the Shrimp Fishery Management Plan March 2014

The goal of the N.C. Shrimp Fishery Management Plan is to utilize a management strategy that provides adequate resource protection, optimizes the long-term commercial harvest, maximizes social and economic value, provides sufficient opportunity for recreational shrimpers, and considers the needs of all user groups. At the outset of the most recent review of the plan, the division concluded the current management strategies in the plan were continuing to meet the goal and objectives and recommended proceeding with a revision, or simple update of the plan. Review of the draft revision by several advisory committees of the N.C. Marine Fisheries Commission yielded an overwhelming number of concerns from the public about bycatch in the shrimp trawl fishery. As a result, the N.C. Division of Marine Fisheries recommended proceeding with an amendment to the plan. The Marine Fisheries Commission concurred, and limited the scope of the amendment to bycatch issues in the commercial and recreational fisheries.

Shrimp trawling is a controversial topic and has been the subject of much debate. In the original 2006 plan, management strategies were developed to address the issues of trawling, specifically focusing on bycatch and habitat. The plan also addressed the issues of insufficient bycatch data and competition among shrimp fishermen and with other user groups. These strategies will remain in place in Amendment 1. Gear studies and shrimp trawl characterization studies have also been carried out and will continue to be addressed in the future.

For Amendment 1, the division presented 29 management options to the Shrimp Fishery Management Plan Advisory Committee to address eight different issues. The Marine Fisheries Commission's preferred management strategies addressing bycatch issues in the shrimp fisheries include:

- Convene a stakeholder group to initiate industry testing of minimum tail bag mesh size, T-90 panels, skylight panels, and reduced bar spacing in turtle excluder devices to reduce bycatch to the extent practicable with a target of 40-percent reduction;
- Require either a T-90 panel, square-mesh tailbag or other applications of square mesh panel, reduced bar spacing in a turtle excluder device, or another federal or state certified bycatch reduction device in addition to existing required devices in all skimmer and otter trawls;
- In order to put a cap on fleet capacity as a management tool, establish a maximum combined headrope length of 220 feet in all internal coastal waters where there are no existing maximum combined headrope requirements, allowing a two-year phase-out period; and
- Prohibit shrimp trawling in the Intracoastal Waterway channel from the Sunset Beach Bridge to the South Carolina line, including Eastern Channel, lower Calabash River and Shallotte River.

Amendment 1 also includes prioritized lists of research and data needs.

Following the review of Amendment 1 by the Department of Environment and Natural Resources secretary and the Joint Legislative Commission on Governmental Operations, the draft plan will be presented to the Marine Fisheries Commission for procedural approval and to begin the rulemaking process. The Marine Fisheries Commission will consider final approval of Amendment 1 and the implementing rules in November 2014.

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:
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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

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 access 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 CONVERED 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, Solengastrea (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 ~~SEASON~~SHRIMP 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;

(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° 56.3658' N - 76° 48.7110' W at Cherry Point; running northerly to a point 34° 57.9116' N - 76° 48.2240' W at ~~Wilkerson~~ Wilkinson Point.

(4) Shallotte River - all waters upstream of a line beginning at a point 33° 54.8285' N - 78° 22.3657' W on the west side of Shallotte River; running southeasterly to a point 33° 54.6276' N - 78° 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° 52.6734' N - 78° 28.7339' W at Jinks Creek; running southerly to a point 33° 52.5942' N - 78° 28.6759' W at Tubbs Inlet; and south and west of a line beginning at a point 33° 53.6266' N - 78° 26.6262' W; running easterly to a point 33° 53.6501' N - 78° 26.5635' W.

(6) Sunset Beach - all waters of the IWW west of a line beginning at a point 33° 52.9247' N - 78° 30.7041' W on the north end of the Highway 1172 Bridge; running southerly to a point 33° 52.8417' N - 78° 30.6490' W at the south end of the bridge.

(7) Calabash River - all waters west of a line beginning at a point 33° 53.4368' N - 78° 32.9720' W on the north end of the Highway 1164 Bridge; running southerly to a point 33° 53.3534' N - 78° 32.9720' W at the south end of the bridge.

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

Division of Marine Fisheries' Overview of Amendment 2 to the Bay Scallop Fishery Management Plan
March 2014

The goal of the N.C. Bay Scallop Fishery Management Plan is to implement a management strategy that restores the stock, maintains sustainable harvest, maximizes the social and economic value, and considers the needs of all user groups. Bay scallops are considered an annual crop because of their short life span. Their populations are more affected by environmental conditions such as temperature, salinity, habitat, and water quality than fishing pressure. Although fishing does reduce the population size over a fishing season, fishing would not normally reduce year class strength for the following year unless the spawning stock has been reduced below some minimum threshold.

Maintenance and improvement of suitable estuarine habitat and water quality are important factors in providing a sustainable bay scallop stock. In recent years, harvest has decreased to essentially no landings because of recruitment limitations resulting from a red tide event in 1987, several hurricanes in the 1990's and predation. Improving data collection on the biology, harvest, environment, enhancement, and socioeconomic aspects relative to bay scallops is recommended throughout Amendment 2 to provide more comprehensive information for assisting in future management decisions. The statutory obligation to manage bay scallops according to sustainable harvest cannot be met until the appropriate data are collected.

The N.C. Marine Fisheries Commission's preferred management strategy for bay scallops is to allow the N.C. Division of Marine Fisheries director to open a region to limited bay scallop harvesting when sampling indicates bay scallop abundance is at 50 percent of the target set specifically to a region. Trip limits and fishing days will progressively increase if sampling shows bay scallop abundance improves. The open season may only occur from the last Monday in January through April 1 to ensure spawning is complete before harvest and the economic yield is at an optimum for fishermen.

Issues addressed in formulating the fishery management plan for North Carolina's bay scallop population include:

- Expand sampling for estimating annual abundance;
- Implement stock enhancement measures;
- Allow harvest of bay scallops on aquaculture operations during closed public seasons and at greater daily quantities (this is currently allowed for clams and oysters on leases); and
- Maintain and improve habitat and water quality conditions for bay scallops.

The plan also includes a prioritized list of research recommendations.

Following the review of Amendment 2 by the Department of Environment and Natural Resources secretary and the Joint Legislative Commission on Governmental Operations, the draft plan will be presented to the Marine Fisheries Commission for procedural approval and to begin the rulemaking process. The Marine Fisheries Commission will consider final approval of Amendment 2 and the implementing rules in November 2014.

FISCAL IMPACTS OF PROPOSED AMENDMENTS TO THE N.C. BAY SCALLOP FISHERY MANAGEMENT PLAN

Rule Amendments: 15A NCAC 03K .0111 PERMITS TO USE MECHANICAL METHODS FOR SHELLFISH ON SHELLFISH LEASES OR FRANCHISES
15A NCAC 03K .0206 PERMITS TO USE MECHANICAL METHODS FOR OYSTERS OR CLAMS ON SHELLFISH LEASES OR FRANCHISES
15A NCAC 03K .0303 PERMITS TO USE MECHANICAL METHODS FOR OYSTERS OR CLAMS ON SHELLFISH LEASES OR FRANCHISES REQUIREMENT
15A NCAC 03K .0501 BAY SCALLOP HARVEST MANAGEMENT
15A NCAC 03K .0502 TAKING BAY SCALLOPS AT NIGHT AND ON WEEKENDS
15A NCAC 03K .0507 MARKETING SCALLOPS TAKEN FROM SHELLFISH LEASES OR FRANCHISES
15A NCAC 03K .0508 SCALLOP SEASON AND HARVEST LIMIT EXEMPTION
15A NCAC 03O .0501 PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS

Name of Commission: N.C. Marine Fisheries Commission

Agency Contact: John Hadley, Fisheries Economics Program Manager
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Impact Summary:

State government:	No
Local government:	No
Federal government:	No
Substantial impact:	No

Authority: North Carolina General Statues 113-134 (Rules); 113-168.4 (Sale of Fish); 113-169.1 (Permits for Gear, Equipment, and Other Specialized Activities Authorized; 113-182 (Regulation of Fishing and Fisheries); 113-201 (Legislative Findings and Declaration of Policy; Authority of Marine Fisheries Commission); 143B-289.52 (Marine Fisheries Commission – Powers and Duties); North Carolina Marine Fisheries Commission Rules 15A NCAC 03I .0101 (Definitions); 03K .0102 (Prohibited Rakes); 03K .0105 (Recreational Harvest of Shellfish); 03K .0501 (Bay Scallop Harvest Management); 03K .0502 Taking Bay Scallops at Night and on Weekends); 03K .0503 (Prohibited Bay Scallop Dredge); 03O .0501 (Procedures and Requirements to Obtain Permits); 03O .0502 (Permit Conditions; General)

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. Bay Scallop Fishery Management Plan (FMP) to ensure adequate management of the bay scallop resource in state waters. Specifically, the rule changes address two separate issues and propose to:

1) Modify 15A NCAC 03K .0501 to eliminate the open season for bay scallops from August 1 through September 15, adjust the maximum daily commercial harvest possession limit to be consistent with the adaptive management trip limit measures, and clarify proclamation authority of the Fisheries Director to manage bay scallop harvest.

2) Modify 15A NCAC 03K .0501, 03K .0502, and 03O .0501; adopt 03K .0111, 03K .0507, and 03K .0508; and repeal 03K .0206 as well as 03K .0303 to encourage bay scallop aquaculture in North Carolina. Specifically, these rule changes provide exemption for leaseholders and aquaculture operations from the public bottom commercial season, gear, and harvest limits for cultured bay scallops and allow the sale of bay scallops for further grow out.

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

1. Bay Scallop Harvest Management (15A NCAC 03K .0501)

I. Summary

The proposed rule change seeks to improve the management of the bay scallop fishery and population by removing the August 1 through September 15 season, adjusting the daily commercial harvest possession limit to be consistent with adaptive management trip limit measures, and clarifying proclamation authority in regards to the management of the bay scallop fishery. These measures will help improve public clarity of proclamation authority for the bay scallop fishery, may improve scallop yields and extend the scallop harvest throughout the season in years when the commercial season is opened, and help wild bay scallop populations recover. NCDMF expects costs associated with the rule change to vary from year to year but remain far below the $1 million per year substantial economic impact threshold (potential impacts discussed below).

II. Introduction and Purpose of Rule Changes

North Carolina's bay scallops are listed as a species of concern in the annual Stock Status Report due to population declines[1]. The current management of the commercial and recreational fisheries for bay scallops includes an adaptive management strategy that opens by region (Pamlico Sound, Core Sound, Back Sound, and Bogue Sound to the state-line with South Carolina). The adaptive management strategy determines whether the season will open, sets the allowable gears, days of the week that the fishery is open, and length of the season based on target abundance levels of bay scallops according to N.C. Division of Marine Fisheries (NCDMF) field sampling (Table 1 and Table 2.)

[1] NCDMF Stock Status Report 2014. http://portal.ncdenr.org/web/mf/2014-stock-status-report.

Table 1. Current adaptive management measures for opening the bay scallop commercial fishery based on progressive triggers derived from NCDMF field sampling.

Progressive triggers and target	Trip limit	Days open in the week	Allowed gears	Season
Less than 50% of target	No allowed harvest			
50% or greater and less than 75% of target	10 bushels per person per day not to exceed 20 bushels per fishing operation	Mon and Wed	By hand, hand rakes, hand tongs, dip net, and scoops	Last Monday in January to April 1st
75% or greater and less than 125% of target	10 bushels per person per day not to exceed 20 bushels per fishing operation	Mon, Tues, Wed, and Thurs	By hand, hand rakes, hand tongs, dip net, and scoops	Last Monday in January to April 1st
125% or greater of target	10 bushels per person per day not to exceed 20 bushels per fishing operation	Mon, Tues, Wed, and Thurs	By hand, hand rakes, hand tongs, dip net, and scoops	Last Monday in January to April 1st
	15 bushels per person per day not to exceed 30 bushels per fishing operation	Mon and Wed	Bay scallop dredges as described by rule 15A NCAC 03K. 0503	Delay opening until first full week in March after hand harvest removes scallops from shallow waters to April 1st

Table 2. Current adaptive management measures for opening the bay scallop recreational fishery based on progressive triggers derived from NCDMF field sampling.

Progressive triggers and target	Trip limit	Days open in week	Allowed gears	Season
Less than 50% target	No allowed harvest			
50% or greater of target	1 bushel per person per day not to exceed 1 bushel per recreational fishing operation	Thurs, Fri, Sat, and Sun	By hand, hand rakes, hand tongs, dip net, and scoops	Last Monday in January to April 1st

Seasonal closures for bay scallops are intended to protect a portion of the stock in order to increase biomass and/or potential spawning for the next generation with the least impact to fishermen. This management measure has also been used by NCDMF for bay scallops in order to improve the economic yield to fishermen by opening the season when meat counts (number of scallop adductor meats/pound) are increasing. In bay scallops, adductor meat is the part of the bay scallop that is sold and consumed. Adductor meat weights tend to be lowest during the fall when gonad development is high[2].

[2] Kellogg, R. L. and D. Spitsbergen. 1983. Predicative growth model for the meat weight (adductor muscle) of bay scallops in North Carolina. Grant Number NA81AA-D-00026. Office of Sea Grant, NOAA. U. S. Department of Commerce and North Carolina Department of Administration. UNC Sea Grant Publication UNC-SG-83-6. Raleigh, NC. 44 pp.

Part of the modifications to rule 15A NCAC 03K .0501 will eliminate the August 1 to September 15 commercial and recreational bay scallop season that is allowable under certain circumstances under the current rule . NCDMF has not opened this late-summer bay scallop season since 2003 as a means to improve the yield of the fishery by delaying the harvest to a time when adductor meat yields are higher. The winter-to-early-spring season allows for the completion of spawning and an increase in meat size in order to obtain the highest yield. For this reason, the proposed rule would eliminate the late-summer season and restrict the opening of the bay scallop fishery to the winter-and-early-spring season only.

NCDMF also proposes lowering the commercial harvest limit from a maximum of 20 bushels per person per day or 40 bushels per commercial fishing operation to 15 bushels per person per day or 30 bushels per commercial fishing operation to be consistent with the N.C. Marine Fisheries Commission (NCMFC) selected adaptive management trip limit measures. The proposed rule change regarding bay scallop trip limits does not necessarily change the current management of the bay scallop fishery, but aligns with the selected management of the fishery and removes the ability to raise limits beyond what is being proposed in rule. These measures are designed to help preserve the bay scallop resource as well as prolong the commercial season for bay scallops by helping to extract the bay scallop resource at a slower pace in years of high bay scallop abundance, thereby helping to reduce the diminishing harvest of bay scallops often observed as the season progresses.

Additional rule changes to the proclamation authority for the management of the bay scallop fishery are put forth as part of an ongoing attempt to standardize rule language granting proclamation authority across 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.

III. Costs

The proposed rule changes are expected to have variable – but minimal – costs. In many recent years, the bay scallop season has not opened at all due to populations being too low for harvest. In seven of the past ten years (2005 to 2014), no commercial bay scallop landings have been recorded. In two of the three years that the commercial bay scallop season was opened, recorded annual landings were valued at $124,296 and $9,506. In the third year, the landings value is not available for release due to confidentiality requirements as a result of the low number of participants or dealers in the fishery that year.[3] Based on the high variability of landings in the commercial bay scallop fishery, it is very difficult to predict costs stemming from the proposed rule changes with any confidence.

The proposed rules could impose some costs on fishermen in years that the fishery is opened and bay scallops are abundant due to the proposed limits restricting fishermen to five fewer bushels of bay scallops per person per day or 10 fewer bushels of bay scallops per commercial fishing operation per day. The yield of adductor meat per bushel varies, as does the quality of

[3] When the number of participants or dealers in a fishery or area being examined is less than three, landings and value information may not be provided to the general public in order to maintain compliance with N.C. General Statute § 113-170.3.

the meat; however, assuming each bushel of scallops yields five pounds of adductor meat[4] that has an ex-vessel value of approximately $7 per pound[5], each bushel of bay scallops has an ex-vessel value of approximately $35. Based on these estimates, fishermen may face up to $175 per trip in reduced bay scallop landings and/or each fishing operation may face up to $350 per trip in reduced bay scallop landings. This should be viewed as an upper-bound cost estimate, as the season for bay scallops is not opened every year, and when the season is opened, the trip limit has not often been set above 15 bushels per fisherman or 30 bushels per fishing operation. Also, some of these costs may be offset from an extended harvest for commercial bay scallop fishermen and/or by improved prices for bay scallops due to less likelihood of flooding the bay scallop market.

The elimination of the fall season for bay scallops may impose some costs for both commercial and recreational participants by prohibiting fishermen from earning income from bay scallops or recreating by taking bay scallops during this season. While participants in the commercial and recreational fishery may face some costs from the permanent closure of the fall fishery, these costs are expected to be offset by increases in the adductor meat yield per scallop from bay scallops harvested later during the winter season.

IV. Benefits

This proposed rule change will help improve public clarity of proclamation authority for the bay scallop fishery. Additionally this rule change may improve bay scallop yields and price, extend the bay scallop harvest throughout the season in years when the season is opened, and help wild bay scallop populations recover.

2. Private Culture Exemptions for Bay Scallops (15A NCAC 03K .0111, 03K .0206, 03K .0303, 03K .0501, 03K .0502, 03K .0507, 03K .0508, and 03O .0501)

I. Summary

The proposed rule changes are to modify 15A NCAC 03K .0501, 03K .0502, and 03O .0501; adopt 03K .0111, 03K .0507, and 03K .0508; and repeal 03K .0206 as well as 03K .0303 to introduce new shellfish leaseholder rules to exempt bay scallop harvest from the public commercial season and daily harvest limits, and allow the sale of bay scallop seed for further grow out. NCDMF is proposing these rule changes to promote the aquaculture of bay scallops.

II. Introduction and Purpose of Rule Changes

NCDMF has observed an increased interest in bay scallop culture in North Carolina in recent years. With wild bay scallop populations being consistently low, fishermen are seeking alternative methods to harvest bay scallops. Commercial culture of bay scallops is administered through the shellfish lease program; however, commercial bay scallop culture is not currently practiced on any North Carolina shellfish leases.

[4] MacKenzie, Jr. , C. 2008. The Bay Scallop, Argopecten irradians, Massachusetts Through North Carolina: Its Biology and the History of Its Habitats and Fisheries. Marine Fisheries Review, 70(3-4), pp. 5-79.

[5] 2013 NCDMF Trip Ticket Program Data.

N.C. Marine Fisheries Commission rules are in place that exempt oysters and clams from season and harvest restrictions in oyster and clam aquaculture operations. Bay scallop aquaculture operations are not exempt from the regular commercial season and daily harvest limits. The lack of exemption limits shellfish leaseholders and franchise owners to only the open commercial public harvest period, which does not open in some years due to low populations of wild bay scallops. One pilot study to culture bay scallops in Core Sound found that bay scallops would likely expire naturally before the harvest season could be opened due to their short lifespan[6]. Shellfish leases and franchises are able to apply for permits to harvest oysters and clams by mechanical harvest methods, but existing rules do not authorize the use of mechanical methods for the harvest of bay scallops.

To address the issue of utilizing mechanical harvest methods on shellfish leases and franchises with bay scallops, NCDMF proposes repealing 15A NCAC 03K .0206 and 03K .0303 and replacing those rules with 03K .0111 and rule changes in 03O .0501 to be inclusive of all shellfish leases and franchises, not just those for oysters and clams. Additionally, NCDMF is proposing to adopt 03K .0508 and amend 03K .0501 and 03K .0502 to exempt bay scallops grown on private bottom from provisions implemented to protect wild bay scallop populations. These rule changes will allow shellfish lease and franchise holders to possess bay scallops outside of the commercial wild-harvest season, on weekends, and in numbers above the wild-harvest commercial limits for both adult and seed specimens. As an additional measure for these exemptions, NCDMF is proposing to adopt 15A NCAC 03K .0507 to require proper documentation of grown bay scallops for law enforcement purposes. It is worth noting that in the absence of the proposed rule changes, bay scallop aquaculture will likely not occur on a commercial scale, as provisions are needed to exempt these cultured scallops from regulations aimed at regulating wild harvest.

III. Costs

NCDMF expects costs stemming from the proposed rule changes to be minimal. There is little risk to the wild bay scallop population from the cultivation of bay scallops, as there are disease assessment protocols in place for importation of seed shellfish to prevent the spread of disease to both cultivated and wild shellfish populations. Furthermore, NCDMF staff is not aware of incidences of cultivated native species of shellfish in North Carolina or surrounding states negatively impacting wild shellfish populations.

There are currently no commercial aquaculture operations that grow bay scallops outside of experimental test plots. Therefore, rule changes will not affect or impose costs on current shellfish growers. The proposed rule changes do require reporting and documentation for operations that may be interested in commercial-scale growing of bay scallops; however, these requirements are identical to those required for the growing of clams and oysters. Consequently, NCDMF expects the incremental costs of the reporting requirements within the proposed rules to be minor, and shellfish growers will likely be familiar with the process.

For shellfish lease or franchise reporting requirements, upon annual payment for leased public water column or bottom, a lease holder must report the amount of shellfish harvested from a lease as well as the amount of cultch planted if applicable. Additionally, lease holders must

[6] Hooper, M. 2011. Pilot project to investigate the feasibility of bay scallop (*Argopecten irradians*) mariculture in coastal North Carolina. North Carolina Fishery Resource Grant.06-AM-08. North Carolina Sea Grant. Raleigh, NC. 11 pp.

provide buyers of their product with certification that the shellfish were harvested from their lease. The amount of time needed and resulting opportunity cost to meet this reporting requirement will vary among individuals depending on recordkeeping efforts. NCDMF estimates that these reporting requirements will require 10 or fewer hours per year per lease. As an upper estimate of the opportunity cost per operation due to reporting requirements within the proposed rule language, a shellfish grower would incur approximately $195 in opportunity costs per year per lease, assuming only bay scallops were grown on a shellfish lease. This estimate is based on the US Bureau of Labor Statistics 2013 mean hourly wage for farming, fishing, and forestry workers of $13.09 per hour[7] and benefits equivalent to approximately 33% of total compensation[8].

There are currently 242 active public bottom or water column leases in North Carolina. NCDMF expects that the extent to which the aquaculture of bay scallops will be carried out will likely be relatively low in the first five years after implementation, as it will likely take several years to achieve bay scallop growing practices that provide an adequate return on investment for growers. Additionally, bay scallops will likely be grown on leases with other shellfish. Therefore, reporting requirements may be for shellfish other than bay scallops and would fall outside the scope of the proposed rule changes. Therefore, it is difficult to estimate with certainty the total opportunity costs that may be imposed by reporting requirements specifically for cultured bay scallops. The sensitivity analysis presented in Table 3, however, provides what NCDMF expects to be a reasonable range for these opportunity costs. Overall opportunity costs from meeting reporting requirements for leases due to the proposed rule changes are not expected to be above $7,100 annually.

Table 3. Sensitivity analysis of estimated opportunity costs being imposed by reporting requirements in proposed rule changes for the culture of bay scallops.

Percent of Total Reporting Requirement Stemming from Cultured Bay Scallops	Estimated Opportunity Cost
5%	$2,360
7.5%	$3,539
10%	$4,719
12.5%	$5,899
15%	$7,079

IV. Benefits

Allowing bay scallops to be harvested on shellfish leases and franchises outside of the public open season, above the daily harvest limits, and with mechanical gear, may benefit shellfish growers economically, encourage production for markets outside of the regular season, take some pressure off the wild stock, and will make the management practice of growing bay scallops consistent with other shellfish species grown on shellfish leases and franchises. It is difficult to quantify the benefits of the proposed rule changes, as commercial bay scallop aquaculture is currently not occurring in North Carolina. NCDMF staff estimate that with the proposed rule changes in place and improved growing practices, it is feasible that bay scallop

[7] United States Department of Labor Bureau of Labor Statistics. May 2013 State Occupational Employment and Wage Estimates North Carolina. http://www.bls.gov/oes/current/oes_nc.htm#45-0000.
[8] United States Department of Labor Bureau of Labor Statistics. Employer Costs for Employee Compensation- March 2014. http://www.bls.gov/news.release/pdf/ecec.pdf.

aquaculture in the state could produce a bay scallop harvest worth tens of thousands of dollars or more annually.

3. Comprehensive Statement of Costs and Benefits

Rule changes associated with the Bay Scallop Fishery Management Plan are expected to have aggregate costs and benefits below the impact threshold of $1 million in aggregate costs and benefits considered a rule change with a substantial economic impact. Specifically:

1) Modification of 15A NCAC 03K .0501 helps improve public clarity of proclamation authority for the bay scallop fishery. Additionally this rule change may improve scallop yields and price, extend the bay scallop harvest when the season is opened, and help bay scallop populations recover. Costs associated with this rule change are expected to be variable but relatively minor. Some costs will be imposed in years that the fishery is opened due to fishermen being limited up to five fewer bushels of bay scallops per person per day or 10 fewer bushels of bay scallops per commercial fishing operation, should these bay scallops be caught or able to be caught on commercial trips.

2) Modification of 15A NCAC 03K .0501, 03K .0502, and 03O .0501; adoption of 03K .0111, 03K .0507, and 03K .0508; and repeal of 03K .0206 and 03K .0303 will help encourage the cultivation of bay scallops in North Carolina. This will benefit leaseholders economically, encourage production for markets outside of the regular season, may take some pressure off the wild stock, and will make the management practice of growing bay scallops consistent with other shellfish species grown on shellfish leases and franchises. While the extent to which bay scallops will be cultured after the rule changes are in place is unknown, it is feasible that bay scallop aquaculture in the state could produce bay scallop meat worth tens of thousands of dollars or more annually. There will be no immediate costs incurred by the proposed rule changes, as there are no commercial shellfish production operations currently growing bay scallops. Growers would incur some costs in the future due to reporting requirements for operations growing bay scallops; however, these requirements are identical to those required for the growing of clams and oysters. NCDMF expects overall costs to be $7,100 or less annually.

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

Rule	Estimated Cost	Estimated Benefit
15A NCAC 03K .0111	Unquantified	Unquantified
15A NCAC 03K .0206	Unquantified	Unquantified
15A NCAC 03K .0303	Unquantified	Unquantified
15A NCAC 03K .0501	Unquantified	Unquantified
15A NCAC 03K .0502	Unquantified	Unquantified
15A NCAC 03K .0507	Unquantified	Unquantified
15A NCAC 03K .0508	Up to $7,100 annually	Unquantified
15A NCAC 03O .0501	Unquantified	Unquantified

Appendix: Proposed Rule Changes

15A NCAC 03K .0111 PERMITS TO USE MECHANICAL METHODS FOR SHELLFISH ON SHELLFISH LEASES OR FRANCHISES

(a) Permits to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises shall be issued in compliance with the general rules governing all permits in 15A NCAC 03O .0500. The procedures and requirements for obtaining permits are also found in 15A NCAC 03O .0500.

(b) It is unlawful to harvest shellfish by the use of mechanical methods from shellfish leases or franchises without first obtaining a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises.

Authority G.S. 113-134; 113-169.1; 113-182; 143B-289.52

15A NCAC 03K .0206 is proposed for repeal as follows:

15A NCAC 03K .0206 PERMITS TO USE MECHANICAL METHODS FOR OYSTERS OR CLAMS ON SHELLFISH LEASES OR FRANCHISES

~~(a) Permits to Use Mechanical Methods for Oysters or Clams on Shellfish Leases or Franchises shall be issued in compliance with the general rules governing all permits in 15A NCAC 03O .0500. The procedures and requirements for obtaining permits are also found in 15A NCAC 03O .0500.~~

~~(b) It is unlawful to harvest oysters by the use of mechanical methods from shellfish leases or franchises without first obtaining a Permit to Use Mechanical Methods for Oysters or Clams on Shellfish Leases or Franchises.~~

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

15A NCAC 03K .0303 is proposed for repeal as follows:

15A NCAC 03K .0303 PERMITS TO USE MECHANICAL METHODS FOR OYSTERS OR CLAMS ON SHELLFISH LEASES OR FRANCHISES REQUIREMENT

~~(a) Permits to Use Mechanical Methods for Oysters or Clams on Shellfish Leases or Franchises shall be issued in compliance with the general rules governing all permits in 15A NCAC 03O .0500. The procedures and requirements for obtaining permits are also found in 15A NCAC 03O .0500.~~

~~(b) It is unlawful to harvest hard clams by the use of mechanical methods from shellfish leases or franchises without first obtaining a Permit to Use Mechanical Methods for Oysters or Clams on Shellfish Leases of Franchises.~~

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

15A NCAC 03K .0501 BAY ~~SCALLOPS - SEASONS AND~~ SCALLOP HARVEST ~~LIMITS~~ MANAGEMENT

~~(a) The Fisheries Director may, by proclamation, specify open seasons and methods for the taking of bay scallops during the following periods:~~

~~(1) From the last Monday in January through the last Friday in May; and~~

~~(2) From August 1 through September 15 by hand harvest methods only as described by proclamation.~~

~~(b)~~ The Fisheries Director may, by proclamation, impose any or all of the following restrictions for ~~any~~ commercial or recreational ~~open season:~~bay scallop harvest from public bottom:

(1) ~~Specify number of days;~~ specify time;

(2) ~~Specify areas;~~ specify area;

(3) ~~Specify means and methods which may be employed in the taking;~~ specify means and methods;

(4) ~~Specify time period; and~~ specify open seasons for the taking of bay scallops during the period beginning the last Monday in January and ending the last Friday in May;

(5) specify size; and

~~(5)~~(6) ~~Specify the~~ specify quantity, but shall not exceed possession of more than ~~20~~ 15 standard U.S. bushels per person per day or a total of ~~40~~ 30 standard U.S. bushels in any combined commercial fishing operation per day.

Authority G.S. 113-134; 113-182; ~~113-221;~~ 113-201; 113-221.1; 143B-289.52

15A NCAC 03K .0502 TAKING BAY SCALLOPS AT NIGHT AND ON WEEKENDS

(a) It is unlawful to take bay scallops between sunset and sunrise, or on Saturdays or Sundays, except as provided in 15A NCAC 03K .0105.

(b) Bay scallops taken on Saturdays or Sundays from shellfish leases or franchises in accordance with G.S. 113-208 are exempt from this Rule.

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

15A NCAC 03K .0507 MARKETING SCALLOPS TAKEN FROM ~~PRIVATE~~ SHELLFISH ~~BOTTOM~~ LEASES OR FRANCHISES

(a) It is unlawful to sell, purchase or possess scallops during the closed season without the lease or franchise holder delivering to the purchaser or other recipient a certification, on a form provided by the Division, that the scallops were taken from a valid shellfish lease or franchise. Certification forms shall be furnished by the Division to lease and franchise holders upon request.

(b) It is unlawful for lease or franchise holders or their designees to take or possess scallops from public bottom while possessing aboard a vessel scallops taken from shellfish leases or franchises.

Authority G.S. 113-134; 113-182; 113-201; 143B-289.52

15A NCAC 03K .0508 SCALLOP SEASON AND HARVEST LIMIT EXEMPTION

The following exemptions and restrictions shall apply to the possession, sale, purchase or transport of scallops produced in an aquaculture operation:

(1) Possession and sale of scallops by a scallop aquaculture operation shall be exempt from restrictions set under 15A NCAC 03K .0501, .0504, and .0505.

(2) Purchase and possession of scallops from a scallop aquaculture operation shall be exempt from restrictions set under 15A NCAC 03K .0501, .0504, and .0505.

(3) It is unlawful for a person to possess, sell, purchase, or transport scallops described in Sub-Items (1) and (2) of this Rule unless in compliance with all conditions of the Aquaculture Operation Permit.

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

15A NCAC 03O .0501 PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS

(a) To obtain any Marine Fisheries permit, the following information is required for proper application from the applicant, a responsible party or person holding a power of attorney:

(1) Full name, physical address, mailing address, date of birth, and signature of the applicant on the application. If the applicant is not appearing before a license agent or the designated Division contact, the applicant's signature on the application shall be notarized;

(2) Unexpired picture identification of applicant, responsible party and, when applicable, person holding a power of attorney. Acceptable forms of picture identification are driver's license, North Carolina Identification card issued by the North Carolina Division of Motor Vehicles, military identification card, resident alien card (green card) or passport or if applying by mail, a copy thereof;

(3) Full names and dates of birth of designees of the applicant who will be acting under the requested permit where that type permit requires listing of designees;

(4) Certification that the applicant and his designees do not have four or more marine or estuarine resource convictions during the previous three years;

(5) For permit applications from business entities:

(A) Business Name;

(B) Type of Business Entity: Corporation, partnership, or sole proprietorship;

(C) Name, address and phone number of responsible party and other identifying information required by this Subchapter or rules related to a specific permit;

(D) For a corporation, current articles of incorporation and a current list of corporate officers when applying for a permit in a corporate name;

(E) For a partnership, if the partnership is established by a written partnership agreement, a current copy of such agreement shall be provided when applying for a permit; and

(F) For business entities, other than corporations, copies of current assumed name statements if filed and copies of current business privilege tax certificates, if applicable; and

(6) Additional information as required for specific permits.

(b) A permittee shall hold a valid Standard or Retired Standard Commercial Fishing License in order to hold a:

(1) Pound Net Permit;

(2) Permit to Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean; or

(3) Atlantic Ocean Striped Bass Commercial Gear Permit.

(c) A permittee and his designees shall hold a valid Standard or Retired Standard Commercial Fishing License with a Shellfish Endorsement or a Shellfish License in order to hold a:

(1) Permit to Transplant Prohibited (Polluted) Shellfish;

(2) Permit to Transplant Oysters from Seed Oyster Management Areas;

(3) Permit to Use Mechanical Methods for ~~Oysters or Clams~~ Shellfish on Shellfish Leases or Franchises;

(4) Permit to Harvest Rangia Clams from Prohibited (Polluted) Areas; or

(5) Depuration Permit.

(d) A permittee shall hold a valid:

(1) Fish Dealer License in the proper category in order to hold Dealer Permits for Monitoring Fisheries Under a Quota/Allocation for that category; and

(2) Standard Commercial Fishing License with a Shellfish Endorsement, Retired Standard Commercial Fishing License with a Shellfish Endorsement or a Shellfish License in order to harvest clams or oysters for depuration.

(e) Aquaculture Operations/Collection Permits:

(1) A permittee shall hold a valid Aquaculture Operation Permit issued by the Fisheries Director to hold an Aquaculture Collection Permit.

(2) The permittee or designees shall hold appropriate licenses from the Division of Marine Fisheries for the species harvested and the gear used under the Aquaculture Collection Permit.

(f) Atlantic Ocean Striped Bass Commercial Gear Permit:

(1) ~~Application for an Atlantic Ocean Striped Bass Commercial Gear Permit must be made prior to November 1 of each year. A person shall declare one of the following gears for an initial Atlantic Ocean Striped Bass Commercial Gear Permit~~ Upon application for an Atlantic Ocean Striped Bass Commercial Gear Permit, a person shall declare one of the following gears for an initial permit and at intervals of three consecutive license years thereafter:

(A) gill net;

(B) trawl; or

(C) beach seine.

For the purpose of this Rule, a beach seine is defined as a swipe net constructed of multi-filament or multi-fiber webbing fished from the ocean beach that is deployed from a vessel launched from the ocean beach where the fishing operation takes place.

Gear declarations are binding on the permittee for three consecutive license years without regard to subsequent annual permit issuance.

(2) A person is not eligible for more than one Atlantic Ocean Striped Bass Commercial Gear Permit regardless of the number of Standard Commercial Fishing Licenses, Retired Standard Commercial Fishing Licenses or assignments held by the person.

~~(3) The annual, nonrefundable permit fee is ten dollars ($10.00).~~

~~(g) For Hire Fishing Permit:~~

~~(1) The permittee shall hold a valid certification from the United States Coast Guard (USCG) that allows carrying six or fewer passengers or a certification from the USCG that allows carrying more than six passengers;~~

~~(2) The permittee shall provide valid documentation papers or current motor boat registration or copies thereof for the vessel engaged as for hire. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.~~

~~(h)~~(g) Applications submitted without complete and required information shall not be processed until all required information has been submitted. Incomplete applications shall be returned to the applicant with deficiency in the application so noted.

~~(i)~~(h) A permit shall be issued only after the application has been deemed complete by the Division of Marine Fisheries and the applicant certifies to abide by the permit general and specific conditions established under ~~15A NCAC 03J .0501, 03J .0505, 03K .0103, 03K .0104, 03K .0107, 03K .0206, 03K .0303, 03K .0401, 03O .0502, and 03O .0503~~ 15A NCAC 03J .0501, .0505, 03K .0103, .0104, .0107, .0111, .0401, 03O .0502, and .0503 as applicable to the requested permit.

~~(j)~~(i) The Fisheries Director, or his agent may evaluate the following in determining whether to issue, modify or renew a permit:

(1) Potential threats to public health or marine and estuarine resources regulated by the Marine Fisheries Commission;

(2) Applicant's demonstration of a valid justification for the permit and a showing of responsibility as determined by the Fisheries Director;

(3) Applicant's history of habitual fisheries violations evidenced by eight or more violations in 10 years.

~~(k)~~(j) The Division of Marine Fisheries shall notify the applicant in writing of the denial or modification of any permit request and the reasons therefor. The applicant may submit further information, or reasons why the permit should not be denied or modified.

~~(l)~~(k) Permits are valid from the date of issuance through the expiration date printed on the permit. Unless otherwise established by rule, the Fisheries Director may establish the issuance timeframe for specific types and categories of

permits based on season, calendar year, or other period based upon the nature of the activity permitted, the duration of the activity, compliance with federal or state fishery management plans or implementing rules, conflicts with other fisheries or gear usage, or seasons for the species involved. The expiration date shall be specified on the permit.

~~(m)~~(l) For permit renewals, the permittee's signature on the application shall certify all information as true and accurate. Notarization of signature on renewal applications is not required.

~~(n)~~(m) For initial or renewal permits, processing time for permits may be up to 30 days unless otherwise specified in this Chapter.

~~(o)~~(n) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries within 30 days of a change of name or address.

~~(p)~~(o) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries of a change of designee prior to use of the permit by that designee.

~~(q)~~(p) Permit applications are available at all Division Offices.

Authority G.S. 113-134; 113-169.1; 113-169.3; 113-182; 113-210; 143B-289.52

Division of Marine Fisheries' Overview of Amendment 2 to the River Herring Fishery Management Plan March 2014

The N.C. River Herring Fishery Management Plan is a joint plan with the N.C. Marine Fisheries Commission and the N.C. Wildlife Resources Commission. The goal of the plan is to restore the long-term viability of the river herring population. The coast-wide stock assessment completed by the Atlantic States Marine Fisheries Commission in 2012 found river herring to be depleted throughout their range. Despite a no-harvest provision implemented in Amendment 1 to the plan, populations in North Carolina continue to be depleted. Considerable problems exist in the areas of habitat and water quality. Amendment 1 to the plan contained recommendations to address these problems and these strategies will remain in place in Amendment 2. Extensive monitoring and research recommendations are included in the plan, which are paramount to achieving the goal.

Due to the current no-harvest provision, Amendment 2 addresses only two primary management issues. The no-harvest provision implemented in the previous amendment prohibited commercial and recreational harvest of river herring in North Carolina, with the exception of a 7,500-pound limited research set-aside season that takes place four days around Easter each year, administered at the discretion of the fisheries director. The purpose of this discretionary harvest season is for data collection and to provide local product to herring festivals and local restaurants. The discretionary harvest season is not serving the intended purposes and the N.C. river herring stocks continue to be depleted and remain well below recovery goals. As a result, the Marine Fisheries Commission's and Wildlife Resources Commission's preferred management strategy for this issue is to eliminate the discretionary harvest season.

Shortly after the completion of Amendment 1, the N.C. Wildlife Resources Commission and N.C. Marine Fisheries Commission developed an agreement to allow possession of river herring purchased from bait and tackle shops, so long as a fisherman held a receipt. Due to fishermen abusing this agreement, the Wildlife Resources Commission implemented a rule that prohibits the possession of river herring greater than six inches in inland waters while fishing or boating. This created a discrepancy with Marine Fisheries Commission rules. To align the rules and provide for consistent enforcement, the Marine Fisheries Commission's and Wildlife Resources Commission's preferred management strategy for this issue is to prohibit possession of river herring greater than six inches aboard a vessel or while engaged in fishing from the shore or a pier and remove river herring as an exception in the Marine Fisheries Commission's mutilated finfish rule governing the use of cut bait. This will allow the use of stunted river herring found in the Piedmont reservoirs for bait while protecting the migrating blueback herring and alewife that are found in coastal and joint fishing waters.

Following the review of Amendment 2 by the Department of Environment and Natural Resources secretary and the Joint Legislative Commission on Governmental Operations, the draft plan will be presented to the Marine Fisheries Commission for procedural approval and to begin the rulemaking process. The Marine Fisheries Commission will consider final approval of Amendment 2 and the implementing rules in November 2014. Similar steps will occur with the Wildlife Resources Commission.

FISCAL IMPACTS OF PROPOSED AMENDMENTS TO THE N.C. RIVER HERRING FISHERY MANAGEMENT PLAN

Rule Amendments: 15A NCAC 03J .0209 ALBEMARLE SOUND/CHOWAN RIVER RIVER HERRING MANAGEMENT AREAS
15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC
15A NCAC 03M .0101 MUTILATED FINFISH
15A NCAC 03M .0513 RIVER HERRING
15A NCAC 03R .0115 ANADROMOUS FISH SPAWNING AREAS
15A NCAC 03R .0202 RIVER HERRING MANAGEMENT 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: No
Local government: No
Federal government: No
Substantial impact: No

Authority: North Carolina General Statues 113-134 (Rules); 113-182 (Regulation of Fishing and Fisheries); 113-221 (Rules)113-221.1 (Proclamations; Emergency Review); 143B-289.52 (Marine Fisheries Commission – Powers and Duties); North Carolina Marine Fisheries Commission Rules 15A NCAC 03O .0501 (Procedures and Requirements to Obtain Permits); 15A NCAC 03O .0502 (Permit Conditions; General); 15A NCAC 03O .0506 (Special Permit Required for Specific Management Purposes); 15A NCAC 03M . 0512 (Compliance with Fishery Management Plans); 15A NCAC .0513 (River Herring)

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. River Herring Fishery Management Plan (FMP) to ensure adequate management of the river herring resource in state waters. Specifically, the rule changes address two separate issues and propose to:

1) Modify 15A NCAC 03M .0101 and 03M .0513 to prohibit the possession of river herring (alewife and blueback herring) greater than six inches in length aboard a vessel or while engaged in fishing and remove river herring from the Mutilated Finfish rule;

2) Modify 15A NCAC 03J .0209, 03O .0503, and 03R .0115 as well as adopt 03R .0202 to reorganize rule placement for river herring management and address a change in the Anadromous Fish Spawning Areas.

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

1. Possession of River Herring in Coastal Waters (15A NCAC 03M .0101 and 03M .0513)

I. Summary

The proposed rule changes prohibit the possession of river herring (alewife and blueback herring) greater than six inches in length aboard a vessel or while engaged in fishing and remove river herring from the Mutilated Finfish rule. These rule changes aid in the enforcement of regulations regarding the use of river herring as bait in recreational fishing as well as align rules for river herring possession in coastal and joint waters with those of inland waters. While not quantified, the expected costs created by the proposed rule changes are expected to be minimal.

II. Introduction and Purpose of Rule Changes

In response to declining populations of river herring (alewife and blue back herring), Amendment 1 to the N.C. River Herring FMP in 2007 implemented a commercial and recreational no-harvest provision in the joint and coastal waters of the state, with a limited discretionary harvest season for commercial fishermen in the spring of each year of up to 7,500 pounds. Both the N.C. Division of Marine Fisheries (NCDMF) and the N.C. Wildlife Resources Commission (NCWRC) have allowed anglers to continue to possess river herring for use as bait as long as they have a receipt from the bait/seafood dealer or tackle shop where purchased. Most, if not all of the river herring legally used for bait comes from other states, but some may be legally harvested during the discretionary harvest season and sold by licensed river herring dealers.

Law enforcement from both agencies indicated that possible enforcement loopholes have been created with the allowance of possession of river herring for bait. These loopholes may include anglers replacing legally purchased river herring with those taken illegally and falsifying receipts to include names of dealers that do not exist or inaccurate amounts purchased. Marine Patrol indicated that although these loopholes may exist in all waters of the state, the majority of the issues likely occur in areas where river herring are more abundant such as the Roanoke and Chowan rivers. In response, the NCWRC adopted two rule amendments that became effective Aug. 1, 2013 prohibiting the possession of river herring greater than six inches while boating on or fishing in inland waters.

The use of live river herring as bait to catch striped bass is popular in the upper portions of the Roanoke River Management Area and the taking of river herring less than six inches was implemented to allow for the use of stunted river herring found in Piedmont reservoirs while protecting anadromous blueback herring and alewife that exceed six inches in length. Stunted reservoir populations of river herring are present in John H. Kerr, Gaston, and Roanoke Rapids reservoirs. Anglers will often use cast nets to capture river herring from these Piedmont reservoirs prior to their fishing trips to use as live bait. The six-inch provision allows stunted river herring to be kept and used by anglers. In addition, a current regulation (15A NCAC 10C .0401 (c)) allows for the sale of river herring less than six inches collected from John H. Kerr Reservoir.

River herring are used as cut-bait in the striped bass fishery in the lower Roanoke River and to a lesser extent in some of the other river systems in the state. In inland waters it is unlawful, while fishing, to change the appearance of fish subject to size limits or daily creel limits or remove the head and/or tail from fish that are regulated by a size limit so that they may not be measured and/or identified. In joint and coastal waters, it is unlawful to possess aboard a

vessel, or while engaged in fishing from the shore or a pier, any species of finfish that is subject to a size or harvest restriction without having head and tail attached (except that mullet, hickory shad, blueback herring, or alewife, when used for bait, can be cut). Allowing river herring to be cut for bait is problematic as it makes it difficult for enforcement to determine the original length of the fish.

The proposed rule changes aim to protect adult anadromous river herring, while still allowing recreational fishermen the flexibility to use river herring for bait that are caught from healthy populations present in the Piedmont reservoirs. In doing so, a loophole is closed that currently facilitates the illegal use of anadromous river herring by allowing possession of such fish with a receipt. Additionally, when fish are cut into pieces for bait, it is very difficult to measure the size or quantity of baitfish in an angler's possession, thereby making it problematic to enforce bag or size limits. Removing river herring from the mutilated finfish rule (15A NCAC 03M .0101) provides law enforcement the ability to better account for size and possession of river herring being used as bait by requiring the fish to remain in a whole condition. Furthermore, the proposed rule changes align the N.C. Marine Fisheries Commission (NCMFC) rules with NCWRC rules for river herring to create a more uniform set of regulations for river herring throughout the coastal, joint, and inland waters of coastal river systems. Also, the proposed rule changes only prohibit the possession of river herring while fishing, thereby not prohibiting the personal consumption of legally harvested river herring regardless of size.

III. Costs

NCDMF anticipates that costs from the proposed rule changes will be minor. The amount of large river herring that are sold as bait is unknown. However, a 2010 NCDMF survey found that anglers spend an average of $12 on bait per inshore fishing trip[1]. The use of river herring that are larger than six inches or for cut bait mostly occurs in the lower section of the Roanoke River Management Area (RRMA) during the spring striped bass harvest season[2]. In 2009, approximately 25,000 recreational fishing trips landing striped bass occurred in the entire RRMA, with a minor portion of these trips likely occurring in the lower section and using river herring as bait[3]. River herring is the preferred bait of some striped bass anglers, but several substitutes are readily available and used, including hickory and gizzard shad as well as artificial lures. There may be some costs to tackle shops and other bait retailers that sell river herring that are larger than six inches or for cut bait, but bait retailers will still be able to sell river herring six inches or less as well as other types of bait of similar cost, such as hickory shad, gizzard shad, and artificial lures, to anglers. It is likely that anglers will still purchase substitute bait, thereby mitigating any costs that may be imposed to anglers or bait retailers by the proposed rule changes.

[1]Crosson, Scott (July 2010). *A Social and Economic Survey of Recreational Saltwater Anglers in North Carolina.* North Carolina Department of Environment and Natural Resources. Division of Marine Fisheries. http://portal.ncdenr.org/c/document_library/get_file?uuid=b7469160-d5e9-458a-9d16-a5e7b76d7f31&groupId=38337

[2,3] North Carolina Department of Environment and Natural Resources (May 2013). North Carolina Division of Marine Fisheries. *North Carolina Estuarine Striped Bass Fishery Management Plan Amendment I.* *http://portal.ncdenr.org/c/document_library/get_file?uuid=d3fdf967-82d5-4653-8b79-20247c5ed5ad&groupId=38337*

IV. Benefits

The proposed rule changes are designed to help maintain and rebuild depleted anadromous river herring populations. These changes will eliminate a legal loophole and aid law enforcement in enforcing river herring regulations while still allowing anglers to use river herring under six inches as bait. Additionally, the public will benefit from uniform river herring-possession rules in coastal, joint, and inland waters of coastal river systems in the state that fall under the jurisdiction of NCMFC and/or NCWRC. These rule changes will also maintain the possession of legally obtained river herring of any size for personal consumption.

2. River Herring Fishery Management Plan Rule Organization and Boundary Change (15A NCAC 03J .0209, 03O .0503, 03R .0115, and 03R. 0202)

I. Summary

NCDMF proposes moving the regulations defining the location of the Albemarle Sound/Chowan River River Herring Management Areas from Subchapter 03J to Subchapter 03R within Title 15A of the N.C. Administrative Code for improved organization and public clarity. Additionally, a change to the boundary of the Anadromous Fish Spawning Areas of the Cashie River is needed for rule consistency with boundary changes previously made in a separate fishery management plan.

II. Introduction and Purpose of Rule Changes

The description and boundaries of the Albemarle Sound/Chowan River River Herring Management Areas were originally placed in 15A NCAC 03J .0209 in 2001. Subchapter 03J of the N.C. Administrative Code contains rules for nets, pots, dredges, and other fishing devices for specific areas. NCDMF staff has identified a more appropriate subchapter for this rule in Subchapter 03R, Section .0200, which contains descriptive boundaries for fishery management areas and already includes the Striped Bass Management Areas, which coincide with River Herring Management Areas. Relocating the description and boundaries of the Albemarle Sound/Chowan River River Herring Management Areas to Subchapter 03R will maintain consistency with how fishery management area rules are organized. All of these areas will be listed together, making them easier for the public to find. The proposed rules also update a cross reference to this rule found in 15A NCAC 03O .0503.

Additionally, NCDMF made a change in the boundary between the Albemarle Sound Management Area and Roanoke River Management Area in the Cashie River for the management of striped bass that became effective June 1, 2013. This change was included in the N.C. Estuarine Striped Bass Fishery Management Plan Amendment 1 as part of an effort to make it easier for the public to identify the boundaries of the two different management areas that have different striped bass regulations. This point is also a boundary for the Anadromous Fish Spawning Areas, which include river herring. Therefore a rule change is needed to maintain consistency among rules but will not result in a change to the management of river herring.

III. Costs

There are no expected costs associated with the proposed rule changes. NCDMF is proposing these rule changes to improve clarity to the public of the location and content of rules managing river herring. Management of the fishery will not change.

IV. Benefits

While there are no quantifiable economic benefits to the proposed rule changes, rules for the management of river herring will be better placed, thereby making the rules easier to locate. Additionally, maintaining consistency among rules aids in rule clarity for the benefit of both the public and law enforcement.

3. Comprehensive Statement of Costs and Benefits

Rule changes associated with the River Herring Fishery Management Plan are expected to have aggregate costs and benefits well below the impact threshold of $1 million in aggregate costs and benefits meeting the statutory definition of a rule change with a substantial economic impact. Specifically:

1) Modification of 15A NCAC 03M .0101 and 03M .0513 will help maintain and rebuild depleted anadromous river herring populations by eliminating a legal loophole in the possession of adult anadromous river herring as bait and will aid law enforcement in enforcing river herring regulations while still allowing anglers to use river herring under six inches as bait. Additionally, the public will benefit from uniform river herring possession rules in coastal, joint, and inland waters of coastal river systems in the state that fall under the jurisdiction of NCMFC and/or NCWRC.

There may be some costs to tackle shops and other bait retailers that sell river herring larger than six inches or dead river herring to be used as cut bait. The use of river herring as cut bait and/or larger than six inches mostly occurs in the lower section of the Roanoke River Management Area (RRMA) during the spring striped bass harvest season[4]. In 2009, approximately 25,000 recreational fishing trips landing striped bass occurred in the entire RRMA, with a minor portion of these trips likely occurring in the lower section and using river herring bait[5]. The amount of river herring that are sold as bait is unknown, but a 2010 NCDMF survey found that anglers spend an average of $12 on bait per inshore fishing trip[6]. River herring is the preferred bait of some striped bass anglers, however several substitutes are readily available and used, including hickory and gizzard shad as well as artificial lures. There may be some costs to tackle shops and other bait retailers that sell river herring that are larger than six inches or for cut bait, but bait retailers will still be able to sell river herring six inches or

[4,5] North Carolina Department of Environment and Natural Resources (May 2013). North Carolina Division of Marine Fisheries. *North Carolina Estuarine Striped Bass Fishery Management Plan Amendment I.* *http://portal.ncdenr.org/c/document_library/get_file?uuid=d3fdf967-82d5-4653-8b79-20247c5ed5ad&groupId=38337*

[6]Crosson, Scott (July 2010). *A Social and Economic Survey of Recreational Saltwater Anglers in North Carolina.* North Carolina Department of Environment and Natural Resources. Division of Marine Fisheries. http://portal.ncdenr.org/c/document_library/get_file?uuid=b7469160-d5e9-458a-9d16-a5e7b76d7f31&groupId=38337

less, as well as other types of bait of similar cost, such as hickory shad, gizzard shad, and artificial lures, to anglers. It is likely that anglers will still purchase substitute bait, thereby mitigating any costs to anglers or bait retailers that may be imposed by the proposed rule changes.

2) Modification of 15A NCAC 03J .0209, 03O .0503, 03R .0115, and 03R. 0202 will make rules for the management of river herring better placed, thereby making the rules easier to locate. Additionally, maintaining consistency among rules aids in rule clarity for the benefit of both the public and law enforcement. There are no estimated costs for these proposed rule changes.

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

Rule	**Estimated Cost**	**Estimated Benefit**
15A NCAC 03M .0101	Unquantified	Unquantified
15A NCAC 03M .0513	Unquantified	Unquantified
15A NCAC 03J .0209	None	Unquantified
15A NCAC 03O .0503	None	Unquantified
15A NCAC 03R .0115	None	Unquantified
15A NCAC 03R .0202	None	Unquantified

Appendix: Proposed Rule Changes

15A NCAC 03J .0209 ALBEMARLE SOUND/CHOWAN RIVER RIVER HERRING MANAGEMENT AREAS

~~(a) The Albemarle Sound Herring Management Area is defined as Albemarle Sound and all its joint water tributaries; Currituck Sound; Roanoke and Croatan sounds and all their joint water tributaries, including Oregon Inlet, north of a line beginning on the west shore at a point 35° 48.5015' N 75° 44.1228' W on Roanoke Marshes Point; running southeasterly to the east shore to a point 35° 44.1710' N 75° 31.0520' W on the north point of Eagles Nest Bay.~~

~~(b) The Chowan River Herring Management Area is defined as that area northwest of a line beginning on the west shore at a point 35° 59.9267' N 76° 41.0313' W on Black Walnut Point; running northeasterly to the east shore to a point 36° 02.2140' N 76° 39.3240' W on Reedy Point, to the North Carolina/Virginia state line; including the Meherrin River.~~

~~(c)~~ It is unlawful to use drift gill nets ~~in the Albemarle Sound and Chowan River river herring management areas~~ with a mesh length less than three inches from January 1 through May ~~15.~~15 in the Albemarle Sound and Chowan River river herring management areas defined in 15A NCAC 03R .0202.

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

15A NCAC 03M .0101 MUTILATED FINFISH

It is unlawful to possess aboard a vessel or while engaged in fishing ~~from the shore or a pier~~ any species of finfish that is subject to a size or harvest restriction without having head and tail attached, except:

(1) mullet when used for bait;

(2) ~~blueback herring,~~ hickory shad ~~and alewife~~ when used for bait provided that not more than two ~~fish~~ hickory shad per ~~boat~~ vessel or fishing operation may be cut for bait at any one time; and

(3) tuna possessed in a commercial fishing operation as provided in 15A NCAC 03M .0520.

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

15A NCAC 03M .0513 RIVER HERRING

It is unlawful to take or possess river herring ~~taken from coastal fishing waters unless the river herring season is open.~~from North Carolina Coastal Fishing Waters. Possession of river herring from sources other than North Carolina Coastal Fishing Waters shall be limited to fish less than or equal to six inches total length aboard a vessel or while engaged in fishing.

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

15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC

NOTE: CHANGES TO 15A NCAC 03O .0503 INCLUDE CHANGES FOR THE MANAGEMENT OF RIVER HERRING AND CHANGES TO FOR HIRE LICENSING WHICH ARE CONVERED IN A SEPARATE ANALYSIS.

(a) Horseshoe Crab Biomedical Use Permit:

(1) It is unlawful to use horseshoe crabs for biomedical purposes without first obtaining a permit.

(2) It is unlawful for persons who have been issued a Horseshoe Crab Biomedical Use Permit to fail to submit a report on the use of horseshoe crabs to the Division of Marine Fisheries due on February 1 of each year. Such reports shall be filed on forms provided by the Division and shall include a monthly account of the number of crabs harvested, statement of percent mortality up to the point of release, and a certification that harvested horseshoe crabs are solely used by the biomedical facility and not for other purposes.

(3) It is unlawful for persons who have been issued a Horseshoe Crab Biomedical Use Permit to fail to comply with the Atlantic States Marine Fisheries Commission Interstate Fishery Management Plan for Horseshoe Crab monitoring and tagging requirements for horseshoe crabs. Copies of this plan are available from the Atlantic States Marine Fisheries Commission or the Division of Marine Fisheries' Morehead City Headquarters Office, P.O. Box 769, 3441 Arendell St., Morehead City, North Carolina 28557-0769.

(b) Dealers Permits for Monitoring Fisheries under a Quota/Allocation:

(1) During the commercial season opened by proclamation or rule for the fishery for which a Dealers Permit for Monitoring Fisheries under a Quota/Allocation permit is issued, it is unlawful for the fish dealers issued such permit to fail to:

(A) fax or send via electronic mail by noon daily, on forms provided by the Division, the previous day's landings for the permitted fishery to the dealer contact designated on the permit. Landings for Fridays or Saturdays shall be submitted on the following Monday. If the dealer is unable to fax or electronic mail the required information, the permittee shall call in the previous day's landings to the dealer contact designated on the permit but shall maintain a log furnished by the Division;

(B) submit the required log to the Division upon request or no later than five days after the close of the season for the fishery permitted;

(C) maintain faxes and other related documentation in accordance with 15A NCAC 03I .0114;

(D) contact the dealer contact designated on the permit daily regardless of whether or not a transaction for the fishery for which a dealer is permitted occurred; and

(E) record the permanent dealer identification number on the bill of lading or receipt for each transaction or shipment from the permitted fishery.

(2) Striped Bass Dealer Permit:

(A) It is unlawful for a fish dealer to possess, buy, sell, or offer for sale striped bass taken from the following areas without first obtaining a Striped Bass Dealer Permit validated for the applicable harvest area:

(i) Atlantic Ocean;

(ii) Albemarle Sound Management Area as designated in 15A NCAC 03R .0201; and

(iii) the Joint and Coastal Fishing Waters of the Central/Southern Management Area as designated in 15A NCAC 03R .0201.

(B) No permittee shall possess, buy, sell, or offer for sale striped bass taken from the harvest areas opened by proclamation without having a North Carolina Division of Marine Fisheries issued valid tag for the applicable area affixed through the mouth and gill cover, or, in the case of striped bass imported from other states, a similar tag that is issued for striped bass in the state of origin. North Carolina Division of Marine Fisheries striped bass tags shall not be bought, sold, offered for sale, or transferred. Tags shall be obtained at the North Carolina Division of Marine Fisheries Offices. The Division of Marine Fisheries shall specify the quantity of tags to be issued based on historical striped bass landings. It is unlawful for the permittee to fail to surrender unused tags to the Division upon request.

(3) Albemarle Sound Management Area for River Herring Dealer Permit: It is unlawful to possess, buy, sell, or offer for sale river herring taken from the following area without first obtaining an Albemarle Sound Management Area for River Herring Dealer Permit: Albemarle Sound Management Area for River Herring as defined in ~~15A NCAC 03J .0209.~~15A NCAC 03R .0202.

(4) Atlantic Ocean Flounder Dealer Permit:

(A) It is unlawful for a fish dealer to allow vessels holding a valid License to Land Flounder from the Atlantic Ocean to land more than 100 pounds of flounder from a single transaction at their licensed location during the open season without first obtaining an Atlantic Ocean Flounder Dealer Permit. The licensed location shall be specified on the Atlantic Ocean Flounder Dealer Permit and only one location per permit shall be allowed.

(B) It is unlawful for a fish dealer to possess, buy, sell, or offer for sale more than 100 pounds of flounder from a single transaction from the Atlantic Ocean without first obtaining an Atlantic Ocean Flounder Dealer Permit.

(5) Black Sea Bass North of Cape Hatteras Dealer Permit. It is unlawful for a fish dealer to purchase or possess more than 100 pounds of black sea bass taken from the Atlantic Ocean north of Cape

Hatteras (35° 15.0321' N) per day per commercial fishing operation during the open season unless the dealer has a Black Sea Bass North of Cape Hatteras Dealer Permit.

(c) Blue Crab Shedding Permit: It is unlawful to possess more than 50 blue crabs in a shedding operation without first obtaining a Blue Crab Shedding Permit from the Division of Marine Fisheries.

(d) Permit to Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean:

(1) It is unlawful to trawl for shrimp in the Atlantic Ocean without Turtle Excluder Devices installed in trawls within one nautical mile of the shore from Browns Inlet (34° 35.7000' N latitude) to Rich's Inlet (34° 17.6000' N latitude) without a valid Permit to Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean when allowed by proclamation from April 1 through November 30.

(2) It is unlawful to tow for more than 55 minutes from April 1 through October 31 and 75 minutes from November 1 through November 30 in this area when working under this permit. Tow time begins when the doors enter the water and ends when the doors exit the water.

(3) It is unlawful to fail to empty the contents of each net at the end of each tow.

(4) It is unlawful to refuse to take observers upon request by the Division of Marine Fisheries or the National Marine Fisheries Service.

(5) It is unlawful to fail to report any sea turtle captured. Reports shall be made within 24 hours of the capture to the Marine Patrol Communications Center by phone. All turtles taken incidental to trawling shall be handled and resuscitated in accordance with requirements specified in 50 CFR 223.206, copies of which are available via the Internet at www.nmfs.gov and at the Division of Marine Fisheries, 127 Cardinal Drive Extension, Wilmington, North Carolina 28405.

(e) Pound Net Set Permits. Rule 15A NCAC 03J .0505 sets forth the specific conditions for pound net set permits.

(f) Aquaculture Operations/Collection Permits:

(1) It is unlawful to conduct aquaculture operations utilizing marine and estuarine resources without first securing an Aquaculture Operation Permit from the Fisheries Director.

(2) It is unlawful:

(A) to take marine and estuarine resources from Coastal Fishing Waters for aquaculture purposes without first obtaining an Aquaculture Collection Permit from the Fisheries Director.

(B) to sell, or use for any purpose not related to North Carolina aquaculture, marine and estuarine resources taken under an Aquaculture Collection Permit.

(C) to fail to submit to the Fisheries Director an annual report due on December 1 of each year on the form provided by the Division the amount and disposition of marine and estuarine resources collected under authority of this permit.

(3) Lawfully permitted shellfish relaying activities authorized by 15A NCAC 03K .0103 and .0104 are exempt from requirements to have an Aquaculture Operation or Collection Permit issued by the Fisheries Director.

(4) Aquaculture Operations/Collection Permits shall be issued or renewed on a calendar year basis.

(5) It is unlawful to fail to provide the Division of Marine Fisheries with a listing of all designees acting under an Aquaculture Collection Permit at the time of application.

(g) Scientific or Educational Activity Permit:

(1) It is unlawful for institutions or agencies seeking exemptions from license, rule, proclamation or statutory requirements to collect, hold, culture or exhibit for scientific or educational purposes any marine or estuarine species without first obtaining a Scientific or Educational Activity Permit.

(2) The Scientific or Educational Activity Permit shall only be issued for scientific or educational purposes and for collection methods and possession allowances approved by the Division of Marine Fisheries.

(3) The Scientific or Educational Activity Permit shall only be issued for approved activities conducted by or under the direction of Scientific or Educational institutions as defined in Rule 15A NCAC 03I .0101.

(4) It is unlawful for the responsible party issued a Scientific or Educational Activity Permit to fail to submit a report on collections and, if authorized, sales to the Division of Marine Fisheries due on December 1 of each year unless otherwise specified on the permit. The reports shall be filed on forms provided by the Division. Scientific or Educational Activity permits shall be issued on a calendar year basis.

(5) It is unlawful to sell marine or estuarine species taken under a Scientific or Educational Activity Permit without:

(A) the required license(s) for such sale;

(B) authorization stated on the permit for such sale; and

(C) providing the information required in Rule 15A NCAC 03I .0114 if the sale is to a licensed fish dealer.

(6) It is unlawful to fail to provide the Division of Marine Fisheries a listing of all designees acting under a Scientific or Educational Activity Permit at the time of application.

(7) The permittee or designees utilizing the permit shall call the Division of Marine Fisheries Communications Center at 800-682-2632 or 252-726-7021 not later than 24 hours prior to use of the permit, specifying activities and location.

(h) Under Dock Oyster Culture Permit:

(1) It is unlawful to cultivate oysters in containers under docks for personal consumption without first obtaining an Under Dock Oyster Culture Permit.

(2) An Under Dock Oyster Culture Permit shall be issued only in accordance with provisions set forth in G.S. 113-210(c).

(3) The applicant shall complete and submit an examination, with a minimum of 70 percent correct answers, based on an educational package provided by the Division of Marine Fisheries pursuant to G.S. 113-210(j). The examination demonstrates the applicant's knowledge of:

(A) the application process;

(B) permit criteria;

(C) basic oyster biology and culture techniques;

(D) shellfish harvest area closures due to pollution;

(E) safe handling practices;

(F) permit conditions; and

(G) permit revocation criteria.

(4) Action by an Under Dock Oyster Culture Permit holder to encroach on or usurp the legal rights of the public to access public trust resources in Coastal Fishing Waters shall result in permit revocation.

(i) Atlantic Ocean Striped Bass Commercial Gear Permit:

(1) It is unlawful to take striped bass from the Atlantic Ocean in a commercial fishing operation without first obtaining an Atlantic Ocean Striped Bass Commercial Gear Permit.

(2) It is unlawful to use a single Standard Commercial Fishing License, including assignments, to obtain more than one Atlantic Ocean Striped Bass Commercial Gear Permit during a license year.

(j) Coastal Recreational Fishing License Exemption Permit:

(1) It is unlawful for the responsible party seeking exemption from recreational fishing license requirements for eligible individuals to conduct an organized fishing event held in Joint or Coastal Fishing Waters without first obtaining a Coastal Recreational Fishing License Exemption Permit.

(2) The Coastal Recreational Fishing License Exemption Permit shall only be issued for recreational fishing activity conducted solely for the participation and benefit of one of the following groups of eligible individuals:

(A) individuals with physical or mental limitations;

(B) members of the United States Armed Forces and their dependents, upon presentation of a valid military identification card, for military appreciation;

(C) individuals receiving instruction on recreational fishing techniques and conservation practices from employees of state or federal marine or estuarine resource management agencies, or instructors affiliated with educational institutions; and

(D) disadvantaged youths.

For purposes of this Paragraph, educational institutions include high schools and other secondary educational institutions.

(3) The Coastal Recreational Fishing License Exemption Permit is valid for the date(s), time and physical location of the organized fishing event for which the exemption is granted and the time period shall not exceed one year from the date of issuance.

(4) The Coastal Recreational Fishing License Exemption Permit shall only be issued when all of the following, in addition to the information required in 15A NCAC 03O .0501, is submitted to the Fisheries Director in writing a minimum of 30 days prior to the event:

(A) the name, date(s), time and physical location of the event;

(B) documentation that substantiates local, state, or federal involvement in the organized fishing event, if applicable;

(C) the cost or requirements, if any, for an individual to participate in the event; and

(D) an estimate of the number of participants.

~~(k) For Hire Fishing Permit:~~

~~(1) It is unlawful to operate a For Hire Vessel unless the vessel operator possesses either the For Hire Blanket Coastal Recreational Fishing License (CRFL) for the vessel as provided in 15A NCAC 03O .0112 or a Division of Marine Fisheries For Hire Fishing Permit for the vessel.~~

~~(2) It is unlawful for a For Hire vessel operator to operate under the For Hire Fishing Permit without:~~

~~(A) holding the USCG certification required in 15A NCAC 03O .0501(g)(1);~~

~~(B) having the For Hire Fishing Permit for the vessel or copy thereof in possession and ready at hand for inspection; and~~

~~(C) having current picture identification in possession and ready at hand for inspection.~~

~~(3) It is unlawful for the permittee to fail to notify the Division within five days of any changes to information provided on the permit.~~

~~(4) It is unlawful to fail to display a current For Hire Fishing Permit decal mounted on an exterior surface of the vessel so as to be visible when viewed from the port side while engaged in for hire recreational fishing.~~

~~(5) The For Hire Fishing Permit is valid for one year from the date of issuance.~~

Authority G.S. 113-134; 113-169.1; 113-169.3; 113-182; 113-210; 143B-289.52

15A NCAC 03R .0115 ANADROMOUS FISH SPAWNING AREAS

The anadromous fish spawning areas as defined in 15A NCAC 03I .0101 and referenced in 15A NCAC 03N .0106 are delineated in the following ~~coastal waters:~~Coastal Fishing Waters:

(1) Currituck Sound Area:

(a) Northwest River - all waters of the Northwest River and its tributaries east of a line beginning on the north shore at a point 36º 30.8374' N - 76º 04.8770' W; running southerly to the south shore to a point 36º 30.7061' N - 76º 04.8916' W.

(b) Tull Bay/Tull Creek - all waters of Tull Bay and its tributaries northeast of a line beginning on the north shore at a point 36º 30.0991' N - 76º 04.8587' W; running southeasterly to the south shore to a point 36º 29.9599' N - 76º 04.7126' W; and south of a line beginning on the west shore at a point 36º 30.9867' N - 76º 02.5868' W; running easterly to the east shore to a point 36º 31.0045' N - 76º 02.3780' W; and west of a line beginning on the north shore at a point 36º 30.8291' N - 76º 02.1329' W; running southwesterly to the south shore to a point 36º 30.1512' N - 76º 02.4982' W.

(2) Albemarle Sound Area:

(a) Big Flatty Creek - all waters of Big Flatty Creek and its tributaries east of a line beginning on the north shore at a point 36º 09.3267' N - 76º 08.2562' W; running southerly to the south shore to a point 36º 08.9730' N - 76º 08.3175' W and north of a line beginning on the west shore at a point 36º 07.9621' N - 76º 07.1818' W; running easterly to the east shore to a point 36º 08.2706' N - 76º 06.2525' W.

(b) Batchelor Bay - west of a line beginning on the north shore at a point 35º 58.2070' N - 76º 42.7267' W; running southeasterly to the south shore to a point 35º 56.5622' N - 76º 41.5506' W.

(c) Bull Bay - southwest of a line beginning on the northwest shore at a point 35º 58.9002' N - 76º 23.9965' W; running southeasterly to the southeast shore at a point 35º 56.7198' N - 76º 18.8964' W.

(3) North River - all waters of the North River and its tributaries east of a line beginning on the north shore at a point 36º 18.7703' N - 75º 58.7384' W; running southerly to the south shore to a point 36º 18.4130' N - 75º 58.7228' W; and north of a line beginning on the west shore at a point 36º 16.9952' N - 75º 57.0758' W; running easterly to the east shore to a point 36º 16.9801' N - 75º 56.6820' W.

(4) Pasquotank River - all waters of the Pasquotank River and its tributaries south of a line beginning on the west shore at a point 36º 18.0768' N - 76º 13.0979' W; running easterly to the east shore along the south side of the Highway 158 Bridge to a point 36º 18.0594' N - 76º 12.9620' W; and northwest of a line beginning on the northeast shore at a point 36º 14.3294' N - 76º 04.7866' W; running southwesterly to the southwest shore to a point 36º 12.8147' N - 76º 07.0465' W.

(5) Pasquotank River Area:

(a) Charles Creek - north of a line beginning on the west shore at a point 36º 17.8090' N - 76º 13.0732' W; running easterly to the east shore to a point 36º 17.8024' N - 76º 13.0407' W.

(b) New Begun Creek - east of a line beginning on the north shore at a point 36º 13.3298' N - 76º 08.2878' W; running southerly to the south shore to a point 36º 13.0286' N - 76º 08.1820' W.

(6) Little River - all waters of the Little River and its tributaries southeast of a line beginning on the west shore at a point 36º 12.5237' N - 76º 16.9418' W; running southeasterly to the east shore to a point 36º 12.2950' N - 76º 17.1405' W; and north of a line beginning on the west shore at a point 36º 09.6537' N - 76º 15.0689' W; running northeast to the east shore to a point 36º 10.2112' N - 76º 14.0287' W.

(7) Perquimans River - all waters of the Perquimans River and its tributaries northeast of a line beginning on the west shore at a point 36º 11.6569' N - 76º 28.0055' W; running southeasterly to the east shore to a point 36º 11.6123' N - 76º 27.9382' W; and northwest of a line beginning on the

southwest shore at a point 36º 11.1512' N - 76º 27.4424' W; running northeasterly to the northeast shore to a point 36º 11.5124' N - 76º 26.7298' W.

(8) Perquimans River Area:

(a) Walter's Creek - northeast of a line beginning on the north shore at a point 36º 11.1305' N - 76º 27.9185' W; running southeasterly to the south shore to a point 36º 11.0224' N - 76º 27.6626' W.

(b) Mill Creek - south of a line beginning on the west shore at a point 36º 11.9766' N - 76º 27.2511' W; running easterly to the east shore to a point 36º 11.9757' N - 76º 27.5752' W.

(9) Yeopim River - all waters of the Yeopim River and its tributaries east of a line beginning on the north shore at a point 36º 05.4526' N - 76º 27.7651' W; running southerly to the south shore to a point on Norcum Point 36º 05.1029' N - 76º 27.7120' W; and west of a line beginning on the north shore at a point 36º 04.7426' N - 76º 24.2537' W; running southwesterly to the south shore to a point 36º 04.1137' N - 76º 24.5366' W.

(10) Yeopim River Area, Yeopim Creek - south of a line beginning on the west shore at a point 36º 04.7206' N - 76º 24.8396' W; running easterly to the east shore to a point 36º 04.7426' N - 76º 24.2536' W.

(11) Edenton Bay - all waters of Edenton Bay and its tributaries west of a line beginning on the north shore at a point 36º 03.3757' N - 76º 36.3629' W; running southerly to the south shore to a point 36º 03.3551' N - 76º 36.3574' W; and north of a line beginning on the west shore at a point 36º 02.1767' N - 76º 38.4058' W; running easterly to the east shore to a point 36º 02.0299' N - 76º 36.0445' W; and east of a line beginning on the west shore at a point 36º 03.2819' N - 76º 37.0138' W; running northeasterly to the east shore to a point 36º 03.4185' N - 76º 36.6783' W.

(12) Chowan River - all waters of the Chowan River and tributaries northwest of a line beginning on the west shore at a point 36º 02.3162' N - 76º 42.4896' W; running northeasterly to the east shore to a point 36º 03.1013' N - 76º 40.8732' W; and south of a line beginning on the west shore at a point 36º 32.6293' N - 76º 55.3564' W; and running to the east shore to a point 36º 32.6284' N - 76º 55.1757' W.

(13) Chowan River Area, Meherrin River - all waters of the Meherrin River and tributaries west of a line beginning on the north shore at a point 36º 25.9937' N - 76º 56.8884' W; running southerly to the south shore to a point 36º 25.7926' N - 76º 56.8966' W; and south of a line beginning on the west shore at a point 36º 32.7867' N - 77º 09.8885' W; running easterly to the east shore to a point 36º 32.7807' N - 77º 09.8565' W.

(14) Cashie River - all waters of the Cashie River and tributaries east of a line beginning on the north shore at a point 35º 54.7865' N - 76º 49.0521' W; running southerly to the south shore at a point 35º 54.6691' N - 76º 49.0553' W; west of a line beginning on the ~~north~~ west shore at a point ~~35º 56.4598' N - 76º 43.8093' W;~~ 35º 56.2934' N - 76º 44.1769' W; running ~~southerly~~ easterly to the north shore to a point on the north shore of an island in the mouth of the river 35º 56.2250' N - 76º

43.9265' W; west of a line beginning on the south shore at a point of an island in the mouth of the river 35º 56.1254' N - 76º 43.9846' W; running southerly to the south shore to a point 35º 56.0650' N - 76º 43.9599' W.

(15) Middle River - all waters of the Middle River southwest of a line beginning on the west shore at a point 35º 55.4000' N - 76º 43.8259' W; running southeasterly to the east shore to a point 35º 55.3977' N - 76º 43.6797' W.

(16) Eastmost River - all waters of the Eastmost River and its tributaries south of a line beginning on the west shore at a point 35º 56.5024' N - 76º 42.4877' W; running westerly to the east shore to a point 35º 56.4070' N - 76º 42.7647' W.

(17) Roanoke River - all waters of the Roanoke River and tributaries south of a line beginning on the west shore at a point 35º 56.5068' N - 76º 41.8858' W; running easterly to the east shore to a point 35º 56.5324' N - 76º 41.5896' W; and southeast of a line beginning on the west shore at a point 36º 12.5264' N - 77º 23.0223' W; running northeasterly to the east shore along the south side of the Highway 258 Bridge to a point 36º 12.5674' N - 77º 22.9724' W.

(18) Roanoke River Area:

(a) Warren Neck Creek - all waters of Warren Neck Creek and its tributaries west of a line beginning on the northwest shore at a point 35º 52.1820' N - 76º 47.4855' W; running southerly to the southeast shore to a point 35º 52.1448' N - 76º 47.4237' W.

(b) Thoroughfare - all waters of the Thoroughfare south of a line beginning on the west shore at a point 35º 54.0510' N - 76º 48.1206' W; running easterly to the east shore to a point 35º 54.0684' N - 76º 48.0613' W; and north of a line beginning on the west shore at a point 35º 53.2842' N - 76º 48.8650' W; running easterly to the east shore to a point 35º 55.2800' N - 76º 48.8077' W.

(c) Devils Gut - all waters of Devils Gut and its tributaries northwest of a line beginning on the west shore at a point 35º 49.5300' N - 76º 54.2209' W; running easterly to the east shore to a point 35º 49.5486' N - 76º 54.1703' W.

(d) Conine Creek - all waters of Conine Creek and its tributaries west of a line beginning on the north shore at a point 35º 52.9752' N - 76º 58.0474' W; running southwesterly to the south shore to a point 35º 52.9776' N - 76º 57.9958' W.

(19) Scuppernong River - all waters of the Scuppernong River and tributaries southeast of a line beginning on the northeast shore at a point 35º 56.7196' N - 76º 18.8964' W; running southwesterly to the southwest shore to a point 35º 56.3351' N - 76º 19.6609' W; and north of a line beginning on the west shore at a point 35º 54.0158' N - 76º 15.4605' W; running easterly to the east shore to a point 35º 54.0406' N - 76º 15.3007' W.

(20) Alligator River - all waters of the Alligator River and tributaries east of a line beginning on the north shore at Cherry Ridge Landing at a point 35º 42.2172' N - 76º 08.4686' W; running southerly to the south shore to a point 35º 42.1327' N - 76º 08.5002' W; and south of a line beginning on the

west shore at a point 35º 57.4252' N - 76º 00.8704' W; running easterly to the east shore to a point 35º 57.5494' N - 75º 56.8268' W.

(21) Alligator River Area, the Frying Pan - all waters of the Frying Pan and its tributaries west of a line beginning on the north shore at a point 35º 46.0777' N - 76º 03.3439' W; running southerly to the south shore to a point 35º 45.6011' N - 76º 03.3692' W.

(22) Neuse River - all waters of the Neuse River and its tributaries northwest of a line beginning on the west shore at a point 35° 08.8723' N - 77° 04.6700' W; running northeasterly to the east shore to a point 35° 09.1032' N - 77° 04.3355' W and southeast of a line at Pitch Kettle Creek beginning on the north shore at a point 35° 16.9793' N - 77° 15.5529' W; running south to the south shore to a point 35° 16.9237' N - 77° 15.5461' W.

(23) Neuse River Area:

(a) Smith Creek - north of a line beginning on the west shore at a point 35° 02.2439' N - 76° 42.3035' W; running easterly to the east shore to a point 35° 02.2392' N - 76° 42.1910' W.

(b) Kershaw Creek - north of a line beginning on the west shore at a point 35° 02.4197' N - 76° 43.7886' W; running easterly to the east shore to a point 35° 02.4218' N - 76° 43.7367' W.

(24) White Oak River - all waters north of a line beginning at a point on the west shore 34° 46.0728' N - 77° 08.9657' W; running easterly to a point on the east shore 34° 46.1431' N - 77° 08.8907' W; running north to the Coastal - Inland ~~waters~~ Fishing Waters boundary line beginning at a point on the west shore 34° 48.1466' N - 77° 11.4711' W; running northeasterly to a point on the east shore 34° 48.1620' N - 77° 11.4244' W.

(25) Cape Fear River - all waters north of a line beginning at a point on the west shore 34° 07.7034' N - 77° 57.3431' W; running easterly to a point on the east shore 34° 08.0518' N - 77° 55.7626' W; running north to the Joint - Inland ~~waters~~ Fishing Waters boundary on the following rivers:

(a) Cape Fear River - at a line beginning at a point on the west shore 34° 24.2628' N - 78° 17.6390' W; running northeasterly along the Lock and Dam ~~# 1~~ No. 1 to a point on the east shore 34° 24.2958' N - 78° 17.5634' W.

(b) Black River - at a line beginning at a point on the north shore 34° 22.0783' N - 78° 04.4123' W; running southeasterly to a point on the south shore 34° 21.9950' N - 78° 04.2864' W.

(c) Northeast Cape Fear River - at a line beginning at a point on the west side 34° 26.5658' N - 77° 50.0871' W; running northeasterly along the southern side of the ~~NC~~ Highway 210 Bridge to a point on the east side 34° 26.6065' N - 77° 49.9955' W.

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

15A NCAC 03R .0202 RIVER HERRING MANAGEMENT AREAS

(a) The Albemarle Sound River Herring Management Area referenced in 15A NCAC 03J .0209 is defined as the Coastal and Joint Fishing Waters of Albemarle, Currituck. Roanoke, Croatan and Pamlico sounds and all their joint water tributaries north of a line beginning on the west shore at a point 35° 48.5015' N - 75° 44.1228' W on Roanoke Marshes Point; running southeasterly to the east shore to a point 35° 44.1710' N - 75° 31.0520' W on the north point of Eagles Nest Bay.

(b) The Chowan River River Herring Management Area referenced in 15A NCAC 03J .0209 is defined as the area northwest of a line beginning on the west shore at a point 35° 59.9267' N - 76° 41.0313' W on Black Walnut Point; running northeasterly to the east shore to a point 36° 02.2140' N - 76° 39.3240' W on Reedy Point, to the North Carolina/Virginia state line; including the Meherrin River.

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

Fiscal Impacts of Proposed Rule Changes to the American Eel Fishery Under the NC Interjurisdictional Fishery Management Plan

Rule Amendments: 15A NCAC 03J .0301 POTS
15A NCAC 03M .0510 AMERICAN EEL

Name of Commission: NC Marine Fisheries Commission

Agency Contact: John Hadley, Fisheries Economics Program Manager
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Impact Summary:
State government: No
Local government: No
Federal government: No
Substantial impact: No

Authority: G. S. 113-134 (Rules); G.S. 113-173 (Recreational Commercial Gear License); G.S. 113-182 (Regulation of fishing and fisheries); G.S. 113-221.1 (Proclamations; emergency review); G.S. 143B-289.52 (Marine Fisheries Commission – powers and duties)

Necessity: As required under the North Carolina Interjurisdictional Fishery Management Plan and in accordance with Addendum III to the Atlantic States Marine Fisheries Commission Fishery Management Plan for American Eel, the proposed rule changes implement a nine-inch minimum size limit, a 25-fish recreational possession limit, and a no-take provision for American eels from September 1 to December 31 unless they are taken with baited pots. Additionally, there will be a minimum mesh size requirement of one-half by one-half-inch mesh for eel pots, allowing for a phase in period until January 1, 2017. Rule changes are proposed to allow state law to align with federal mandates and maintain consistency with rules regulating the American eel fishery in inland waters. Additionally, part of the proposed rule change regarding proclamation authority has been put forth as part of an ongoing attempt to standardize rule language granting proclamation authority throughout NC Marine Fisheries Commission rules.

I. Summary

The proposed rule changes comply with the North Carolina Interjurisdictional Fishery Management Plan by adopting the required measures in Addendum III to the Atlantic States Marine Fisheries Commission Fishery Management Plan for American Eel and are expected to help rebuild depleted eel stocks as well as clarify proclamation authority. These rule changes are not expected to incur costs independent from federal requirements, as these changes conform to what is required by federal law. These rule changes will initially generate some costs to both the commercial and recreational fishing sectors; however, the commercial sector is expected to experience the majority of these costs. The cost to the recreational fishing sector is not quantified but is likely to be

minor. The upper bound of the estimated cost to the commercial fishing sector is between $374,500 and $409,500 in the first year, however the realized costs from the rule changes is likely to be lower. The rule changes allow the North Carolina commercial and recreational fisheries involving American eels to maintain federal compliance and continue to take place. Over the past five years (2009 to 2013), an average of approximately 70,000 pounds of American eels with an ex-vessel value of $177,000 has been commercially landed annually in North Carolina.

II. Introduction and Purpose of Rule Changes

American eels are managed by the Atlantic States Marine Fisheries Commission (ASMFC) Interstate Fishery Management Plan (FMP) for American Eel, adopted initially in 2000. The 2012 Benchmark Stock Assessment found that the American eel population in U.S. waters is depleted. The assessment concluded that "[t]he stock is at or near historically low levels due to a combination of historical overfishing, habitat loss, food web alterations, predation, turbine mortality, environmental changes, toxins and contaminants, and disease." (ASMFC, 2013)

Federal law requires the conservation management actions approved through an ASMFC FMP be implemented by the state of North Carolina (US CODE TITLE 16 CHAPTER 71 § 5104 - STATE IMPLEMENTATION OF COASTAL FISHERY MANAGEMENT PLANS)[1] . From the North Carolina perspective, the Fisheries Reform Act of 1997 (S.L. 1997-400) mandates development of state FMPs. American eel is included in the NC Interjurisdictional FMP (IJ FMP). The goal of the IJ FMP is to adopt federal FMPs, consistent with North Carolina law, by reference and implement corresponding fishery regulations in North Carolina in order to maintain compliance or compatibility with approved federal FMPs and amendments, now and in the future. In the case of the American eel fishery, should the state of North Carolina choose to go out of federal compliance, the US Secretary of Commerce may declare a moratorium on the state's fishery (US CODE TITLE 16 CHAPTER 71 § 5106 – SECRETARIAL ACTION)[2].

Addendum III to the ASMFC American Eel FMP was approved for management at the ASMFC American Eel Management Board's August 2013 meeting. This addendum had as its basis a peer-reviewed and board-approved stock assessment. The 2012 American Eel Benchmark Stock Assessment found the stock status of American eel to be depleted and recommended reducing mortality at all life stages, noting that fishing of young-of-the-year (glass eels) and out-migrating silver eels could be particularly detrimental. Addendum III incorporated management measures for each life stage -- glass eel, elver, yellow, and silver eel -- and must be implemented by January 1, 2014.

Addendum III is currently being implemented through temporary suspension of current rules and issuance of proclamation (via rule 15A NCAC 03I .0102 TEMPORARY SUSPENSION OF RULES and 03M .0512 COMPLIANCE WITH FISHERY MANAGEMENT PLANS) for compliance of North Carolina eel fisheries with federal requirements. In addition to meeting federal requirements, rule changes are proposed instead of addressing the management of the eel fishery completely through

[1,2] Text available in the NC Interjurisdictional Fisheries Management Plan at (http://portal.ncdenr.org/c/document_library/get_file?uuid=ea2668aa-71db-4393-b401-2c72a1154b2f&groupId=38337)

proclamation in order to maintain consistency with rule changes for eel pots in inland waters under the jurisdiction of the North Carolina Wildlife Resources Commission (15A NCAC 10C .0404). Also, NCDMF expects that proposed measures in the ASMFC Interstate FMP for American eels will remain in place for several years. Putting long-standing measures into rule benefits the public through improved accessibility and greater awareness of requirements among the regulated community.

Several considerations for rule changes exist. Addendum III requires eel pots to be constructed of one-half by one-half-inch or larger mesh with a three-year phase-in period allowed, during which a four-inch square escape panel of one-half by one-half-inch or larger mesh may be used. North Carolina currently requires this four-inch square escape panel constructed of one-half by one-inch-mesh. Previously, pots could be constructed of any mesh size as long as they had the required escape panel. To comply with ASMFC rules, eel pots must be constructed entirely of one-half by one-half-inch mesh by January 1, 2017. In conjunction with the mesh size requirement, the ASMFC implemented a nine-inch minimum size limit for American eel. This requires North Carolina to raise its minimum size limit from six inches to nine inches and reduce the recreational bag limit from 50 to 25 American eels per person per day effective January 1, 2014. However, party/charter boats are allowed to continue to possess 50 American eels per crew/captain for the purpose of transporting bait and participating in charter operations.

Addendum III also requires a harvest moratorium on eels from gear types other than baited traps and pots or spears annually from September 1 through December 31. Thus, eels cannot be retained from gear types such as fyke nets, pound nets, gill nets, trawls, or any other type of commercial fishing gear during these months. These gear types may still be used for fishing, but the retention of eels from these gear types is not allowed.

Additionally, part of the proposed rule change regarding proclamation authority has been put forth as part of an ongoing attempt to standardize rule language granting proclamation authority throughout NC Marine Fisheries Commission rules. NC Division of Marine Fisheries (NCDMF) staff has identified that proclamation authority across several rules is generally 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. These general rule changes are not intended to alter the scope of the proclamation authority, nor are they being proposed with the intention of changing current management.

III. Costs

Eel fishermen will face costs from the federally mandated requirements; however, NCDMF does not expect the related proposed rule changes to create costs outside of meeting the minimum federal requirements, as these changes conform to what is required by federal law. The proposed rule change clarifying proclamation authority is not expected to incur any costs, as it not intended to alter the scope of the proclamation authority or management practices.

The annual harvest moratorium on eels from gear types other than baited traps and pots or spears from September 1 through December 31 may incur some minimal costs. This

measure will cause less than a 0.001-percent reduction in eel landings during these months based on commercial landings data; therefore, NCDMF expects these costs to be negligible. These gear types may still be fished but the retention of eels from these gear types would not be allowed.

The increased size limit for eels will generate costs for fishermen, as a larger percentage of the catch will be discarded. The precise extent to which the catch will be decreased is unknown. However NCDMF has estimated the cost based on the value of the entire commercial catch. The commercial eel fishery in North Carolina has incurred landings worth an average of $175,155 over the past five years (2009-2013). Assuming a 10-percent to 30-percent reduction in landings due to the increased size limit, which is seen as a reasonable range by NCDMF staff, the cost to commercial fishermen is estimated to be approximately $17,500 to $52,500 annually.

Decreasing the recreational bag limit from 50 eels to 25 eels is expected to incur minor costs. Some recreational fisheries such as the cobia and striped bass fisheries do utilize eels for bait. The bag limit of 25 eels per person will still allow the use of eels as bait to continue in these fisheries. Additionally, for-hire operations will still be allowed to possess 50 eels per person for the captain and crew.

The majority of the cost of the proposed rule change stems from the new mesh requirement for an eel pot. All pots that have a mesh size of less than one-half by one-half-inch will need to be replaced by January 1, 2017. While the actual number of pots to be replaced is unknown, eel logbook data indicates that the average number of eel pots fished per person from 2009 to 2013 was 204 pots. Over this same time frame there was an average of 25 participants in the eel pot fishery annually. It is estimated that a fully rigged eel pot costs approximately $70 per pot. Assuming that all participants had to replace all eel pots due to the proposed rule change, the estimated cost would be approximately $357,000. This is an upper-bound estimate of cost to fishermen, as it is likely that some of the eel pots will need to be replaced due to damage to the gear in the absence of the proposed rule changes. The rule changes may accelerate the cost of gear replacement forward several years for some industry participants, but it is not likely that all gear will need to be replaced solely to meet the new mesh size requirements. Furthermore, some eel pots may already meet the mesh-size requirements and eel pots that need to be replaced before the required implementation date of January 1, 2017 will likely meet the new mesh standards as fishermen will have had several years of advanced notice of the new mesh size requirements.

IV. Benefits

The proposed rule changes may help maintain and rebuild American eel populations and improve public clarity of eel regulations by allowing rules to comply with the updated federal requirements as mandated by the ASMFC, which in turn allows North Carolina to maintain compliance with federal mandates (US CODE TITLE 16 CHAPTER 71 § 5104 - STATE IMPLEMENTATION OF COASTAL FISHERY MANAGEMENT PLANS). Aligning rules with federally mandated requirements as well as the eel management rule for inland waters helps the regulated public more clearly understand eel fishery management regulations as well as allows the fishery to continue to take place (US CODE TITLE 16 CHAPTER § 5106 – SECRETARIAL ACTION). Over the past five years (2009 to 2013) an average of approximately 70,000 pounds of American eels with an ex-

vessel value of $177,000 has been commercially landed annually in North Carolina. This fishery along with the use of eels as bait in recreational fisheries could potentially be put in jeopardy should the fisheries management measures outlined in Addendum III to the ASMFC American Eel FMP not be implemented. This is an upper-bound estimate of the benefits of the rule changes, as fishermen could switch to other fisheries if the eel fishery were closed and because there is the possibility that the federal government would not shut down North Carolina's eel fishery in the absence of the proposed rule changes. Also, the clarification of proclamation authority makes this rule language consistent with other rules granting proclamation authority. This consistency among rules granting proclamation authority aids in public awareness of what type of fisheries management measures may be specified by proclamation.

V. Comprehensive Statement of Costs and Benefits

Rule changes associated with the ASMFC Interstate FMP for American Eel are expected to have a combined cost and benefit that will not meet the statutory threshold for a substantial economic impact of $1 million in aggregate costs and benefits in any given 12-month period.

NCDMF's estimates of the total costs and benefits of the proposed rule changes include:

1) Modification of 15A NCAC 03J .0301 and 15A NCAC 03M .0510 will not impose costs beyond what is required by federal law. The upper-bound estimate of these costs is $374,500 to $409,500 in a single 12-month period. The rule change made outside of federal requirements in 15A NCAC 03J .0301 that clarifies proclamation authority will not impose any costs, as this rule change is not intended to alter the scope of the proclamation authority or management practices. Implementing the proposed rule changes will continue consistency with rules regulating American eel fishing in inland waters as well as maintain federal compliance of the North Carolina American eel fishery, thereby allowing this fishery to continue to occur. This fishery has accounted for an average of approximately 70,000 pounds of American eels with an ex-vessel value of $177,000 annually over the past five years (2009-2013). This is the upper-bound estimate of the benefit of the rule changes. Finally, clarifying rule language aimed at proclamation authority aids in public awareness of what type of fisheries management measures may be specified by proclamation.

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

Rule	Estimated Cost	Estimated Benefit
15A NCAC 03J .0301 and 15A NCAC 03M .0510	$357,000 (upper-bound of cost occurring one time) $17,500 to $52,500 (annual)	$177,000 (upper-bound of benefit occurring annually)
Total	$374,500 to $409,500 (upper-bound of cost in a single 12-month period)	$177,000 (upper-bound of benefit occurring annually)

VI. Certificate of Federal Requirement

In accordance with requirements outlined in G.S. § 150B-19.1. (g), the proposed rule changes in 15A NCAC 03J .0301 and 15A NCAC 03M .0510 are being put forth to maintain compliance with the ASMFC Interstate FMP for American Eel Addendum III. Federal law requires the conservation management actions approved through an ASMFC FMP be implemented by the state of North Carolina (US CODE TITLE 16 CHAPTER 71 § 5104 - STATE IMPLEMENTATION OF COASTAL FISHERY MANAGEMENT PLANS).

All proposed rule changes regarding the management of the American eel fishery are being put forth as part of this federal requirement other than a change to rule language clarifying proclamation authority in the eel fishery. This measure is not specified in the ASMFC Interstate FMP for American Eel Addendum III. This proposed rule change is being put forth as part of an ongoing attempt to standardize rule language granting proclamation authority throughout NC Marine Fisheries Commission rules. NC Division of Marine Fisheries (NCDMF) staff has identified that proclamation authority across several rules is generally 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. These general rule changes are not intended to alter the scope of the proclamation authority or current management.

VII. Works Cited

Atlantic States Marine Fisheries Commission (August 2013). *Addendum III to the Fishery Management Plan for American Eel*. http://www.asmfc.org/uploads/file//amEelAddendum_III_Aug2013.pdf.

North Carolina Department of Environment and Natural Resources (June 2008). North Carolina Division of Marine Fisheries. *North Carolina Interjurisdictional Fisheries Management Plan. http://portal.ncdenr.org/c/document_library/get_file?uuid=ea2668aa-71db-4393-b401-2c72a1154b2f&groupId=38337.*

Appendix: Proposed Rule Changes

NOTE: CHANGES TO 15A NCAC 03J .0301 INCLUDE CHANGES FOR EEL POTS AND CHANGES TO THE MANAGEMENT OF USER CONFLICTS WHICH ARE CONVERED IN A SEPARATE ANALYSIS.

15A NCAC 03J .0301 POTS

(a) It is unlawful to use pots except during time periods and in areas specified herein:

(1) In Coastal Fishing Waters from December 1 through May 31, except that all pots shall be removed from ~~internal waters~~ Internal Waters from January 15 through February 7. Fish pots upstream of U.S. 17 Bridge across Chowan River and upstream of a line across the mouth of Roanoke, Cashie, Middle and Eastmost Rivers to the Highway 258 Bridge are exempt from the January 15 through February 7 removal requirement. The Fisheries Director may, by proclamation, reopen various waters to the use of pots after January 19 if it is determined that such waters are free of pots.

(2) From June 1 through November 30, north and east of the Highway 58 Bridge at Emerald Isle:

(A) In areas described in 15A NCAC 03R .0107(a);

(B) To allow for the variable spatial distribution of crustacea and finfish, the Fisheries Director may, by proclamation, specify time periods for or designate the areas described in 15A NCAC 03R .0107(b); or any part thereof, for the use of pots.

(3) From May 1 through November 30 in the Atlantic Ocean and west and south of the Highway 58 Bridge at Emerald Isle in areas and during time periods designated by the Fisheries Director by proclamation.

The Fisheries Director may, by proclamation authority established in 15A NCAC 03L .0201, further restrict the use of pots to take blue crabs.

(b) It is unlawful to use pots:

(1) in any navigation channel marked by State or Federal agencies; or

(2) in any turning basin maintained and marked by the North Carolina Ferry Division.

(c) It is unlawful to use pots in a commercial fishing operation unless each pot is marked by attaching a floating buoy which shall be of solid foam or other solid buoyant material and no less than five inches in diameter and no less than five inches in length. Buoys may be of any color except yellow or hot pink or any combination of colors that include yellow or hot pink. The owner shall always be identified on the attached buoy by using engraved buoys or by engraved metal or plastic tags attached to the buoy. Such identification shall include one of the following:

(1) gear owner's current motorboat registration number; or

(2) gear owner's U.S. vessel documentation name; or

(3) gear owner's last name and initials.

(d) Pots attached to shore or a pier shall be exempt from Subparagraphs (a)(2) and (a)(3) of this Rule.

(e) It is unlawful to use shrimp pots with mesh lengths smaller than one and one-fourth inches stretch or five-eighths-inch bar.

(f) It is unlawful to use ~~eel~~ pots to take eels with mesh ~~sizes~~ lengths smaller than ~~one inch by one-half inch unless such pots contain~~ one-half inch by one-half inch, except until January 1, 2017 eel pots of any mesh length with an escape panel that is at least four inches square with a mesh ~~size~~ length of one inch by one-half inch located in the outside panel of the upper chamber of rectangular pots and in the rear portion of cylindrical ~~pots, except that not more than two eel pots per fishing operation with a mesh of any size may be used to take eels for bait.~~pots are allowed.

(g) It is unlawful to use crab pots in ~~coastal fishing waters~~ Coastal Fishing Waters unless each pot contains no less than two unobstructed escape rings that are at least two and five-sixteenths inches inside diameter and located in the opposite outside panels of the upper chamber of the pot, except the following are exempt from the escape ring requirements:

(1) unbaited pots;

(2) pots baited with a male crab; and

(3) pots set in areas and during time periods described in 15A NCAC 03R .0118.

(h) The Fisheries Director may, by proclamation, exempt the escape ring requirements described in Paragraph (g) of this Rule in order to allow the harvest of mature female crabs and may impose any or all of the following restrictions:

~~(1) specify areas;~~

~~(2) specify time periods; and~~

~~(3) specify means and methods.~~

(1) specify time;

(2) specify areas;

(3) specify means and methods;

(4) specify seasons; and

(5) specify quantity.

(i) It is unlawful to use more than 150 crab pots per vessel in Newport River.

(j) It is unlawful to remove crab pots from the water or remove crabs from crab pots between one hour after sunset and one hour before sunrise.

~~(k) User Conflicts:~~

~~(1) In order to address user conflicts, the Fisheries Director may by proclamation impose any or all of the following restrictions:~~

~~(A) specify areas;~~

~~(B) specify time periods; and~~

~~(C) specify means and methods.~~

~~The Fisheries Director shall hold a public meeting in the affected area before issuance of such proclamation.~~

~~(2) Any person(s) desiring user conflict resolution may make such request in writing addressed to the Director of the Division of Marine Fisheries, P.O. Box 769, 3441 Arendell St., Morehead City, North Carolina 28557-0769. Such requests shall contain the following information:~~

~~(A) a map of the affected area including an inset vicinity map showing the location of the area with detail sufficient to permit on-site identification and location;~~

~~(B) identification of the user conflict causing a need for user conflict resolution;~~

~~(C) recommended solution for resolving user conflict; and~~

~~(D) name and address of the person(s) requesting user conflict resolution.~~

~~(3) Upon the requestor's demonstration of a user conflict to the Fisheries Director and within 90 days of the receipt of the information required in Subparagraph (k)(2) of this Rule, the Fisheries Director shall issue a public notice of intent to address a user conflict. A public meeting shall be held in the area of the user conflict. The requestor shall present his or her request at the public meeting, and other parties affected may participate.~~

~~(4) The Fisheries Director shall deny the request or submit a proclamation that addresses the results of the public meeting to the Marine Fisheries Commission for their approval.~~

~~(5) Proclamations issued under Subparagraph (k)(1) of this Rule shall suspend appropriate rules or portions of rules under 15A NCAC 03R .0107 as specified in the proclamation. The provisions of 15A NCAC 03I .0102 terminating suspension of a rule pending the next Marine Fisheries Commission meeting and requiring review by the Marine Fisheries Commission at the next meeting shall not apply to proclamations issued under Subparagraph (k)(1) of this Rule.~~

~~(l)~~(k) It is unlawful to use pots to take crabs unless the line connecting the pot to the buoy is non-floating.

~~(m)~~(l) It is unlawful to use pots with leads or leaders to take shrimp. For the purpose of this Rule, leads or leaders are defined as any fixed or stationary net or device used to direct fish into any gear used to capture fish. Any device with leads or leaders used to capture fish is not a pot.

Authority G. S. 113-134; 113-173; 113-182; 113-221.1; 143B-289.52

15A NCAC 03M .0510 AMERICAN EEL

It is unlawful to:

(1) Possess, sell or take American eels less than ~~six~~ nine inches in length; ~~and~~

(2) Possess more than ~~50~~ 25 American eels per person per day for recreational ~~purposes.~~purposes, except the master and each mate of for-hire vessels that hold a valid for-hire license may possess 50 eels each per day; and

(3) Possess American eels from September 1 through December 31 except when taken by baited pots.

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

Fiscal Impacts of Proposed Rule Changes to the For-Hire Licensing and Logbook Requirements and to the Atlantic Ocean Striped Bass Commercial Gear Permit Authorized by Statutory Changes in Session Law 2013-360

Rule Amendments: 15A NCAC 03I .0101 DEFINITIONS
15A NCAC 03O .0101 PROCEDURES AND REQUIREMENTS TO OBTAIN LICENSES, ENDORSEMENTS AND COMMERCIAL FISHING VESSEL REGISTRATIONS
15A NCAC 03O .0106 DISPLAY OF LICENSES AND REGISTRATIONS
15A NCAC 03O .0112 FOR HIRE COASTAL RECREATIONAL FISHING
15A NCAC 03O .0501 PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS
15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC

Name of Commission: NC Marine Fisheries Commission

Agency Contact: John Hadley, Fisheries Economics Program Manager
NC 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: Session Law 2013-360, Section 14.8(e), Section 14.8(f) and 14.8(o) [See Appendix 2]

Necessity: In accordance with Session Law 2013-360, the proposed rule amendments [See Appendix 1] reflect recent statutory changes affecting for-hire licensing and the Atlantic Ocean Striped Bass Commercial Gear Permit. In order to broaden options for licensees and improve the North Carolina Division of Marine Fisheries (NCDMF) fisheries statistics, these rules propose to eliminate the current For-Hire Permit and blanket licenses and replace them with a captain's for-hire license, a blanket for-hire vessel license, and a non-blanket for-hire vessel license. The proposed rules also implement a for-hire endorsement on the commercial fishing vessel registration, require affirmation of liability coverage and knowledge of U.S. Coast Guard (USCG) safety requirements, and require weekly logbook reporting from for-hire licensees. Additionally, the permit fee for the Atlantic Ocean Striped Bass Commercial Gear Permit is removed from rule and the November 1 deadline to purchase the annual permit is eliminated.

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

I. Summary

In an effort to address deficiencies and inequities in the current for-hire licensing structure, the North Carolina General Assembly (NCGA) enacted changes to the state's marine recreational for-hire license to include a Blanket Captains License, a Blanket Vessel License, and a Non-blanket Vessel License. The NCGA incorporated these three new licenses into G.S. 113-168.6 and G.S. 113-174.3 through Session Law 2013-360. Also, statutory changes included the addition of a required affirmation of liability coverage and knowledge of USCG safety requirements by for-hire license holders as well as a weekly logbook requirement to improve recreational catch and effort statistics for the for-hire industry. Rule changes are required to align Marine Fisheries Commission rules with the statutory changes, accommodate weekly logbook reporting, and remove the November 1 deadline for purchasing the annual Atlantic Ocean Striped Bass Commercial Gear Permit. These rule changes are expected to incur a cost of $265,500 initially and $245,500 annually thereafter.

II. Introduction and Purpose of Rule Changes

In order to establish a system to provide management tools for monitoring the for-hire industry, the Marine Fisheries Commission utilized rule-making authority to establish a provisional no-cost For-Hire Fishery Permit in 2003. Several years after the commission established the permit requirement, the NCGA enacted new laws creating a Coastal Recreational Fishing License (CRFL). The NCGA enacted the new laws, in part, to provide management tools for monitoring recreational anglers. During the 2003 Session, the General Assembly of North Carolina passed a CRFL requirement (G.S. 113-174 *et. seq.*), which became effective January 1, 2007. One of the new laws, G.S. 113-174.3, pertained directly to the optional Blanket For-Hire CRFL, which established fees and removed responsibility for licensure of angling customers from the individual and placed it on the owner or operator of the vessel. Having a database of for-hire participants allowed NCDMF to survey the industry for effort information as part of the For-Hire Survey that NCDMF conducts as a contractor to the National Marine Fisheries Service. The CRFL also satisfied requirements of the National Angler Registry as put forth in the federal Magnusson-Stevens Reauthorization Act of 2006[1] (NOAA, 2007).

A component of the CRFL offered an optional for-hire blanket license covering anglers' licensing requirements as long as they were aboard a properly licensed for-hire boat. The for-hire blanket license was available to USCG-licensed captains who carried six or fewer passengers (guides and charter boats) as well as a separate license for USCG-certified vessels carrying more than six passengers (headboats) and operated by a USCG-licensed captain. The price was $250 for six or fewer passengers and $350 for more than six passengers since the creation of the CRFL in 2007, with nonresidents paying the same fee as residents.

In March of 2011, the NCDMF held three meetings throughout coastal North Carolina with members of the for-hire industry in an effort to get industry feedback on changes to the license structure, logbooks, and other issues the industry may have. Stakeholders informed NCDMF of inequities and inefficiencies in the license design during these for-hire stakeholders meetings. For example, many inshore guides who use more than one vessel in their operation reported that they pay almost twice as much as much-larger headboat operations. This inequity was due to their need to purchase two blanket licenses, one for each vessel, even though they only used

[1] Magunson-Stevens Fishery Conservation and Management Act. As Amended Through January 12, 2007. May 2007. National Oceanic and Atmospheric Administration. National Marine Fisheries Service. http://www.nmfs.noaa.gov/msa2005/docs/MSA_amended_msa%20_20070112_FINAL.pdf

one vessel at a time. The inshore guide operations take out far fewer anglers each trip and in most cases fewer anglers per year, thereby creating an inequity due to the higher angler licensing costs. Some guides also reported limitations in operating other vessels either for a colleague or in the event of a breakdown of their primary vessel. These circumstances created additional costs for guides and/or clients involved in both small and large fishing operations and serve as an example of the inefficiencies inherent in the past structure. There was also general consensus at the stakeholder meetings that nonresidents should pay a higher fee than residents since they do not pay into the state system in ways residents do (property taxes, boat registrations, etc.).

NCDMF drafted recommendations from the series of meetings in the *Summary of the 2011 For-Hire Stakeholders Meetings Report to the Marine Fisheries Commission*[2]*.* The NC Marine Fisheries Commission (NCMFC) agreed with the recommendations, which were then incorporated into NCDMF's request for statutory revisions to the NC General Assembly. The General Assembly adopted these recommendations during the 2013 session in Session Law 2013-360.

Session Law 2013-360 made statutory changes to G.S. 113-168.6 and G.S. 113-174.3 that alter the way for-hire licenses are structured, require certain for-hire operations to obtain Commercial Fishing Vessel Registrations with for-hire endorsements for their vessels, obligate for-hire operators to affirm liability coverage and knowledge of USCG safety requirements, and require participants in the for-hire industry to begin submitting weekly logbooks of catch and effort data.

In an effort to address the deficiencies and inequities in the current for-hire licensing structure, NCDMF proposed changes to the license structure to include a Blanket Captain's License, a Blanket Vessel License, and a Non-blanket Vessel License (Table 1). These three new licenses are incorporated into G.S. 113-174.3. NCDMF recommended eliminating the original For-Hire Blanket CRFL's within the statute. The proposal also included higher nonresident fees. The new licenses are:

1. The Blanket For-Hire Captain's CRFL allows the holder to use any properly licensed vessel in his/her operation while covering the licensing requirements of the anglers. All vessels operated by the holder of a Blanket For-Hire Captain's CRFL must have a Commercial Fishing Vessel Registration with a for-hire endorsement. The Blanket For-Hire Captain's CRFL is intended primarily for the inshore guides who operate multiple vessels. The fee is the same as the former For-Hire Blanket CRFL, but should result in a cost savings to resident guides who operate multiple vessels. Nonresidents will pay more than residents.

2. The Blanket For-Hire Vessel CRFL is very similar to the current Blanket For-Hire CRFL wherein the vessel is licensed and must be operated by a USCG-licensed captain. This license is intended primarily for the headboat industry. There should not be any cost differences to resident headboat owners, but nonresidents will pay more.

3. The Non-Blanket For-Hire Vessel License (note: not a CRFL) is very similar to the current, free for-hire permit, but there is a cost for this license. This license is intended primarily for the dive boat industry that infrequently has divers who wish to spear fish.

[2] Available at http://portal.ncdenr.org/c/document_library/get_file?uuid=a1055e24-5169-4ddb-aa9d-c8cd422ecf9d&groupId=38337

Spear fishermen on a dive boat will have to obtain their own individual CRFL to legally take fish. Guides may seek to purchase this license if they do not wish to cover their anglers' licensing requirements, as is achieved by the other two types of licenses.

Table 1. Summary of the new for-hire licenses, intended use, comments, and fees.

New License	Intended For	Comments	Resident Fees	Nonresident Fees
Blanket For-Hire Captain's CRFL	Guides and charter boat owners with more than one vessel	Allows holder to conduct for-hire operations on any vessel with a CFVR and for-hire endorsement	$250 (<=six passengers) $350 (>six passengers)	$312.50 (<=six passengers) $437.50 (>six passengers)
Blanket For-Hire Vessel CRFL	Guides, charter boats and head boats with only one vessel	Allows any USCG-licensed captain to operate a vessel	$250 (<=six passengers) $350 (>six passengers)	$312.50 (<=six passengers) $437.50 (>six passengers)
Non-blanket Vessel License	Dive boats	Low-cost license for operators who do not wish to cover their passengers' licensing requirements	$25	$37.50

In order to incorporate new weekly logbook requirements, NCDMF staff felt it necessary to amend 15A NCAC 03I .0101 to define a logbook as well as amend the definition of a trip ticket to clarify the difference between the two forms of documentation. Additionally, a rule change is needed in 15A NCAC 03O .0112 to implement weekly reporting of fishing activity by for-hire licensees. Weekly reporting will lead to more accurate catch, effort, and release information required for finfish stock assessments, allow NCDMF to better monitor catch quotas, and alleviate many of the uncertainties associated with survey and extrapolation data. NCDMF chose weekly reporting as the preferred reporting period over biweekly or monthly reporting, as it will provide more timely catch information and reduce issues associated with recalling catch information of previous trips for captains that may not keep a personal daily catch log. Also, the current federal logbook reporting period is weekly. The improved and timelier catch data offered by weekly reporting will benefit the regulated public by aligning reporting periods for for-hire operations that are involved in both federal- and state-managed fisheries and may help extend the season in fisheries that have allocated recreational fishing quotas, where fisheries may be shut down early due to large uncertainties or long reporting periods for landings data. NCDMF is making efforts to allow flexible reporting methods with the development of paper forms, web reporting, and mobile reporting apps for both tablets and smart phones. NCDMF staff are working to remove any redundancy that may exist with federal reporting requirements.

Other changes to 15A NCAC 03O .0112, as well as to 03O .0101, .0106, .0112, .0501, and .0503, bring rules in line with statutory changes and/or eliminate references to for-hire licenses that no longer exist. Additionally, 15A NCAC 03O .0501 contains changes to the Atlantic Ocean Striped Bass Commercial Gear Permit. These changes remove the cost of the permit fee from rule, as it is now set in statute, and eliminate the November 1 deadline for the purchase of the annual permit. The elimination of the November 1 deadline is intended to allow fishermen more

flexibility in entering the commercial Atlantic Ocean striped bass fishery at any time during the year.

III. Costs

Rule changes that strictly implement statutory requirements are not expected to incur any costs independent from statute, as these changes simply conform to what is required by law. NCDMF does not expect the proposed rule changes to affect operational costs for issuing a for-hire license or for applicants purchasing a for-hire license. NCDMF will incur operational costs and both NCDMF as well as for-hire operations will incur opportunity costs due to the weekly logbook reporting requirements for for-hire operations. Based on the NCDMF for-hire license records, there were 598 individual for-hire licensees in 2013. Of these licensees, 13 currently undertake weekly logbook reporting due to federal logbook requirements for headboat operations and will be exempt from the NCDMF weekly reporting requirement. Therefore, the proposed rule change requiring weekly reporting will affect 585 individuals. NCDMF estimates that reporting requirements will take approximately thirty minutes a week per for-hire license holder. There will be provisions where a license holder will not need to report should they expect to not partake in for-hire fishing trips for an extended period; therefore, reporting will not be required year-round for all for-hire licensees. This analysis assumes that weekly reporting for approximately eight months of the year leads to an estimated total time expense of 9,360 person-hours annually (16 hours for each affected individual.) Based on the Bureau of Labor Statistics 2013 mean hourly wage for farming, fishing, and forestry workers of $13.09 per hour[3] and benefits equivalent to approximately 33% of total compensation,[4] the estimated opportunity cost stemming from the weekly logbook reporting requirement is approximately $182,500 annually (Table 2).

NCDMF will incur direct costs to implement and run the for-hire logbook program. While not yet in place, NCDMF estimates that additional annual operational costs will include $5,000 for logbook printing, $3,000 for travel and transportation, $10,000 for supplies and postage, and $5,000 for computer and database expenses. In the first year, there will be a one-time cost of $25,000 for web-interface development to implement an online and mobile version of the logbook, along with an annual cost of $5,000 for web-interface maintenance. Additionally, NCDMF will hire a program administrator and data entry clerk to oversee and run the program. The expected cost of these positions (salary with benefits included) is $55,000 for the program administrator and $40,000 for the data entry clerk. Overall, NCDMF estimates the estimated operational costs for the logbook program to be $143,000 the first year and $123,000 annually thereafter. Funding for this program will come from the NCDMF Coastal Angling Program, which is funded through the sales of recreational fishing licenses in the state. Other state or federal funding sources may supplement or supplant funding from the Coastal Angling Program in the future; however, the for-hire logbook program is currently fully funded for the foreseeable future.

The extent to which law enforcement will incur direct or opportunity costs is unknown, as such a program has yet to be implemented in the state on a large scale in for-hire fisheries. This makes estimating costs for law enforcement very difficult to quantify with any certainty. NCDMF expects law enforcement to address initial non-compliance through a written letter to those out of compliance with reporting requirements.

[3] United States Department of Labor Bureau of Labor Statistics. May 2013 State Occupational Employment and Wage Estimates North Carolina. http://www.bls.gov/oes/current/oes_nc.htm#45-0000.
[4] United States Department of Labor Bureau of Labor Statistics. Employer Costs for Employee Compensation- March 2014. http://www.bls.gov/news.release/pdf/ecec.pdf.

Table 2. Estimated cost of weekly logbook reporting requirements.

		Initial	Recurring
Direct Costs			
	Logbook Printing	$5,000	$5,000
	Travel	$3,000	$3,000
	Supplies and Postage	$10,000	$10,000
	Computer and Database	$5,000	$5,000
	Web Interface Development	$25,000	$5,000
	Program Administrator	$55,000	$55,000
	Data Entry Clerk	$40,000	$40,000
	Enforcement Costs	Unquantified	Unquantified
	Total Direct Costs	**$143,000**	**$123,000**
Opportunity Costs			
	Opportunity Cost to Licensees	$182,500	$182,500
	Enforcement Costs	Unquantified	Unquantified
	Total Opportunity Costs	**$182,500**	**$182,500**
Total Costs		***$325,500***	***$305,500***

IV. Benefits

The proposed rule changes implement changes in statute and are expected to improve the licensing process for for-hire fishing operations. They are designed to increase equity of licensing costs between large and small operations as well as provide flexibility to allow for-hire operations to purchase the most suitable license for their business. Furthermore, removing references in rule to the previous for-hire licenses will maintain rule clarity, as statutory changes already eliminated these licenses.

Additionally, the for-hire logbook will improve recreational fishing statistics. NCDMF expects that improved statistical monitoring of for-hire fishing operations will lead to more accurate catch, effort, and release information required for finfish stock assessments, allow NCDMF to better monitor catch quotas, and alleviate many of the areas of uncertainty associated with current survey- and extrapolation-based data. In some years this improved catch information may help extend the fishing season for some species. Additionally, for-hire captains will be able to have access to their personal catch data, which may be used for advertising, business-planning, or personal information purposes.

Finally, removing the fee for the Atlantic Ocean Striped Bass Commercial Gear Permit from rule will reduce redundant rule language as the fee is set and stated in statute. Eliminating the November 1 deadline for purchasing the annual permit will add flexibility for fishermen to participate in the Atlantic Ocean commercial striped bass fishery at any time during the year.

Appendix 1: Proposed Rule Changes

15A NCAC 03I .0101 DEFINITIONS

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

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 NC 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, Solengastrea (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 03O .0101 PROCEDURES AND REQUIREMENTS TO OBTAIN LICENSES, ENDORSEMENTS AND COMMERCIAL FISHING VESSEL REGISTRATIONS

NOTE: CHANGES TO 15A NCAC 03O .0101 INCLUDE CHANGES FOR THE FOR-HIRE LICENSE AND CHANGES IN OCEAN FISHING PIER LICENSING WHICH ARE CONVERED IN A SEPARATE ANALYSIS.

(a) To obtain any Marine Fisheries licenses, endorsements, commercial fishing vessel registrations except Recreational Fishing Tournament Licenses to Sell Fish and Land or Sell Licenses, the following information is required for the application by the licensee, a responsible party or person holding a power of attorney:

(1) Full name, physical address, mailing address, date of birth, and signature of the licensee on the application. If the licensee is not appearing before a license agent or a representative of the Division, the licensee's signature on the application shall be notarized;

(2) Current picture identification of licensee or responsible party; acceptable forms of picture identification are driver's license, state identification card, military identification card, resident alien card (green card) or passport or if purchased by mail, a copy thereof;

(3) Certification that the applicant does not have four or more marine or estuarine resource violations during the previous three years, except Blanket Coastal Recreational Fishing Licenses;

(4) Valid documentation papers or current motor boat registration or copy thereof when purchasing a commercial fishing vessel registration. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted;

(5) Current articles of incorporation and a current list of corporate officers when purchasing a license or commercial fishing vessel registration in a corporate name. In the case of incorporation of an individual fishing vessel, the name of the master of that vessel shall also be specified. It is unlawful to fail to notify the Morehead City Office of the Division of Marine Fisheries within five days of change of the master specified for that vessel;

(6) An affirmation of liability insurance and that the operator is knowledgeable of United States Coast Guard (USCG) safety requirements for the vessel(s) used in the operation in accordance with G.S. 113-168.6 when purchasing a commercial fishing vessel registration with a for-hire endorsement.

~~(6)~~(7) If a partnership is established by a written partnership agreement, a current copy of such agreement shall be provided when purchasing a license, endorsement or commercial fishing vessel registration in a partnership name;

~~(7)~~(8) For nonresidents, certification of the state of residency;

~~(8)~~(9) In addition to the information required in G.S. 113-169.4, linear length of pier when purchasing an Ocean Fishing Pier License;

~~(9)~~(10) In addition to the information required in G.S. 113-171.1, current aircraft registration and list of operator(s) when purchasing a Spotter Plane License;

~~(10)~~(11) In addition, for fish dealers licenses, the physical address of the established location where business is conducted and, if different, the address where records are kept;

~~(11)~~(12) When purchasing a Fish Dealer License with clam or oyster categories or a consolidated license, the applicant shall provide valid certification as a North Carolina certified shellfish dealer;

~~(12) In addition, for the Ocean Fishing Pier Blanket Coastal Recreation Fishing License, a valid Ocean Fishing Pier License issued in the name of the applicant or copy thereof.~~

(13) In addition, for the ~~For Hire~~ Blanket For-Hire Captain's Coastal Recreational Fishing ~~License,~~ License (CRFL), the applicant shall ~~provide:~~provide a valid certification from the USCG that allows carrying six or fewer passengers or a certification from the USCG that allows carrying more than six passengers; and

~~(A) A valid certification from the United States Coast Guard (USCG) that allows carrying six or fewer passengers or a certification from the USCG that allows carrying more than six passengers; and~~

~~(B) Valid documentation papers or current motor boat registration or copies thereof for the vessel engaged as for hire. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.~~

(14) In addition, for the Blanket For-Hire Vessel CRFL or the Non-Blanket For-Hire Vessel License, valid documentation papers or current motor boat registration or copies thereof for the vessel engaged as for-hire. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.

(b) License to Land Flounder from the Atlantic Ocean.

(1) To qualify for a License to Land Flounder from the Atlantic Ocean, the applicant shall:

(A) have landed in North Carolina at least 1,000 pounds of flounder from a single vessel each year from the Atlantic Ocean during any two of the 1992-93, 1993-94, 1994-95 license years for which the person had a vessel that was licensed to land in North Carolina; and

(B) have been licensed under G.S. 113-152 or 113-153 during any two of the 1992-93, 1993-94, or 1994-95 license years; and

(C) hold a valid Standard or Retired Standard Commercial Fishing License or valid Land or Sell License.

(2) It is lawful for a person to hold Licenses to Land Flounder from the Atlantic Ocean equal to the number of vessels that he owns that individually met the eligibility requirements of Parts (b)(1)(A) and (b)(1)(B) of this Rule.

(3) The License to Land Flounder from the Atlantic Ocean is only valid when used on the vessel specified at the time of license issuance.

(4) At the time of issuance, the applicant for the License to Land Flounder from the Atlantic Ocean shall specify the name of the master of the vessel for each License to Land Flounder from the Atlantic Ocean issued.

(5) Applicants for a License to Land Flounder from the Atlantic Ocean shall complete an application form provided by the Division of Marine Fisheries and submit it to the Morehead City Office of the Division of Marine Fisheries for processing.

(6) It is unlawful for the holder of the License to Land Flounder from the Atlantic Ocean to fail to notify the Morehead Office of the Division of Marine Fisheries within five days of change as to the master identified on the license.

(7) Licenses to Land Flounder from the Atlantic Ocean are issued for the current license year and expire on June 30.

(c) To obtain a Recreational Fishing Tournament License to Sell Fish, the tournament organizer shall apply with the Division of Marine Fisheries at least 30 days prior to the starting date of the tournament with the following required information:

(1) Full name, physical address, mailing address, date of birth, signature of the tournament organizer, name of tournament, and dates of tournament on the license application. If the licensee is not appearing before a representative of the Division, the licensee's signature shall be notarized on the application.

(2) Current picture identification of tournament organizer; acceptable forms of picture identification are driver's license, state identification card, military identification card, or passport, or if purchased by mail, a copy thereof.

(d) To obtain a Land or Sell License, the following information is required for a proper application:

(1) Full name, physical address, mailing address, date of birth, and signature of the responsible party or master for the vessel on the license application. If the licensee is not appearing before a

representative of the Division, the licensee's signature on the application shall be notarized on the application;

(2) Current picture identification of responsible party or master; acceptable forms of picture identification are driver's license, state identification card, military identification card, or passport or if applying by mail, a copy thereof;

(3) Valid documentation papers or current motor boat registration or copy thereof when purchasing a commercial fishing vessel registration. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.

Fees shall be based on the vessel's homeport as it appears on the U.S. Coast Guard documentation papers or the State in which the vessel is registered.

(e) Proof of residency in North Carolina for:

(1) Standard Commercial Fishing License or Retired Standard Commercial Fishing License shall require a notarized certification from the applicant that the applicant is a resident of the State of North Carolina as defined by G.S. 113-130(4); and

(A) a notarized certification from the applicant that a North Carolina State Income Tax Return was filed for the previous calendar or tax year as a North Carolina resident; or

(B) a notarized certification that the applicant was not required to file a North Carolina State Income Tax Return for the previous calendar or tax year; or

(C) military identification, military dependent identification and permanent change of station orders or assignment orders substantiating individual's active duty assignment at a military facility in North Carolina.

(2) All other types of licenses:

(A) North Carolina voter registration card; or

(B) Current North Carolina Driver's License; or

(C) Current North Carolina Certificate of Domicile; or

(D) Current North Carolina Identification Card issued by the North Carolina Division of Motor Vehicles; or

(E) Military identification, military dependent identification and permanent change of station orders or assignment orders substantiating individual's active duty assignment at a military facility in North Carolina.

(f) Applications submitted without complete and required information shall be deemed incomplete and shall not be considered further until resubmitted with all required information.

(g) It is unlawful for a license or registration holder to fail to notify the Division of Marine Fisheries within 30 days of a change of address.

(h) Licenses are available at Offices of the Division or by mail from the Morehead City Office, unless otherwise specified. In addition, Recreational Commercial Gear Licenses are available at Wildlife Service Agents who have been designated as agents of the Department.

(i) To renew any Marine Fisheries licenses, endorsements, and commercial fishing vessel registration, except Recreational Commercial Gear Licenses, the following is required for the renewal application by the licensee, a responsible party or person holding a power of attorney;

(1) The information required in Subparagraphs (a)(4), (a)(5), and (a)(6) of this Rule are only required if a change has occurred since the last issuance of license, endorsement or commercial fishing vessel registration.

(2) Certification that articles of incorporation and list of corporate officers, if incorporated, written partnership agreement, if written partnership, or documentation papers or motor boat registration previously provided for initial license purchase are still valid and current for renewal.

(3) Current and valid state driver's license or state identification picture identification numbers and expiration dates shall be verified on mail license renewal applications or any other electronic license renewal process, otherwise the licensee shall provide a photocopy for renewal by mail or visit a Division License Office and present a current and valid picture identification pursuant to Subparagraph (a)(2) of this Rule.

(4) The licensee's or responsible party's signature on the application shall certify all information as true and accurate. Notarization of signature on renewal applications is not required.

(5) The Division of Marine Fisheries may require current copies of documentation for licenses, endorsements, commercial fishing vessel registration on renewal when necessary to verify inconsistent information or the information cannot be verified by independent sources.

(6) If the linear length of the pier has not changed for the Ocean Fishing Pier License renewal, the responsible party shall certify that the length is accurate; otherwise, a Marine Patrol Officer's signature is required to certify the linear length before the license can be renewed.

(7) Certification that shellfish dealer certification by North Carolina previously provided for issuance of Fish Dealer License with clam or oyster categories or consolidated license is still valid and current for renewal.

Authority G.S. 113-134; 113-168; 113-168.1-6; 113-169; 113-169.2-5; 113-171.1; 113-174.3; ~~113-174.4;~~ 143B-289.52

15A NCAC 03O .0106 DISPLAY OF LICENSES AND REGISTRATIONS

NOTE: CHANGES TO 15A NCAC 03O .0106 INCLUDE CHANGES FOR THE FOR-HIRE LICENSE AND CHANGES IN OCEAN FISHING PIER LICENSING WHICH ARE CONVERED IN A SEPARATE ANALYSIS.

(a) It is unlawful:

(1) For any person to use a vessel required to be registered under the provisions of G.S. 113-168.6 in a commercial fishing operation without a current commercial fishing vessel registration decal mounted on an exterior surface so as to be plainly visible when viewed from the port side; and

(2) To display any commercial fishing vessel registration decal not issued for the vessel displaying it.

(b) It is unlawful to fail to display any fish dealer's licenses required by G.S. 113-169.3, ocean fishing pier license required by ~~G.S. 113-169.4, or Ocean Fishing Pier Blanket Coastal Recreational Fishing License (CRFL) pursuant to G.S. 113-174.4~~ G.S. 113-169.4 in prominent public view in each location subject to licensing.

(c) It is unlawful to fail to display a current For-Hire License decal on the exterior surface of the vessel so as to be visible when viewed from the port side while engaged in for-hire recreational fishing.

Authority G.S. 113-168.6; 113-169.3; 113-169.4; ~~113-174.4;~~ 143B-289.52

15A NCAC 03O .0112 FOR HIRE COASTAL RECREATIONAL FISHING

~~(a) It is unlawful to operate a For-Hire Vessel unless the vessel operator possesses either the For-Hire Blanket Coastal Recreational Fishing License (CRFL) for the vessel or a Division of Marine Fisheries For-Hire Fishing Permit for the vessel as provided in 15A NCAC 03O .0503(k).~~

~~(b)~~(a) It is unlawful for a ~~For-Hire Vessel~~ for-hire operator to operate ~~under the For-Hire Blanket CRFL~~ without:

(1) Holding the ~~USCG~~ United States Coast Guard certification required in 15A NCAC 03O .0101(a)(13);

(2) Having ~~the For-Hire Blanket CRFL for the vessel or copy thereof~~ a copy of the for-hire license in possession and ready at hand for inspection; and

(3) Having current picture identification in possession and ready at hand for inspection.

~~(c) It is unlawful for the holder of the For-Hire Blanket CRFL to fail to participate in and provide accurate information as requested by the Division for biological sampling and survey programs.~~

~~(d) It is unlawful to fail to display a current For-Hire Blanket CRFL decal mounted on an exterior surface of the vessel so as to be visible when viewed from the port side while engaged in for-hire recreational fishing.~~

(b) It is unlawful to operate a vessel in a for-hire operation without the vessel having a valid Commercial Fishing Vessel Registration with a for-hire endorsement, a Blanket For-Hire Vessel Coastal Recreational Fishing License or a Non-Blanket For-Hire Vessel License.

(c) It is unlawful for the responsible party of a for-hire license to fail to provide to the Division of Marine Fisheries by Monday of each week a completed for-hire logbook detailing the fishing activity, or a no-activity report, for the previous week. For the purposes of this Paragraph, week is defined as Sunday through Saturday.

Authority G.S. 113-134; 113-174.3; 143B-289.52

15A NCAC 03O .0501 PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS

NOTE: CHANGES TO 15A NCAC 03O .0501 INCLUDE CHANGES FOR THE FOR-HIRE LICENSE AND CHANGES IN THE MANAGEMENT OF BAY SCALLOPS WHICH ARE CONVERED IN A SEPARATE ANALYSIS.

(a) To obtain any Marine Fisheries permit, the following information is required for proper application from the applicant, a responsible party or person holding a power of attorney:

(1) Full name, physical address, mailing address, date of birth, and signature of the applicant on the application. If the applicant is not appearing before a license agent or the designated Division contact, the applicant's signature on the application shall be notarized;

(2) Unexpired picture identification of applicant, responsible party and, when applicable, person holding a power of attorney. Acceptable forms of picture identification are driver's license, North Carolina Identification card issued by the North Carolina Division of Motor Vehicles, military identification card, resident alien card (green card) or passport or if applying by mail, a copy thereof;

(3) Full names and dates of birth of designees of the applicant who will be acting under the requested permit where that type permit requires listing of designees;

(4) Certification that the applicant and his designees do not have four or more marine or estuarine resource convictions during the previous three years;

(5) For permit applications from business entities:

(A) Business Name;

(B) Type of Business Entity: Corporation, partnership, or sole proprietorship;

(C) Name, address and phone number of responsible party and other identifying information required by this Subchapter or rules related to a specific permit;

(D) For a corporation, current articles of incorporation and a current list of corporate officers when applying for a permit in a corporate name;

(E) For a partnership, if the partnership is established by a written partnership agreement, a current copy of such agreement shall be provided when applying for a permit; and

(F) For business entities, other than corporations, copies of current assumed name statements if filed and copies of current business privilege tax certificates, if applicable; and

(6) Additional information as required for specific permits.

(b) A permittee shall hold a valid Standard or Retired Standard Commercial Fishing License in order to hold a:

(1) Pound Net Permit;

(2) Permit to Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean; or

(3) Atlantic Ocean Striped Bass Commercial Gear Permit.

(c) A permittee and his designees shall hold a valid Standard or Retired Standard Commercial Fishing License with a Shellfish Endorsement or a Shellfish License in order to hold a:

(1) Permit to Transplant Prohibited (Polluted) Shellfish;

(2) Permit to Transplant Oysters from Seed Oyster Management Areas;

(3) Permit to Use Mechanical Methods for ~~Oysters or Clams~~ Shellfish on Shellfish Leases or Franchises;

(4) Permit to Harvest Rangia Clams from Prohibited (Polluted) Areas; or

(5) Depuration Permit.

(d) A permittee shall hold a valid:

(1) Fish Dealer License in the proper category in order to hold Dealer Permits for Monitoring Fisheries Under a Quota/Allocation for that category; and

(2) Standard Commercial Fishing License with a Shellfish Endorsement, Retired Standard Commercial Fishing License with a Shellfish Endorsement or a Shellfish License in order to harvest clams or oysters for depuration.

(e) Aquaculture Operations/Collection Permits:

(1) A permittee shall hold a valid Aquaculture Operation Permit issued by the Fisheries Director to hold an Aquaculture Collection Permit.

(2) The permittee or designees shall hold appropriate licenses from the Division of Marine Fisheries for the species harvested and the gear used under the Aquaculture Collection Permit.

(f) Atlantic Ocean Striped Bass Commercial Gear Permit:

(1) ~~Application for an Atlantic Ocean Striped Bass Commercial Gear Permit must be made prior to November 1 of each year. A person shall declare one of the following gears for an initial Atlantic Ocean Striped Bass Commercial Gear Permit~~ Upon application for an Atlantic Ocean Striped Bass Commercial Gear Permit, a person shall declare one of the following gears for an initial permit and at intervals of three consecutive license years thereafter:

(A) gill net;

(B) trawl; or

(C) beach seine.

For the purpose of this Rule, a beach seine is defined as a swipe net constructed of multi-filament or multi-fiber webbing fished from the ocean beach that is deployed from a vessel launched from the ocean beach where the fishing operation takes place.

Gear declarations are binding on the permittee for three consecutive license years without regard to subsequent annual permit issuance.

(2) A person is not eligible for more than one Atlantic Ocean Striped Bass Commercial Gear Permit regardless of the number of Standard Commercial Fishing Licenses, Retired Standard Commercial Fishing Licenses or assignments held by the person.

~~(3) The annual, nonrefundable permit fee is ten dollars ($10.00).~~

~~(g) For Hire Fishing Permit:~~

~~(1) The permittee shall hold a valid certification from the United States Coast Guard (USCG) that allows carrying six or fewer passengers or a certification from the USCG that allows carrying more than six passengers;~~

~~(2) The permittee shall provide valid documentation papers or current motor boat registration or copies thereof for the vessel engaged as for hire. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.~~

~~(h)~~(g) Applications submitted without complete and required information shall not be processed until all required information has been submitted. Incomplete applications shall be returned to the applicant with deficiency in the application so noted.

~~(i)~~(h) A permit shall be issued only after the application has been deemed complete by the Division of Marine Fisheries and the applicant certifies to abide by the permit general and specific conditions established under ~~15A NCAC 03J .0501, 03J .0505, 03K .0103, 03K .0104, 03K .0107, 03K .0206, 03K .0303, 03K .0401, 03O .0502, and 03O .0503~~ 15A NCAC 03J .0501, .0505, 03K .0103, .0104, .0107, .0111, .0401, 03O .0502, and .0503 as applicable to the requested permit.

~~(j)~~(i) The Fisheries Director, or his agent may evaluate the following in determining whether to issue, modify or renew a permit:

(1) Potential threats to public health or marine and estuarine resources regulated by the Marine Fisheries Commission;

(2) Applicant's demonstration of a valid justification for the permit and a showing of responsibility as determined by the Fisheries Director;

(3) Applicant's history of habitual fisheries violations evidenced by eight or more violations in 10 years.

~~(k)~~(j) The Division of Marine Fisheries shall notify the applicant in writing of the denial or modification of any permit request and the reasons therefor. The applicant may submit further information, or reasons why the permit should not be denied or modified.

~~(l)~~(k) Permits are valid from the date of issuance through the expiration date printed on the permit. Unless otherwise established by rule, the Fisheries Director may establish the issuance timeframe for specific types and categories of permits based on season, calendar year, or other period based upon the nature of the activity permitted, the duration of the activity, compliance with federal or state fishery management plans or implementing rules, conflicts with other fisheries or gear usage, or seasons for the species involved. The expiration date shall be specified on the permit.

~~(m)~~(l) For permit renewals, the permittee's signature on the application shall certify all information as true and accurate. Notarization of signature on renewal applications is not required.

~~(n)~~(m) For initial or renewal permits, processing time for permits may be up to 30 days unless otherwise specified in this Chapter.

~~(o)~~(n) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries within 30 days of a change of name or address.

~~(p)~~(o) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries of a change of designee prior to use of the permit by that designee.

~~(q)~~(p) Permit applications are available at all Division Offices.

Authority G.S. 113-134; 113-169.1; 113-169.3; 113-182; 113-210; 143B-289.52

15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC

NOTE: CHANGES TO 15A NCAC 03O .0503 INCLUDE CHANGES FOR THE FOR-HIRE LICENSE AND CHANGES IN THE MANAGEMENT OF RIVER HERRING WHICH ARE CONVERED IN A SEPARATE ANALYSIS.

(a) Horseshoe Crab Biomedical Use Permit:

(1) It is unlawful to use horseshoe crabs for biomedical purposes without first obtaining a permit.

(2) It is unlawful for persons who have been issued a Horseshoe Crab Biomedical Use Permit to fail to submit a report on the use of horseshoe crabs to the Division of Marine Fisheries due on February 1 of each year. Such reports shall be filed on forms provided by the Division and shall include a monthly account of the number of crabs harvested, statement of percent mortality up to the point of release, and a certification that harvested horseshoe crabs are solely used by the biomedical facility and not for other purposes.

(3) It is unlawful for persons who have been issued a Horseshoe Crab Biomedical Use Permit to fail to comply with the Atlantic States Marine Fisheries Commission Interstate Fishery Management Plan for Horseshoe Crab monitoring and tagging requirements for horseshoe crabs. Copies of this plan are available from the Atlantic States Marine Fisheries Commission or the Division of Marine Fisheries' Morehead City Headquarters Office, P.O. Box 769, 3441 Arendell St., Morehead City, North Carolina 28557-0769.

(b) Dealers Permits for Monitoring Fisheries under a Quota/Allocation:

(1) During the commercial season opened by proclamation or rule for the fishery for which a Dealers Permit for Monitoring Fisheries under a Quota/Allocation permit is issued, it is unlawful for the fish dealers issued such permit to fail to:

(A) fax or send via electronic mail by noon daily, on forms provided by the Division, the previous day's landings for the permitted fishery to the dealer contact designated on the permit. Landings for Fridays or Saturdays shall be submitted on the following Monday. If the dealer is unable to fax or electronic mail the required information, the permittee shall call in the previous day's landings to the dealer contact designated on the permit but shall maintain a log furnished by the Division;

(B) submit the required log to the Division upon request or no later than five days after the close of the season for the fishery permitted;

(C) maintain faxes and other related documentation in accordance with 15A NCAC 03I .0114;

(D) contact the dealer contact designated on the permit daily regardless of whether or not a transaction for the fishery for which a dealer is permitted occurred; and

(E) record the permanent dealer identification number on the bill of lading or receipt for each transaction or shipment from the permitted fishery.

(2) Striped Bass Dealer Permit:

(A) It is unlawful for a fish dealer to possess, buy, sell, or offer for sale striped bass taken from the following areas without first obtaining a Striped Bass Dealer Permit validated for the applicable harvest area:

(i) Atlantic Ocean;

(ii) Albemarle Sound Management Area as designated in 15A NCAC 03R .0201; and

(iii) the Joint and Coastal Fishing Waters of the Central/Southern Management Area as designated in 15A NCAC 03R .0201.

(B) No permittee shall possess, buy, sell, or offer for sale striped bass taken from the harvest areas opened by proclamation without having a North Carolina Division of Marine Fisheries issued valid tag for the applicable area affixed through the mouth and gill cover, or, in the case of striped bass imported from other states, a similar tag that is issued for striped bass in the state of origin. North Carolina Division of Marine Fisheries striped bass tags shall not be bought, sold, offered for sale, or transferred. Tags shall be obtained at the North Carolina Division of Marine Fisheries Offices. The Division of Marine Fisheries shall specify the quantity of tags to be issued based on historical striped bass landings. It is unlawful for the permittee to fail to surrender unused tags to the Division upon request.

(3) Albemarle Sound Management Area for River Herring Dealer Permit: It is unlawful to possess, buy, sell, or offer for sale river herring taken from the following area without first obtaining an Albemarle Sound Management Area for River Herring Dealer Permit: Albemarle Sound Management Area for River Herring as defined in ~~15A NCAC 03J .0209.~~15A NCAC 03R .0202.

(4) Atlantic Ocean Flounder Dealer Permit:

(A) It is unlawful for a fish dealer to allow vessels holding a valid License to Land Flounder from the Atlantic Ocean to land more than 100 pounds of flounder from a single transaction at their licensed location during the open season without first obtaining an Atlantic Ocean Flounder Dealer Permit. The licensed location shall be specified on the Atlantic Ocean Flounder Dealer Permit and only one location per permit shall be allowed.

(B) It is unlawful for a fish dealer to possess, buy, sell, or offer for sale more than 100 pounds of flounder from a single transaction from the Atlantic Ocean without first obtaining an Atlantic Ocean Flounder Dealer Permit.

(5) Black Sea Bass North of Cape Hatteras Dealer Permit. It is unlawful for a fish dealer to purchase or possess more than 100 pounds of black sea bass taken from the Atlantic Ocean north of Cape

Hatteras (35° 15.0321' N) per day per commercial fishing operation during the open season unless the dealer has a Black Sea Bass North of Cape Hatteras Dealer Permit.

(c) Blue Crab Shedding Permit: It is unlawful to possess more than 50 blue crabs in a shedding operation without first obtaining a Blue Crab Shedding Permit from the Division of Marine Fisheries.

(d) Permit to Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean:

(1) It is unlawful to trawl for shrimp in the Atlantic Ocean without Turtle Excluder Devices installed in trawls within one nautical mile of the shore from Browns Inlet (34° 35.7000' N latitude) to Rich's Inlet (34° 17.6000' N latitude) without a valid Permit to Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean when allowed by proclamation from April 1 through November 30.

(2) It is unlawful to tow for more than 55 minutes from April 1 through October 31 and 75 minutes from November 1 through November 30 in this area when working under this permit. Tow time begins when the doors enter the water and ends when the doors exit the water.

(3) It is unlawful to fail to empty the contents of each net at the end of each tow.

(4) It is unlawful to refuse to take observers upon request by the Division of Marine Fisheries or the National Marine Fisheries Service.

(5) It is unlawful to fail to report any sea turtle captured. Reports shall be made within 24 hours of the capture to the Marine Patrol Communications Center by phone. All turtles taken incidental to trawling shall be handled and resuscitated in accordance with requirements specified in 50 CFR 223.206, copies of which are available via the Internet at www.nmfs.gov and at the Division of Marine Fisheries, 127 Cardinal Drive Extension, Wilmington, North Carolina 28405.

(e) Pound Net Set Permits. Rule 15A NCAC 03J .0505 sets forth the specific conditions for pound net set permits.

(f) Aquaculture Operations/Collection Permits:

(1) It is unlawful to conduct aquaculture operations utilizing marine and estuarine resources without first securing an Aquaculture Operation Permit from the Fisheries Director.

(2) It is unlawful:

(A) to take marine and estuarine resources from Coastal Fishing Waters for aquaculture purposes without first obtaining an Aquaculture Collection Permit from the Fisheries Director.

(B) to sell, or use for any purpose not related to North Carolina aquaculture, marine and estuarine resources taken under an Aquaculture Collection Permit.

(C) to fail to submit to the Fisheries Director an annual report due on December 1 of each year on the form provided by the Division the amount and disposition of marine and estuarine resources collected under authority of this permit.

(3) Lawfully permitted shellfish relaying activities authorized by 15A NCAC 03K .0103 and .0104 are exempt from requirements to have an Aquaculture Operation or Collection Permit issued by the Fisheries Director.

(4) Aquaculture Operations/Collection Permits shall be issued or renewed on a calendar year basis.

(5) It is unlawful to fail to provide the Division of Marine Fisheries with a listing of all designees acting under an Aquaculture Collection Permit at the time of application.

(g) Scientific or Educational Activity Permit:

(1) It is unlawful for institutions or agencies seeking exemptions from license, rule, proclamation or statutory requirements to collect, hold, culture or exhibit for scientific or educational purposes any marine or estuarine species without first obtaining a Scientific or Educational Activity Permit.

(2) The Scientific or Educational Activity Permit shall only be issued for scientific or educational purposes and for collection methods and possession allowances approved by the Division of Marine Fisheries.

(3) The Scientific or Educational Activity Permit shall only be issued for approved activities conducted by or under the direction of Scientific or Educational institutions as defined in Rule 15A NCAC 03I .0101.

(4) It is unlawful for the responsible party issued a Scientific or Educational Activity Permit to fail to submit a report on collections and, if authorized, sales to the Division of Marine Fisheries due on December 1 of each year unless otherwise specified on the permit. The reports shall be filed on forms provided by the Division. Scientific or Educational Activity permits shall be issued on a calendar year basis.

(5) It is unlawful to sell marine or estuarine species taken under a Scientific or Educational Activity Permit without:

(A) the required license(s) for such sale;

(B) authorization stated on the permit for such sale; and

(C) providing the information required in Rule 15A NCAC 03I .0114 if the sale is to a licensed fish dealer.

(6) It is unlawful to fail to provide the Division of Marine Fisheries a listing of all designees acting under a Scientific or Educational Activity Permit at the time of application.

(7) The permittee or designees utilizing the permit shall call the Division of Marine Fisheries Communications Center at 800-682-2632 or 252-726-7021 not later than 24 hours prior to use of the permit, specifying activities and location.

(h) Under Dock Oyster Culture Permit:

(1) It is unlawful to cultivate oysters in containers under docks for personal consumption without first obtaining an Under Dock Oyster Culture Permit.

(2) An Under Dock Oyster Culture Permit shall be issued only in accordance with provisions set forth in G.S. 113-210(c).

(3) The applicant shall complete and submit an examination, with a minimum of 70 percent correct answers, based on an educational package provided by the Division of Marine Fisheries pursuant to G.S. 113-210(j). The examination demonstrates the applicant's knowledge of:

(A) the application process;

(B) permit criteria;

(C) basic oyster biology and culture techniques;

(D) shellfish harvest area closures due to pollution;

(E) safe handling practices;

(F) permit conditions; and

(G) permit revocation criteria.

(4) Action by an Under Dock Oyster Culture Permit holder to encroach on or usurp the legal rights of the public to access public trust resources in Coastal Fishing Waters shall result in permit revocation.

(i) Atlantic Ocean Striped Bass Commercial Gear Permit:

(1) It is unlawful to take striped bass from the Atlantic Ocean in a commercial fishing operation without first obtaining an Atlantic Ocean Striped Bass Commercial Gear Permit.

(2) It is unlawful to use a single Standard Commercial Fishing License, including assignments, to obtain more than one Atlantic Ocean Striped Bass Commercial Gear Permit during a license year.

(j) Coastal Recreational Fishing License Exemption Permit:

(1) It is unlawful for the responsible party seeking exemption from recreational fishing license requirements for eligible individuals to conduct an organized fishing event held in Joint or Coastal Fishing Waters without first obtaining a Coastal Recreational Fishing License Exemption Permit.

(2) The Coastal Recreational Fishing License Exemption Permit shall only be issued for recreational fishing activity conducted solely for the participation and benefit of one of the following groups of eligible individuals:

(A) individuals with physical or mental limitations;

(B) members of the United States Armed Forces and their dependents, upon presentation of a valid military identification card, for military appreciation;

(C) individuals receiving instruction on recreational fishing techniques and conservation practices from employees of state or federal marine or estuarine resource management agencies, or instructors affiliated with educational institutions; and

(D) disadvantaged youths.

For purposes of this Paragraph, educational institutions include high schools and other secondary educational institutions.

(3) The Coastal Recreational Fishing License Exemption Permit is valid for the date(s), time and physical location of the organized fishing event for which the exemption is granted and the time period shall not exceed one year from the date of issuance.

(4) The Coastal Recreational Fishing License Exemption Permit shall only be issued when all of the following, in addition to the information required in 15A NCAC 03O .0501, is submitted to the Fisheries Director in writing a minimum of 30 days prior to the event:

(A) the name, date(s), time and physical location of the event;

(B) documentation that substantiates local, state, or federal involvement in the organized fishing event, if applicable;

(C) the cost or requirements, if any, for an individual to participate in the event; and

(D) an estimate of the number of participants.

~~(k) For Hire Fishing Permit:~~

~~(1) It is unlawful to operate a For Hire Vessel unless the vessel operator possesses either the For Hire Blanket Coastal Recreational Fishing License (CRFL) for the vessel as provided in 15A NCAC 03O .0112 or a Division of Marine Fisheries For Hire Fishing Permit for the vessel.~~

~~(2) It is unlawful for a For Hire vessel operator to operate under the For Hire Fishing Permit without:~~

~~(A) holding the USCG certification required in 15A NCAC 03O .0501(g)(1);~~

~~(B) having the For Hire Fishing Permit for the vessel or copy thereof in possession and ready at hand for inspection; and~~

~~(C) having current picture identification in possession and ready at hand for inspection.~~

~~(3) It is unlawful for the permittee to fail to notify the Division within five days of any changes to information provided on the permit.~~

~~(4) It is unlawful to fail to display a current For Hire Fishing Permit decal mounted on an exterior surface of the vessel so as to be visible when viewed from the port side while engaged in for hire recreational fishing.~~

~~(5) The For Hire Fishing Permit is valid for one year from the date of issuance.~~

Authority G.S. 113-134; 113-169.1; 113-169.3; 113-182; 113-210; 143B-289.52

Appendix 2: Excerpts from Session Law 2013-360, Section 14.8 (f), 14.8 (e), and 14.8 (o)

"**§ 113-169.1. Permits for gear, equipment, and other specialized activities authorized.**

(a) The Commission may adopt rules to establish permits for gear, equipment, and specialized activities, including commercial fishing operations that do not involve the use of a vessel and transplanting oysters or clams. The Commission may establish a fee for each permit established pursuant to this subsection in an amount that compensates the Division for the administrative costs associated with the permit but that does not exceed one hundred dollars ($100.00) per permit.

(b) The Commission may adopt rules to establish gear specific permits to take striped bass from the Atlantic Ocean and to limit the number and type of these permits that may be issued to a person. The Commission may establish a fee for each permit established pursuant to this subsection in an amount that compensates the Division for the administrative costs associated with the permit but that does not exceed ~~ten dollars ($10.00)~~thirty dollars ($30.00) per permit.

(c) To ensure an orderly transition from one permit year to the next, the Division may issue a permit prior to July 1 of the permit year for which the permit is valid. Revenue that the Division receives for the issuance of a permit prior to the beginning of a permit year shall not revert at the end of the fiscal year in which the revenue is received and shall be credited and available to the Division for the permit year in which the permit is valid."

"**§ 113-174.3. ~~For Hire Blanket CRFL.~~For-Hire Licenses.**

~~(a) License. – A person who operates a for hire boat may purchase a For Hire Blanket CRFL issued by the Division for the for hire boat. A For Hire Blanket CRFL authorizes all individuals on the for hire boat who do not hold a license issued under this Article or Article 25A of this Chapter to engage in recreational fishing in coastal fishing waters that are not joint fishing waters. A For Hire Blanket CRFL does not authorize individuals to engage in recreational fishing in joint fishing waters or inland fishing waters. A For Hire Blanket CRFL is valid for a period of one year from the date of issuance. The fee for a For Hire Blanket CRFL is:~~

~~(1) Two hundred fifty dollars ($250.00) for a vessel that will carry six or fewer passengers.~~

~~(2) Three hundred fifty dollars ($350.00) for a vessel that will carry greater than six passengers.~~

~~(b) Implementation. – Except as provided in this section and G.S. 113-174.2(d), each individual on board a for hire boat engaged in recreational fishing, other than crew members who do not engage in recreational fishing, must hold a license issued under this Article or Article 25A of this Chapter. An owner, operator, or crew member of a for hire boat is not responsible for the licensure of a customer fishing from the boat.~~

(c) License. – It is unlawful for a person to engage in a for-hire operation without having obtained one of the following licenses issued by the Division:

(1) Blanket For-Hire Captain's CRFL. – This license allows individuals properly licensed by the United States Coast Guard to carry passengers on any vessel with a commercial vessel registration with a for-hire endorsement. A Blanket For-Hire Captain's CRFL authorizes all individuals on the for-hire vessel who do not hold a license issued under this Article or Article 25A of this Chapter to engage in recreational fishing in coastal fishing waters that are not joint fishing waters. The resident fees for a Blanket For-Hire Captain's CRFL are two hundred fifty dollars ($250.00) for a vessel carrying six or fewer passengers and three hundred fifty dollars ($350.00) for a vessel carrying more than six passengers. The nonresident fees for a Blanket For-Hire Captain's CRFL are three hundred twelve dollars and fifty cents ($312.50) for a vessel carrying six or fewer passengers and four hundred thirty-seven dollars and fifty cents ($437.50) for a vessel carrying more than six passengers. Any vessel whose operator is licensed under this subdivision and that is engaged in for-hire fishing must obtain a Commercial Fishing Vessel Registration with a for-hire endorsement.

(2) Blanket For-Hire Vessel CRFL. – This license allows any United States Coast Guard licensed operator to carry passengers aboard the licensed vessel. A Blanket For-Hire Vessel CRFL authorizes all individuals on the for-hire vessel who do not hold a license issued under this Article or Article 25A of this Chapter to engage in recreational fishing in coastal fishing waters that are not joint fishing waters. The resident fees for a Blanket For-Hire Vessel CRFL are two hundred fifty dollars ($250.00) for a vessel carrying six or fewer passengers and three

hundred fifty dollars ($350.00) for a vessel carrying more than six passengers. The nonresident fees for a Blanket For-Hire Vessel CRFL are three hundred twelve dollars and fifty cents ($312.50) for a vessel carrying six or fewer passengers and four hundred thirty-seven dollars and fifty cents ($437.50) for a vessel carrying more than six passengers. Any vessel whose operator is licensed under this subdivision and that is engaged in for-hire fishing is not required to obtain a Commercial Fishing Vessel Registration with a for-hire endorsement.

(3) Non-Blanket For-Hire Vessel License. – This license allows any United States Coast Guard licensed operator to carry passengers aboard the licensed vessel. This license does not authorize individuals aboard the vessel to engage in recreational fishing unless they hold an individual CRFL issued under this Article or Article 25A of this Chapter. The fee for the Non-Blanket For-Hire Vessel License is twenty-five dollars ($25.00) for a vessel operated by a resident operator and thirty-seven dollars and fifty cents ($37.50) for a vessel operated by a nonresident operator. Any vessel whose operator is licensed under this subdivision and that is engaged in for-hire fishing is not required to obtain a Commercial Fishing Vessel Registration with a for-hire endorsement.

(d) A license issued under this section does not authorize individuals to engage in recreational fishing in joint fishing waters or inland fishing waters. All for-hire licenses expire on the last day of the license year.

(e) Each individual who obtains a for-hire license shall submit to the Division logbooks summarizing catch and effort statistical data to the Division. The Commission may adopt rules that determine the means and methods to satisfy the requirements of this subsection."

"**§ 113-168.6. Commercial fishing vessel registration.**

(a) As used in this subsection, a North Carolina vessel is a vessel that has its primary situs in the State. A vessel has its primary situs in the State if:

(1) A certificate of number has been issued for the vessel under Article 1 of Chapter 75A of the General Statutes;

(2) A certificate of title has been issued for the vessel under Article 4 of Chapter 75A of the General Statutes; or

(3) A certification of documentation has been issued for the vessel that lists a home port in the State under 46 U.S.C. § 12101, et seq., as amended.

(b) The owner of a vessel used in a commercial fishing operation in the coastal fishing waters of the State or a North Carolina vessel used to land or sell fish in the State shall register the vessel with the Division. It is unlawful to use a vessel that is not registered with the Division in a commercial fishing operation or a for-hire operation in the coastal fishing waters of the State. It is unlawful to use a North Carolina vessel that is not registered with the Division to land or sell fish in the State. No registration is required for a vessel of any length that does not have a motor if the vessel is used only in connection with another vessel that is properly registered.

(b1) The vessel owner at the time of application for registration under subsection (b) of this section shall obtain either a commercial vessel endorsement if the vessel is intended to be used primarily for the harvest of fish for sale, a for-hire endorsement if the vessel is intended to be used primarily for for-hire activities, or both endorsements if the vessel is intended to be engaged in both activities. The owner of a vessel applying for a commercial fishing vessel registration with a for-hire endorsement must affirm liability coverage and knowledge of applicable United States Coast Guard safety requirements.

(c) The annual fee for a commercial fishing vessel registration shall be determined by the length of the vessel and shall be in addition to the fee for other licenses issued under this Article. The length of a vessel shall be determined by measuring the distance between the ends of the vessel along the deck and through the cabin, excluding the sheer. The annual fee for a commercial fishing vessel registration is:

(1) ~~One dollar ($1.00)~~One dollar and twenty-five cents ($1.25) per foot for a vessel not over 18 feet in length.

(2) ~~One dollar and fifty cents ($1.50)~~One dollar and ninety cents ($1.90) per foot for a vessel over 18 feet but not over 38 feet in length.

(3) ~~Three dollars ($3.00)~~Three dollars and seventy-five cents ($3.75) per foot for a vessel over 38 feet but not over 50 feet in length.

(4) ~~Six dollars ($6.00)~~Seven dollars and fifty cents ($7.50) per foot for a vessel over 50 feet in length.

(d) A vessel may be registered at any office of the Division. A commercial fishing vessel registration expires on the last day of the license year.

(e) Within 30 days of the date on which the owner of a registered vessel transfers ownership of the vessel, the new owner of the vessel shall notify the Division of the change in ownership and apply for a replacement commercial fishing vessel registration. An application for a replacement commercial fishing vessel registration shall be accompanied by proof of the transfer of the vessel. The provisions of G.S. 113-168.1(h) apply to a replacement commercial fishing vessel registration."

Fiscal Impacts of Proposed Rule Changes to the Ocean Fishing Pier License and Ocean Fishing Pier Blanket Coastal Recreational Fishing License to Reflect Statutory Changes Implemented in Session Law 2013-360

Rule Amendments: 15A NCAC 03O .0101 PROCEDURES AND REQUIREMENTS TO OBTAIN LICENSES, ENDORSEMENTS AND COMMERCIAL FISHING VESSEL REGISTRATIONS
15A NCAC 03O .0106 DISPLAY OF LICENSES AND REGISTRATIONS
15A NCAC 03O .0113 OCEAN FISHING PIER BLANKET COASTAL RECREATIONAL FISHING LICENSE

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: No
Local government: No
Federal government: No
Substantial impact: No

Authority: Session Law 2013-360, Section 14.8(j); § 113-169.4.

Necessity: In accordance with Session Law 2013-360, the proposed rule changes combine two separate ocean pier licenses into one Ocean Fishing Pier License with the same net cost as the previous two licenses combined. The rule changes are necessary to remove rule references to the Ocean Fishing Pier Coastal Recreational Fishing License (CRFL), which was eliminated by the recent statutory changes.

I. Summary

The proposed rule changes eliminate rule references to the Ocean Fishing Pier CRFL to reflect recent legislation and statutory changes combining the Ocean Fishing Pier License with the Ocean Fishing Pier Blanket CRFL into one license at the same net cost of the two previous licenses. These changes are expected to streamline the licensing process for ocean fishing pier operations.

II. Introduction and Purpose of Rule Changes

Ocean fishing piers open to the public have been required to obtain a license from the North Carolina Division of Marine Fisheries (NCDMF) since the 1997 Fisheries Reform Act. The fee for an Ocean Fishing Pier License was initially set and has remained at

$0.50 per foot of linear length of the pier. Legislation authorizing the CRFL enacted on January 1, 2007 provided for a voluntary Ocean Fishing Pier Blanket CRFL for a cost of $4.00 per foot of linear length of the pier. This license authorized any patron of the pier who did not hold a CRFL to engage in recreational fishing while on the pier. If a pier owner opted not to purchase this license, each patron would need to hold his or her own individual Coastal Recreational Fishing License.

Currently, there are approximately 20 ocean fishing piers along the North Carolina coast open to the public. Each of these piers has been purchasing both the Ocean Fishing Pier License and the Ocean Fishing Pier Blanket CRFL each year, for a combined cost of $4.50 per foot of linear length. The Ocean Fishing Pier License is based on a fiscal year, while the Ocean Fishing Pier Blanket CRFL is effective for one year from date of purchase. The new Ocean Fishing Pier License, authorizing all pier patrons to engage in recreational fishing, will remain on a fiscal year cycle and cost $4.50 per foot of linear length of the pier. Combining these two licenses makes administrative sense as it eliminates one license and aligns the date for renewal. The proposed rule changes reflect the recent statutory changes combining the two pier licenses by eliminating references to the Ocean Fishing Pier Blanket CRFL.

III. Costs

There are no expected costs associated with the proposed rule changes. The rule changes remove references to the Ocean Fishing Pier Blanket CRFL, which was eliminated as part of Session Law 2013-360. The new Ocean Fishing Pier License combines the privileges and costs associated with the two licenses into one license.

IV. Benefits

The proposed rule changes are expected to streamline the licensing process for ocean fishing pier operations. Ocean fishing pier operations will need to obtain one license from NCDMF instead of two licenses for their pier. Furthermore, removing references in rule to the Ocean Fishing Pier Blanket CRFL will maintain rule clarity, as this license was eliminated via a statutory change and no longer exists.

Appendix I: Proposed Rule Changes

NOTE: CHANGES TO 15A NCAC 03O .0101 INCLUDE BOTH CHANGES FOR OCEAN FISHING PIER LICENSING AND CHANGES FOR FOR-HIRE LICENSING WHICH IS CONVERED IN A SEPARATE ANALYSIS.

15A NCAC 03O .0101 PROCEDURES AND REQUIREMENTS TO OBTAIN LICENSES, ENDORSEMENTS AND COMMERCIAL FISHING VESSEL REGISTRATIONS

(a) To obtain any Marine Fisheries licenses, endorsements, commercial fishing vessel registrations except Recreational Fishing Tournament Licenses to Sell Fish and Land or Sell Licenses, the following information is required for the application by the licensee, a responsible party or person holding a power of attorney:

(1) Full name, physical address, mailing address, date of birth, and signature of the licensee on the application. If the licensee is not appearing before a license agent or a representative of the Division, the licensee's signature on the application shall be notarized;

(2) Current picture identification of licensee or responsible party; acceptable forms of picture identification are driver's license, state identification card, military identification card, resident alien card (green card) or passport or if purchased by mail, a copy thereof;

(3) Certification that the applicant does not have four or more marine or estuarine resource violations during the previous three years, except Blanket Coastal Recreational Fishing Licenses;

(4) Valid documentation papers or current motor boat registration or copy thereof when purchasing a commercial fishing vessel registration. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted;

(5) Current articles of incorporation and a current list of corporate officers when purchasing a license or commercial fishing vessel registration in a corporate name. In the case of incorporation of an individual fishing vessel, the name of the master of that vessel shall also be specified. It is unlawful to fail to notify the Morehead City Office of the Division of Marine Fisheries within five days of change of the master specified for that vessel;

(6) An affirmation of liability insurance and that the operator is knowledgeable of United States Coast Guard (USCG) safety requirements for the vessel(s) used in the operation in accordance with G.S. 113-168.6 when purchasing a commercial fishing vessel registration with a for-hire endorsement.

~~(6)~~(7) If a partnership is established by a written partnership agreement, a current copy of such agreement shall be provided when purchasing a license, endorsement or commercial fishing vessel registration in a partnership name;

~~(7)~~(8) For nonresidents, certification of the state of residency;

~~(8)~~(9) In addition to the information required in G.S. 113-169.4, linear length of pier when purchasing an Ocean Fishing Pier License;

~~(9)~~(10) In addition to the information required in G.S. 113-171.1, current aircraft registration and list of operator(s) when purchasing a Spotter Plane License;

~~(10)~~(11) In addition, for fish dealers licenses, the physical address of the established location where business is conducted and, if different, the address where records are kept;

~~(11)~~(12) When purchasing a Fish Dealer License with clam or oyster categories or a consolidated license, the applicant shall provide valid certification as a North Carolina certified shellfish dealer;

~~(12) In addition, for the Ocean Fishing Pier Blanket Coastal Recreation Fishing License, a valid Ocean Fishing Pier License issued in the name of the applicant or copy thereof.~~

(13) In addition, for the ~~For-Hire~~ Blanket For-Hire Captain's Coastal Recreational Fishing ~~License,~~ License (CRFL), the applicant shall ~~provide:~~provide a valid certification from the USCG that allows carrying six or fewer passengers or a certification from the USCG that allows carrying more than six passengers; and

~~(A) A valid certification from the United States Coast Guard (USCG) that allows carrying six or fewer passengers or a certification from the USCG that allows carrying more than six passengers; and~~

~~(B) Valid documentation papers or current motor boat registration or copies thereof for the vessel engaged as for-hire. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.~~

(14) In addition, for the Blanket For-Hire Vessel CRFL or the Non-Blanket For-Hire Vessel License, valid documentation papers or current motor boat registration or copies thereof for the vessel engaged as for-hire. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.

(b) License to Land Flounder from the Atlantic Ocean.

(1) To qualify for a License to Land Flounder from the Atlantic Ocean, the applicant shall:

(A) have landed in North Carolina at least 1,000 pounds of flounder from a single vessel each year from the Atlantic Ocean during any two of the 1992-93, 1993-94, 1994-95 license years for which the person had a vessel that was licensed to land in North Carolina; and

(B) have been licensed under G.S. 113-152 or 113-153 during any two of the 1992-93, 1993-94, or 1994-95 license years; and

(C) hold a valid Standard or Retired Standard Commercial Fishing License or valid Land or Sell License.

(2) It is lawful for a person to hold Licenses to Land Flounder from the Atlantic Ocean equal to the number of vessels that he owns that individually met the eligibility requirements of Parts (b)(1)(A) and (b)(1)(B) of this Rule.

(3) The License to Land Flounder from the Atlantic Ocean is only valid when used on the vessel specified at the time of license issuance.

(4) At the time of issuance, the applicant for the License to Land Flounder from the Atlantic Ocean shall specify the name of the master of the vessel for each License to Land Flounder from the Atlantic Ocean issued.

(5) Applicants for a License to Land Flounder from the Atlantic Ocean shall complete an application form provided by the Division of Marine Fisheries and submit it to the Morehead City Office of the Division of Marine Fisheries for processing.

(6) It is unlawful for the holder of the License to Land Flounder from the Atlantic Ocean to fail to notify the Morehead Office of the Division of Marine Fisheries within five days of change as to the master identified on the license.

(7) Licenses to Land Flounder from the Atlantic Ocean are issued for the current license year and expire on June 30.

(c) To obtain a Recreational Fishing Tournament License to Sell Fish, the tournament organizer shall apply with the Division of Marine Fisheries at least 30 days prior to the starting date of the tournament with the following required information:

(1) Full name, physical address, mailing address, date of birth, signature of the tournament organizer, name of tournament, and dates of tournament on the license application. If the licensee is not appearing before a representative of the Division, the licensee's signature shall be notarized on the application.

(2) Current picture identification of tournament organizer; acceptable forms of picture identification are driver's license, state identification card, military identification card, or passport, or if purchased by mail, a copy thereof.

(d) To obtain a Land or Sell License, the following information is required for a proper application:

(1) Full name, physical address, mailing address, date of birth, and signature of the responsible party or master for the vessel on the license application. If the licensee is not appearing before a representative of the Division, the licensee's signature on the application shall be notarized on the application;

(2) Current picture identification of responsible party or master; acceptable forms of picture identification are driver's license, state identification card, military identification card, or passport or if applying by mail, a copy thereof;

(3) Valid documentation papers or current motor boat registration or copy thereof when purchasing a commercial fishing vessel registration. If an application for transfer of documentation is pending, a copy of the pending application and a notarized bill of sale may be submitted.

Fees shall be based on the vessel's homeport as it appears on the U.S. Coast Guard documentation papers or the State in which the vessel is registered.

(e) Proof of residency in North Carolina for:

(1) Standard Commercial Fishing License or Retired Standard Commercial Fishing License shall require a notarized certification from the applicant that the applicant is a resident of the State of North Carolina as defined by G.S. 113-130(4); and

(A) a notarized certification from the applicant that a North Carolina State Income Tax Return was filed for the previous calendar or tax year as a North Carolina resident; or

(B) a notarized certification that the applicant was not required to file a North Carolina State Income Tax Return for the previous calendar or tax year; or

(C) military identification, military dependent identification and permanent change of station orders or assignment orders substantiating individual's active duty assignment at a military facility in North Carolina.

(2) All other types of licenses:

(A) North Carolina voter registration card; or

(B) Current North Carolina Driver's License; or

(C) Current North Carolina Certificate of Domicile; or

(D) Current North Carolina Identification Card issued by the North Carolina Division of Motor Vehicles; or

(E) Military identification, military dependent identification and permanent change of station orders or assignment orders substantiating individual's active duty assignment at a military facility in North Carolina.

(f) Applications submitted without complete and required information shall be deemed incomplete and shall not be considered further until resubmitted with all required information.

(g) It is unlawful for a license or registration holder to fail to notify the Division of Marine Fisheries within 30 days of a change of address.

(h) Licenses are available at Offices of the Division or by mail from the Morehead City Office, unless otherwise specified. In addition, Recreational Commercial Gear Licenses are available at Wildlife Service Agents who have been designated as agents of the Department.

(i) To renew any Marine Fisheries licenses, endorsements, and commercial fishing vessel registration, except Recreational Commercial Gear Licenses, the following is required for the renewal application by the licensee, a responsible party or person holding a power of attorney;

(1) The information required in Subparagraphs (a)(4), (a)(5), and (a)(6) of this Rule are only required if a change has occurred since the last issuance of license, endorsement or commercial fishing vessel registration.

(2) Certification that articles of incorporation and list of corporate officers, if incorporated, written partnership agreement, if written partnership, or documentation papers or motor boat registration previously provided for initial license purchase are still valid and current for renewal.

(3) Current and valid state driver's license or state identification picture identification numbers and expiration dates shall be verified on mail license renewal applications or any other electronic license renewal process, otherwise the licensee shall provide a photocopy for renewal by mail or visit a Division License Office and present a current and valid picture identification pursuant to Subparagraph (a)(2) of this Rule.

(4) The licensee's or responsible party's signature on the application shall certify all information as true and accurate. Notarization of signature on renewal applications is not required.

(5) The Division of Marine Fisheries may require current copies of documentation for licenses, endorsements, commercial fishing vessel registration on renewal when necessary to verify inconsistent information or the information cannot be verified by independent sources.

(6) If the linear length of the pier has not changed for the Ocean Fishing Pier License renewal, the responsible party shall certify that the length is accurate; otherwise, a Marine Patrol Officer's signature is required to certify the linear length before the license can be renewed.

(7) Certification that shellfish dealer certification by North Carolina previously provided for issuance of Fish Dealer License with clam or oyster categories or consolidated license is still valid and current for renewal.

Authority G.S. 113-134; 113-168; 113-168.1-6; 113-169; 113-169.2-5; 113-171.1; 113-174.3; ~~113-174.4;~~ 143B-289.52

NOTE: CHANGES TO 15A NCAC 03O .0106 INCLUDE BOTH CHANGES FOR OCEAN FISHING PIER LICENSING AND CHANGES FOR FOR-HIRE LICENSING WHICH IS CONVERED IN A SEPARATE ANALYSIS.

15A NCAC 03O .0106 DISPLAY OF LICENSES AND REGISTRATIONS

Fiscal Note for Proposed Rule Changes 15A NCAC 03O .0101, 15A NCAC 03O .0106, and 15A NCAC 03O .0113

(a) It is unlawful:

(1) For any person to use a vessel required to be registered under the provisions of G.S. 113-168.6 in a commercial fishing operation without a current commercial fishing vessel registration decal mounted on an exterior surface so as to be plainly visible when viewed from the port side; and

(2) To display any commercial fishing vessel registration decal not issued for the vessel displaying it.

(b) It is unlawful to fail to display any fish dealer's licenses required by G.S. 113-169.3, ocean fishing pier license required by ~~G.S. 113-169.4, or Ocean Fishing Pier Blanket Coastal Recreational Fishing License (CRFL) pursuant to G.S. 113-174.4~~ G.S. 113-169.4 in prominent public view in each location subject to licensing.

(c) It is unlawful to fail to display a current For-Hire License decal on the exterior surface of the vessel so as to be visible when viewed from the port side while engaged in for-hire recreational fishing.

Authority G.S. 113-168.6; 113-169.3; 113-169.4; ~~113-174.4;~~ 143B-289.52

15A NCAC 03O .0113 OCEAN FISHING PIER ~~BLANKET COASTAL RECREATIONAL FISHING~~ LICENSE REPORTING REQUIREMENTS

~~(a) The length of the pier used to determine the license fee for an Ocean Fishing Pier Blanket Coastal Recreational Fishing License shall be obtained from the Ocean Fishing Pier License.~~

~~(b)~~ It is unlawful for the responsible party of the Ocean Fishing Pier ~~Blanket Coastal Recreational Fishing~~ License to fail to provide to the Division by the 10th of each month a daily count of anglers fishing from the licensed pier from the previous month, including a daily count of zero for days when anglers did not fish. The information shall be submitted on a paper form provided by the Division or via electronic mail.

Authority G.S. 113-134; 113-169.4; 113-174.1; ~~113-174.4;~~ 143B-289.52

Appendix II: Excerpt from Session Law 2013-360, Section 14.8 (j):

"**§ 113-169.4. Licensing of ocean fishing piers; fees.**

(a) The owner or operator of an ocean fishing pier within the coastal fishing waters who charges the public a fee to fish in any manner from the pier shall secure a current and valid pier license from the Division. An application for a pier license shall disclose the names of all parties involved in the pier operations, including the owner of the property, owner of the pier if different, and all leasehold or other corporate arrangements, and all persons with a substantial financial interest in the pier.

(b) Within 30 days following a change of ownership of a pier, or a change as to the manager, the manager or new manager shall secure a replacement pier license as provided in G.S. 113-168.1(h).

(c) Pier licenses are issued upon payment of ~~fifty cents (50¢)~~four dollars and fifty cents ($4.50) per linear foot, to the nearest foot, that the pier extends into coastal fishing waters beyond the mean high waterline. The length of the pier shall be measured to include all extensions of the pier.

(d) The manager who secures the pier license shall be the individual with the duty of executive-level supervision of pier operations.

(e) The pier license issued under this section authorizes any individual who does not hold a Coastal Recreational Fishing License under Article 14B or Article 25A of this Chapter to engage in recreational fishing while on the pier."

Fiscal Impacts of Proposed Rule Changes to 15A NCAC 03J .0301 POTS and 15A NCAC 03I .0122 USER CONFLICT RESOLUTION

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
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Impact Summary: *De minimis* rule change
State government: No
Local government: No
Federal government: No
Substantial impact: No

Authority: G.S. 113-133 (Abolition of Local Coastal Fishing Laws); 113-134 (Rules); 113-181 (Duties and Powers of Department); 113-182 (Regulation of Fishing and Fisheries); 113-221.1 (Proclamations; Emergency Review); 143B-289.52 (Marine Fisheries Commission – Powers and Duties)

Necessity: The current user conflict rule in 15 NCAC 03J .0301(j) arose in the context of conflict involving crab pots and has been located in the pots section of that subchapter of the N.C. Administrative Code since it was originally adopted. In practice, the rule is now being used for a variety of user conflicts, involving several different types of gears. Division staff is concerned that the location of the user conflict rule in a section on pots is not the most logical or visible place for the public to locate general information related to user conflicts. The continuing need to use 15A NCAC 03J .0301(j) to address all types of user conflicts validates the relocation of this paragraph of the rule to the General Rules subchapter for improved rule clarity.

I. Summary

Recent use of the rule addressing user conflict resolution 15A NCAC 03J .0301(j) for a user conflict that did not involve the use of pots has revealed the need to move this paragraph of the rule from the section dealing with pots, dredges, and other fishing devices to the General Rules subchapter of the N.C. Marine Fisheries Commission rules for improved clarity and improved access by the public. The proposed rule changes do not have an anticipated quantifiable cost or benefit. Rule changes are anticipated to become effective April 1, 2015.

II. Introduction and Purpose of Rule Changes

Managing conflicts between users of public trust resources is a part of managing the resource. The N.C. Department of Environment and Natural Resources is charged with administering the governing statutes and adopting rules in a manner to reconcile as equitably as possible the various competing interests of the people as regards these resources, considering the interests of those whose livelihood depends upon full and wise use of renewable and nonrenewable resources and also the interests of the many whose approach is recreational (G.S. 113-133). The department (G.S. 113-181) and the N.C. Marine Fisheries Commission (G.S. 143B-289.52) are also charged with regulating placement of nets and other sports or commercial fishing apparatus in coastal fishing waters with regard to navigational and recreational safety as well as from a conservational standpoint. Additionally, the inclusion of information on user conflicts is considered necessary for the management of commercially and recreationally important marine or estuarine species of fisheries in the state, and the department is required to provide that information in its fishery management plans (G.S. 113-182.1). As the N.C. Division of Marine Fisheries (NCDMF) is primarily responsible for management of marine and estuarine resources, both in the department and as staff to the commission, the division is the agency primarily responsible for carrying out these mandates concerning fishing activities in coastal fishing waters.

Perhaps the most persistent and ubiquitous gear involved in user conflict issues is crab pots. The N.C. Blue Crab Fishery Management Plan states that crab pot landings have been recorded in North Carolina since 1952 and efforts to resolve user conflicts concerning crab pots have been in place since 1955. The unusually high effort in the crab pot fishery coupled with increases in coastal residency and boat ownership contributed to many conflicts between user groups. These factors led to the delegation of proclamation authority from the N.C. Marine Fisheries Commission to the Fisheries Director to address user conflict issues as a management strategy contained in the N.C. Blue Crab Fishery Management Plan. The regulation was added to the section of the N.C. Administrative Code designated for pots, dredges, and other fishing devices, effective Aug. 1, 2000. Use of this proclamation authority provides a much faster mechanism for implementing measures to alleviate user conflicts. As a result, 15A NCAC 03J .0301 was amended effective Sept. 1, 2005 to make the wording more generic so it could be used to address non-crab pot types of user conflicts. This rule continues to be used today to address user conflicts stemming from the use of multiple types of gear.

As the rule is actually being used for a variety of user conflicts, clarity will be better served by moving the user conflict part of the rule to the General Rules subchapter. User conflicts in general and user conflicts between fishermen and adjacent landowners in particular appear to be increasing. Relatively recent episodes in Carteret County indicate that these fisherman-landowner conflicts may become more frequent. The requirements and procedures set out in the user conflict rule and the Marine Fisheries Commission Mediation Standard Operating Procedure provide specific guidance for careful and deliberate handling of these conflicts. These requirements and procedures are designed to manage disputes in a way that achieves lasting resolution amenable to all parties. The overall goal is to promote cooperation and understanding among user groups, and strengthen North Carolina's commitment to maintaining user diversity and public access to fishing opportunities and fisheries resources. Use of the proposed adopted user

conflict rule including the mediation policy will be the first priority for resolving user conflicts and should be readily accessible to the public.

Additionally, part of the proposed rule change regarding proclamation authority 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 alter 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 the proposed rule changes. These changes are being sought to improve clarity to the public of the location and intended use of rules related to user conflict resolution.

IV. Benefits

While there are no quantifiable economic benefits to the proposed rule changes, the public is expected to benefit from changes, as the rules related to user conflict resolution will be more easily recognized and clearly stated, especially for conflicts not involving pots.

Appendix 1: Proposed Amendments

15A NCAC 03I .0122 USER CONFLICTS

(a) In order to address user conflicts, the Fisheries Director may, by proclamation, impose any or all of the following restrictions:

(1) specify time;

(2) specify areas;

(3) specify means and methods;

(4) specify seasons; and

(5) specify quantity.

This authority may be used based on the Fisheries Director's own findings or on the basis of a valid request in accordance with Paragraph (b) of this Rule. The Fisheries Director shall hold a public meeting in the area of the user conflict prior to issuance of a proclamation based on his or her own findings.

(b) Request for user conflict resolution:

(1) Any person(s) desiring user conflict resolution may make such request in writing addressed to the Director of the Division of Marine Fisheries, P.O. Box 769, 3441 Arendell St., Morehead City, NC 28557-0769. Such requests shall contain the following information:

(A) a map of the affected area including an inset vicinity map showing the location of the area with detail sufficient to permit on-site identification and location;

(B) identification of the user conflict causing a need for user conflict resolution;

(C) recommended solution for resolving user conflict; and

(D) name and address of the person(s) requesting user conflict resolution.

(2) Within 90 days of the receipt of the information required in Subparagraph (b)(1)of this Rule, the Fisheries Director shall review the information and determine if user conflict resolution is necessary. If user conflict resolution is not necessary, the Fisheries Director shall deny the request. If user conflict resolution is necessary, the Fisheries Director or designee shall hold a public meeting in the area of the user conflict. The requestor shall present his or her request at the public meeting. Other parties affected may participate at the discretion of the Fisheries Director.

(3) Following the public meeting as described in Subparagraph (b)(2), the Fisheries Director shall refer the users in the conflict for mediation or deny the request. If the user conflict cannot be resolved through mediation, the Fisheries Director shall submit for approval a proclamation to the Marine Fisheries Commission that addresses the conflict.

(4) Proclamations issued under this Rule shall suspend appropriate rules or portions of rules under the authority of the Marine Fisheries Commission as specified in the proclamation. The provisions of 15A NCAC 03I .0102 terminating suspension of a rule pending the

next Marine Fisheries Commission meeting and requiring review by the Marine Fisheries Commission at the next meeting shall not apply to proclamations issued under this Rule.

Authority G. S. 113-134; 113-181; 113-182; 113-221.1; 143B-289.52

NOTE: CHANGES TO 15A NCAC 03J .0301 INCLUDE BOTH CHANGES FOR USER CONFLICT ISSUES AND CHANGES TO THE MANAGEMENT OF AMERICAN EEL WHICH IS CONVERED IN A SEPARATE ANALYSIS.

15A NCAC 03J .0301 POTS

(a) It is unlawful to use pots except during time periods and in areas specified herein:

(1) In Coastal Fishing Waters from December 1 through May 31, except that all pots shall be removed from ~~internal waters~~ Internal Waters from January 15 through February 7. Fish pots upstream of U.S. 17 Bridge across Chowan River and upstream of a line across the mouth of Roanoke, Cashie, Middle and Eastmost Rivers to the Highway 258 Bridge are exempt from the January 15 through February 7 removal requirement. The Fisheries Director may, by proclamation, reopen various waters to the use of pots after January 19 if it is determined that such waters are free of pots.

(2) From June 1 through November 30, north and east of the Highway 58 Bridge at Emerald Isle:

(A) In areas described in 15A NCAC 03R .0107(a);

(B) To allow for the variable spatial distribution of crustacea and finfish, the Fisheries Director may, by proclamation, specify time periods for or designate the areas described in 15A NCAC 03R .0107(b); or any part thereof, for the use of pots.

(3) From May 1 through November 30 in the Atlantic Ocean and west and south of the Highway 58 Bridge at Emerald Isle in areas and during time periods designated by the Fisheries Director by proclamation.

The Fisheries Director may, by proclamation authority established in 15A NCAC 03L .0201, further restrict the use of pots to take blue crabs.

(b) It is unlawful to use pots:

(1) in any navigation channel marked by State or Federal agencies; or

(2) in any turning basin maintained and marked by the North Carolina Ferry Division.

(c) It is unlawful to use pots in a commercial fishing operation unless each pot is marked by attaching a floating buoy which shall be of solid foam or other solid buoyant material and no less than five inches in diameter and no less than five inches in length. Buoys may be of any color except yellow or hot pink or any combination of colors that include yellow or hot pink. The owner shall always be identified on the attached

buoy by using engraved buoys or by engraved metal or plastic tags attached to the buoy. Such identification shall include one of the following:

(1) gear owner's current motorboat registration number; or

(2) gear owner's U.S. vessel documentation name; or

(3) gear owner's last name and initials.

(d) Pots attached to shore or a pier shall be exempt from Subparagraphs (a)(2) and (a)(3) of this Rule.

(e) It is unlawful to use shrimp pots with mesh lengths smaller than one and one-fourth inches stretch or five-eighths-inch bar.

(f) It is unlawful to use ~~eel~~ pots to take eels with mesh ~~sizes~~ lengths smaller than ~~one inch by one half inch unless such pots contain~~ one-half inch by one-half inch, except until January 1, 2017 eel pots of any mesh length with an escape panel that is at least four inches square with a mesh ~~size~~ length of one inch by one-half inch located in the outside panel of the upper chamber of rectangular pots and in the rear portion of cylindrical ~~pots, except that not more than two eel pots per fishing operation with a mesh of any size may be used to take eels for bait.~~pots are allowed.

(g) It is unlawful to use crab pots in ~~coastal fishing waters~~ Coastal Fishing Waters unless each pot contains no less than two unobstructed escape rings that are at least two and five-sixteenths inches inside diameter and located in the opposite outside panels of the upper chamber of the pot, except the following are exempt from the escape ring requirements:

(1) unbaited pots;

(2) pots baited with a male crab; and

(3) pots set in areas and during time periods described in 15A NCAC 03R .0118.

(h) The Fisheries Director may, by proclamation, exempt the escape ring requirements described in Paragraph (g) of this Rule in order to allow the harvest of mature female crabs and may impose any or all of the following restrictions:

~~(1) specify areas;~~

~~(2) specify time periods; and~~

~~(3) specify means and methods.~~

(1) specify time;

(2) specify areas;

(3) specify means and methods;

(4) specify seasons; and

(5) specify quantity.

(i) It is unlawful to use more than 150 crab pots per vessel in Newport River.

(j) It is unlawful to remove crab pots from the water or remove crabs from crab pots between one hour after sunset and one hour before sunrise.

~~(k) User Conflicts:~~

~~(1) In order to address user conflicts, the Fisheries Director may by proclamation impose any or all of the following restrictions:~~

~~(A) specify areas;~~

~~(B) specify time periods; and~~

~~(C) specify means and methods.~~

~~The Fisheries Director shall hold a public meeting in the affected area before issuance of such proclamation.~~

~~(2) Any person(s) desiring user conflict resolution may make such request in writing addressed to the Director of the Division of Marine Fisheries, P.O. Box 769, 3441 Arendell St., Morehead City, North Carolina 28557-0769. Such requests shall contain the following information:~~

~~(A) a map of the affected area including an inset vicinity map showing the location of the area with detail sufficient to permit on-site identification and location;~~

~~(B) identification of the user conflict causing a need for user conflict resolution;~~

~~(C) recommended solution for resolving user conflict; and~~

~~(D) name and address of the person(s) requesting user conflict resolution.~~

~~(3) Upon the requestor's demonstration of a user conflict to the Fisheries Director and within 90 days of the receipt of the information required in Subparagraph (k)(2) of this Rule, the Fisheries Director shall issue a public notice of intent to address a user conflict. A public meeting shall be held in the area of the user conflict. The requestor shall present his or her request at the public meeting, and other parties affected may participate.~~

~~(4) The Fisheries Director shall deny the request or submit a proclamation that addresses the results of the public meeting to the Marine Fisheries Commission for their approval.~~

~~(5) Proclamations issued under Subparagraph (k)(1) of this Rule shall suspend appropriate rules or portions of rules under 15A NCAC 03R .0107 as specified in the proclamation. The provisions of 15A NCAC 03I .0102 terminating suspension of a rule pending the next Marine Fisheries Commission meeting and requiring review by the Marine Fisheries Commission at the next meeting shall not apply to proclamations issued under Subparagraph (k)(1) of this Rule.~~

~~(l)~~(k) It is unlawful to use pots to take crabs unless the line connecting the pot to the buoy is non-floating.

~~(m)~~(l) It is unlawful to use pots with leads or leaders to take shrimp. For the purpose of this Rule, leads or leaders are defined as any fixed or stationary net or device used to direct fish into any gear used to capture fish. Any device with leads or leaders used to capture fish is not a pot.

Authority G. S. 113-134; 113-173; 113-182; 113-221.1; 143B-289.52

Fiscal Note for Proposed Rule Changes 15A NCAC 03I .0122 and 15A NCAC 03J .0301

FISCAL IMPACTS OF PROPOSED AMENDMENTS TO RULE 15A NCAC 03J .0207 AND 15A NCAC 03Q .0202

CORRECTION OF QUEENS CREEK INLAND/COASTAL BOUNDARY AND NAME UPDATE FOR DUKE ENERGY PROGRESS BRUNSWICK NUCLEAR PLANT INTAKE CANAL

Name of Commission: N.C. Marine Fisheries Commission (MFC)

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

Impact Summary: *De minimis* rule change
State Government: No
Local Government: No
Private Impact: No
Substantial Impact: No

Authority: G.S. 113-134 (Rules); G.S. 113-182 (Regulation of Fishing and Fisheries); G.S. 143B-289.52 (Marine Fisheries Commission-Powers and Duties); 15 NCAC 03Q .0201 (Specific Classification of Waters); 15 NCAC 03Q .0202 (Descriptive Boundaries for Coastal-Joint-Inland Waters)

Necessity: The proposed rule changes seek to correct a set of coordinates delineating Coastal and Inland waters in Queens Creek, Onslow County, as well as an outdated name reference for the Duke Energy Progress Brunswick Nuclear Plant Intake Canal in Brunswick County. It is in the public's and law enforcement's best interest for the N.C. Administrative Code to contain correct rule references and reflect actual DMF operations. Additional changes address an extensive technical change request from the N.C. Rules Review Commission.

I. Summary

The primary purpose of the rule changes is to correct a set of coordinates delineating Coastal and Inland waters in Queens Creek, Onslow County. The coordinates currently in rule do not properly represent the intended boundary between Coastal and Inland waters at Frazier's Landing within the creek. Thus, the proposed rule changes seek to move the boundary line currently in rule to the intended location at Frazier's Landing. Additionally, with the merger of Progress Energy and Duke Energy utility companies, the formerly named Carolina Power and Light Intake Canal at the Brunswick Nuclear Plant is now named Duke Energy Progress Brunswick Nuclear Plant Intake Canal. Therefore, there is an out of date reference to this canal in rule 15A NCAC 03J .0207 and 03Q .0202. The name of the plant needs to be updated for public clarity purposes. Additional changes address an extensive technical change request from the Rules Review Commission that DMF received when the MFC pursued the above-described rule changes last year. The agency withdrew the rule from the Rules Review Commission's consideration due to inadequate time to address the technical changes. The proposed effective date of these rule changes is April 1, 2015.

II. Introduction and Purpose of Rule Change

The DMF initiated an effort in the late 1990s to replace the Inland, Joint, and Coastal boundary descriptions in the N.C. Marine Fisheries Commission rule with actual coordinates to better identify and describe the location of those lines. The N.C. Wildlife Resources Commission (WRC) adopted those changes by reference. DMF staff from the fisheries management section worked with geographical information systems (GIS) staff to identify locations of these lines on maps and place the coordinates in rule language. Most of the coordinates were confirmed by field observations of Marine Patrol officers, WRC inspectors, and biological staff from both DMF and WRC. The amended rule with coordinate-based descriptions of the boundary lines became effective Aug. 1, 2004.

A fisherman brought to the attention of DMF that the current coordinates listed in rule do not accurately represent the historical and intended boundary of Coastal and Inland waters in Queens Creek, which are meant to be at Frazier's Landing. The line described in rule is approximately one river mile south of Frazier's Landing. All MFC rulebooks prior to 2004 listed Frazier's Landing as the correct boundary point. Marine Patrol was consulted and it was determined that the Coastal/Inland boundary line had always been at Frazier's Landing and had not been moved when the coordinate-based descriptions were added to the rule in 2004. Therefore, as a practical matter, the line has always been at Frazier's Landing and correcting the coordinates will constitute no change in the intention of the rule or current enforcement practices.

Additionally, with the recent merger of Progress Energy and Duke Energy, the name of the Brunswick Nuclear Plant changed. The old name of the intake canal, Carolina Power and Light Intake Canal, is out of date as referenced in rule 15A NCAC 03J .0207 and 03Q .0202. Rule changes are sought to update the plant's referenced name to Duke Energy Progress Brunswick Nuclear Plant Intake Canal.

Finally, the DMF received an extensive request for technical change to 15A NCAC 03Q .0202 when the MFC pursued the above-described rule changes last year (see Appendix 2.) The agency withdrew the rule from the Rules Review Commission's consideration due to inadequate time to address the technical changes. The requested technical changes include individual items as well as comprehensive changes to bring wording consistency throughout the lengthy rule. The agency did not want to jeopardize the final approval of the other rules in its annual rulemaking cycle due to insufficient time to satisfy all requests of the Rules Review Commission for this individual rule. The agency intends to file notice of text for rulemaking for both rules described in this note as part of its 2014-2015 annual rulemaking cycle. The proposed changes will address the coordinate correction, canal name change and technical request at one time.

I. Costs

There are no costs associated with the proposed rule changes.

II. Benefits

While there are no quantifiable economic benefits to the proposed rule change, both the public and law enforcement will benefit from the coordinates listed in rule representing the intended boundary of Coastal and Inland waters in Queens Creek. Additionally, clarity to the public and

law enforcement will be gained by updating the name of the power plant intake canal referenced in rule 15A NCAC 03J .0207 and 03Q .0202.

Appendix 1: Proposed Amendments

15A NCAC 03J .0207 ~~CAROLINA POWER AND LIGHT~~ DUKE ENERGY PROGRESS BRUNSWICK NUCLEAR PLANT INTAKE CANAL

It is unlawful to use any commercial fishing equipment in the ~~Carolina Power and Light~~ Duke Energy Progress Brunswick Nuclear Plant Intake Canal between the fish diversion screen and the ~~Carolina Power and Light~~ Duke Energy Progress Brunswick ~~nuclear power plant.~~Nuclear Plant.

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

NOTE: DUE TO THE LENGTH OF RULE 15A NCAC 03Q .0202, ONLY THE PORTIONS SHOWING THE CANAL NAME CHANGE (BRUNSWICK COUNTY) AND THE COORDINATE CORRECTION (ONSLOW COUNTY) ARE SHOWN HERE. PLEASE SEE THE DMF WEB SITE FOR THE FULL TEXT OF THE PROPOSED RULE, INCLUDING ALL TECHNICAL CHANGES.

15A NCAC 03Q .0202 DESCRIPTIVE BOUNDARIES FOR COASTAL-JOINT-INLAND WATERS

Descriptive boundaries for Coastal-Joint-Inland Waters referenced in 15A NCAC 03Q .0201 are as follows:

(1) Beaufort County

(a) Pamlico -Tar River - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 35° 32.2167' N - 77° 02.8701' W; running southwesterly along the east side of the railroad bridge to a point on the south shore 35° 32.0267' N - 77° 03.5179' W.

. . .

(4) Brunswick County:

(a) Calabash River And Tributaries - All waters within this waterbody in Brunswick County are designated as Coastal.

(b) Saucepan Creek - All waters within this waterbody are designated as Coastal.

(c) Shallotte River - Inland Waters northwest and Coastal Waters southeast of a line beginning at a point on the south shore 33° 58.3412' N - 78° 23.1948' W; running northeasterly to a point on the north shore 33° 58.3518' N - 78° 23.1816' W.

(i) Mill Dam Branch - All waters within this waterbody are designated as Coastal.

(ii) Squash Creek - All waters within this waterbody are designated as Coastal.

(iii) Mill Pond - All waters within this waterbody are designated as Coastal.

(iv) Charles Branch - Inland Waters north and Coastal Waters south of a line beginning at a point on the west shore 33° 58.6276' N - 78° 21.2919' W; running easterly to a point on the east shore 33° 58.6257' N - 78° 21.2841' W.

(v) Grisset Swamp - All waters within this waterbody are designated as Coastal.

(vi) Little Shallotte River And Tributaries - All waters within this waterbody are designated as Coastal.

(d) Lockwood Folly River - Inland Waters northeast and Coastal Waters southwest of a line beginning at a point on the north shore 34° 00.6550' N - 78° 15.8134' W; running southeasterly along the south side of NC Hwy 211 bridge to a point on the south shore 34° 00.6285' N - 78° 15.7928' W.

(i) Stanberry Creek - All waters within this waterbody are designated as Coastal.

(ii) Pompeys Creek - All waters within this waterbody are designated as Coastal.

(iii) Maple Creek - All waters within this waterbody are designated as Coastal.

(iv) Rubys Creek - All waters within this waterbody are designated as Coastal.

(v) Big Doe Creek - All waters within this waterbody are designated as Coastal.

(vi) Lennons Creek - All waters within this waterbody are designated as Coastal.

(vii) Mercers Mill Pond Creek - Inland Waters north and Coastal Waters south of a line beginning at a point on the west shore 33° 57.7498' N - 78° 12.3532' W; running southeasterly to a point on the east shore 33° 57.7439' N - 78° 12.3440' W.

(e) Elizabeth River - All waters within this waterbody are designated as Coastal.

(i) Ash Creek - All waters within this waterbody are designated as Coastal.

(f) Beaverdam Creek - All waters within this waterbody are designated as Coastal.

(g) Dutchman Creek - All waters within this waterbody are designated as Coastal.

(i) Calf Gully Creek - All waters within this waterbody are designated as Coastal.

(ii) Jumpin Run - All waters within this waterbody are designated as Coastal.

(iii) Fiddlers Creek - All waters within this waterbody are designated as Coastal.

(h) Cape Fear River - Joint Waters north and Coastal Waters south of a line beginning at a point on the western side 34° 13.6953' N - 77° 57.2396' W; running southeasterly along the southern side of US 17-74-76 bridge to a point on the eastern side 34° 13.6214' N - 77° 57.0341' W.

(i) ~~Carolina Power And Light~~ Duke Energy Progress Brunswick Nuclear Plant Intake Canal - All waters within this waterbody are designated as Coastal.

(ii) Walden Creek - All waters within this waterbody are designated as Coastal.

(iii) Orton Creek - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 34° 02.8436' N - 77° 56.7498' W; running southerly to a point on the south shore 34° 02.8221' N - 77° 56.7439' W.

(iv) Lilliput Creek - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 34° 04.1924' N - 77° 56.5361' W; running southerly to a point on the south shore 34° 04.1487' N - 77° 56.5447' W.

(v) Sandhill Creek - Inland Waters southwest and Coastal Waters northeast of a line beginning at a point on the north shore 34° 06.9584' N - 77° 57.0085' W;

running southeasterly to a point on the south shore 34° 06.9371' N - 77° 56.9943' W.

(vi) Town Creek - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 34° 07.7492' N - 77° 57.3445' W; running southerly to a point on the south shore 34° 07.7034' N - 77° 57.3431' W.

(vii) Mallory Creek - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 34° 09.9868' N - 77° 58.2023' W; running southerly to a point on the south shore 34° 09.9618' N - 77° 58.2133' W.

(viii) Brunswick River - Joint Waters northwest and Coastal Waters southeast of a line beginning at a point on the south shore 34° 10.7281' N - 77° 57.7793' W; running northeasterly to a point on the north shore 34° 10.9581' N - 77° 57.6452' W.

(A) Alligator Creek - For the southernmost entrance into the Brunswick River: Inland Waters east and Joint Waters west of a line beginning at a point on the south shore 34° 13.5040' N - 77° 58.6331' W; running northwesterly to a point on the north shore 34° 13.5472' N - 77° 58.6628' W. For the northernmost entrance into the Brunswick River: Inland Waters east and Joint Waters west of a line beginning at a point on the south shore 34° 14.4300' N - 77° 59.2346' W; running northerly to a point on the north shore 34° 14.4618' N - 77° 59.2300' W.

(B) Jackeys Creek - Inland Waters west and Joint Waters east of a line beginning at a point on the south shore 34° 11.9400' N - 77° 58.5859' W; running northerly to a point on the north shore 34° 11.9565' N - 77° 58.5859' W.

(C) Sturgeon Creek - Inland Waters west and Joint Waters east of a line beginning at a point on the north shore 34° 14.6761' N - 77° 59.4145' W; running southerly to a point on the south shore 34° 14.6404' N - 77° 59.4058' W.

(ix) Cartwheel Creek - Inland Waters west and Joint Waters east of a line beginning at a point on the north shore 34° 15.7781' N - 77° 59.3852' W; running southerly to a point on the south shore 34° 15.7564' N - 77° 59.3898' W.

(x) Indian Creek - Inland Waters west and Joint Waters east of a line beginning at a point on the north shore 34° 17.0441' N - 78° 00.3662' W; running southwesterly to a point on the south shore 34° 17.0006' N - 78° 00.3977' W.

(xi) Hood Creek - Inland Waters west and Joint Waters east of a line beginning at a point on the north shore 34° 20.3713' N - 78° 04.7492' W; running southwesterly to a point on the south shore 34° 20.3393' N - 78° 04.7373' W.

(xii) Northwest Creek - All waters within this waterbody are designated as Inland.

. . .

(20) Onslow County

(a) Beasleys Creek (Barlow Creek) - All waters within this waterbody are designated as Coastal.

(b) Kings Creek - All waters within this waterbody are designated as Coastal.

(c) Turkey Creek - All waters within this waterbody are designated as Coastal.

(d) Mill Creek - All waters within this waterbody are designated as Coastal.

(e) New River - Inland Waters north and Coastal Waters south of a line beginning at a point on the west shore 34° 45.1654' N - 77° 26.1222' W; running easterly along the southern side of the US Hwy 17 bridge to a point on the east shore 34° 45.2007' N - 77° 25.9790' W.

(i) Wheeler Creek - All waters within this waterbody are designated as Coastal.

(ii) Everett Creek - All waters within this waterbody are designated as Coastal.

(iii) Stones Creek - All waters within this waterbody are designated as Coastal.

(iv) Muddy Creek - All waters within this waterbody are designated as Coastal.

(v) Mill Creek - All waters within this waterbody are designated as Coastal.

(vi) Lewis Creek - All waters within this waterbody are designated as Coastal.

(vii) Southwest Creek - Inland Waters north and Coastal Waters south of a line beginning at a point on the west shore 34° 40.8723' N - 77° 26.2399' W; running northeasterly to a point on the east shore 34° 40.9112' N - 77° 26.1758' W.

(viii) Brinson Creek - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 34° 44.0945' N - 77° 26.4335' W; running southerly to a point on the south shore 34° 44.0654' N - 77° 26.4239' W.

(ix) Northeast Creek - Inland Waters northeast and Coastal Waters southwest of a line beginning at a point on the west shore 34° 44.0778' N - 77° 21.2640' W; running southeasterly along the southern side of the railroad bridge to a point on the east shore 34° 44.0446' N - 77° 21.2126' W.

(x) Wallace Creek - Inland Waters east and Coastal Waters west of a line beginning at a point on the north shore 34° 40.9604' N - 77° 21.5698' W; running southwesterly along the western side of the first bridge upstream from the mouth, to a point on the south shore 34° 40.8576' N - 77° 21.4787' W.

(xi) Codels Creek - Inland Waters east and Coastal Waters west of a line beginning at a point on the north shore 34° 38.8845' N - 77° 20.4533' W; running southerly to a point on the south shore 34° 38.8691' N - 77° 20.4515' W.

(xii) French Creek – Inland Waters east and Coastal Waters west of a line beginning at a point on the north shore 34° 38.4059' N - 77° 20.2619' W; running southerly to a point on the south shore 34° 38.2566' N - 77° 20.3233' W.

(xiii) Duck Creek - Inland Waters southwest and Coastal Waters northeast of a line beginning at a point on the north shore 34° 38.0179' N - 77° 20.5169' W; running southwesterly to a point on the south shore 34° 37.9172' N - 77° 20.6520' W.

(f) Freeman (Browns) Creek - All waters within this waterbody are designated as Coastal.

(g) Bear Creek - All waters within this waterbody are designated as Coastal.

(h) Queens Creek - Inland Waters ~~north~~ west and Coastal Waters ~~south~~ east of a line beginning at a point on the ~~west~~ north shore ~~34° 42.1815' N 77° 11.5690' W;~~ 34° 42.5696' N - 77° 11.8550' W; running ~~easterly~~ southerly to a point on the ~~east~~ south shore ~~34° 42.2273' N 77° 11.4193' W.~~ 34° 42.4238' N - 77° 11.8550' W.

(i) Parrotts Swamp - All waters within this waterbody are designated as Coastal.

(i) White Oak River - Inland Waters north and Coastal Waters south of a line beginning at a point on the west shore 34° 48.1466' N - 77° 11.4711' W; running northeasterly to a point on the east shore 34° 48.1620' N - 77° 11.4244' W.

(i) Stevens Creek - All waters within this waterbody are designated as Coastal.

(ii) Holland Mill (Mill Pond) Creek - All waters within this waterbody are designated as Coastal.

(iii) Webbs Creek - Inland Waters northwest and Coastal Waters southeast of a line beginning at a point on the north shore 34° 45.7559' N - 77° 10.1321' W; running southwesterly to a point on the south shore 34° 45.7404' N - 77° 10.1486' W.

(iv) Freemans Creek - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 34° 46.9791' N - 77° 10.3935' W; running southerly to a point on the south shore 34° 46.9663' N - 77° 10.3999' W.

(v) Calebs Creek - Inland Waters west and Coastal Waters east of a line beginning at a point on the north shore 34° 48.1354' N - 77° 11.4688' W; running southeasterly to a point on the south shore 34° 48.1192' N - 77° 11.4546' W.

(vi) Grants Creek - All waters within this waterbody are designated as Inland.

(21) Pamlico County

(a) Pamlico River - All waters within this waterbody are designated as Coastal.

. . .

Authority G.S. 113-132; 113-134; 143B-289.52

N.C. FISHERY MANAGEMENT PLANS

February 2015

- Administrative steps for the Kingfishes plan review are underway.

Division of Marine Fisheries' Overview of Amendment 1 to the Striped Mullet Fishery Management Plan December 2014

The goal of the N.C. Striped Mullet Fishery Management Plan is to manage the striped mullet fishery to preserve the long-term viability of the resource that maintains sustainable harvest, maximizes the social and economic value, and considers the needs of all user groups. Striped mullet are of considerable economic importance both commercially and recreationally. In North Carolina, striped mullet are typically targeted for bait and roe. Besides being an economically important species, striped mullet are ecologically significant as a forage species. The August 2013 population assessment of striped mullet in North Carolina waters indicates the stock is not undergoing overfishing. Sufficient data are not available to determine if the stock is currently overfished; however, the fishery management plan establishes minimum and maximum landings thresholds to monitor the fishery. If landings fall outside of this range, the Division of Marine Fisheries will initiate further analysis of the data to determine if a new stock assessment and/or interim management action is needed.

The Marine Fisheries Commission's preferred management strategy for the striped mullet fisheries in North Carolina is to: 1) optimize resource utilization over the long-term; 2) reduce user group conflicts; and 3) promote public education. The first component of the strategy will continue to be accomplished by protecting critical habitats and monitoring stock status. To address user conflicts generally, a rule change is proposed under Amendment 1 to limit the portion of a waterway that may be blocked by runaround, drift and other non-stationary gill nets consistent with similar regulations for stationary nets. Specific user conflict issues will continue to be addressed on a case-by-case basis and management actions will be implemented to address specific fishery-related problems. The Division of Marine Fisheries will also work to enhance public information and education.

Specific issues addressed in the development of Amendment 1 to the N.C. Striped Mullet Fishery Management Plan include:

- Resolution of Newport River gill net attendance requirements;
- User group conflicts; and
- Updating the management framework for the N.C. striped mullet stock.

Management framework updates include increasing the fishing mortality target to prevent too many fish from being removed from the population by fishing activities for the stock to be sustainable. Raising the target is important for several reasons, including targeting female fish during the spawning season, the potential importance of striped mullet as a forage species in the ecosystem, and because the small size of the buffer between the target and threshold values could result in rebuilding plans with more restrictive harvest that may otherwise be premature or unnecessary. Adaptive management will be used if a trigger in the management framework is activated and review of the data indicates additional management measures are needed to maintain sustainable harvest. Amendment 1 also includes a list of research recommendations.

Following the review of Amendment 1 by the Department of Environment and Natural Resources secretary and the Joint Legislative Commission on Governmental Operations, the draft plan will be presented to the Marine Fisheries Commission for procedural approval and to begin the rulemaking process. The Marine Fisheries Commission will consider final approval of Amendment 1 and the implementing rules in November 2015.

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Will Smith, Stock Assessment Scientist
Division of Marine Fisheries, NCDENR

DATE: Jan. 30, 2015

SUBJECT: 2014 southern flounder stock assessment executive summary and summary of peer reviews

EXECUTIVE SUMMARY

The N.C. Fisheries Reform Act requires that fishery management plans be developed for the state's commercially and recreationally important species to achieve sustainable levels of harvest. Stock assessments are the primary tools used by managers to assist in determining the status of stocks and developing appropriate management measures to ensure the long-term viability of stocks.

The 2014 N.C. Division of Marine Fisheries southern flounder stock assessment was developed after a thorough review of available data and current southern flounder research as well as careful deliberation by the Southern Flounder Plan Development Team. The stock assessment represented the best science and data available for the N.C. stock, while maintaining continuity with earlier assessments of the N.C. stock. For consistency with the previous 2009 southern flounder stock assessment, the same statistical catch-at-age model was used; however, a more robust program capable of handling a wider range of data sources was selected, Stock Synthesis. Several updates to the assessment data were also incorporated, based on new southern flounder research.

The assessment model used catch data from five fisheries—gill nets, pound nets, all other commercial fisheries, inshore recreational, and ocean recreational. The model was length-based, and all inshore fisheries and surveys were allowed to have declining selectivity for larger fish, to account for possible emigration from inshore waters as fish mature. The ocean recreational fishery was assumed to have asymptotic selectivity. Two fishery-independent indices of juvenile abundance were developed from the Estuarine Trawl Survey (Program 120) and Pamlico Sound Survey (Program 195), and two fishery-independent indices of general abundance were developed from Pamlico Sound Independent Gill-Net Survey (Program 915) and Albemarle Sound Independent Gill-Net Survey (Program 135). Natural mortality (M) was age- and sex-specific and was estimated by scaling a growth-based natural mortality model to age-1 estimates, M_{female} = 0.36 and M_{male} = 0.45.

The stock assessment was reviewed by a panel of three independent reviewers, representing experts in stock assessment or southern flounder biology. The peer review process assures that data and methodologies used to assess N.C. stocks represent the best possible science and information.

Reviewers indicated that all appropriate data sources were considered and that the model selection was appropriate for the available data; however, reviewers also noted that the biology of the species and available data did not permit the use of traditional stock assessment models for determining stock status of southern flounder in N.C. waters. Most importantly, each reviewer noted recent evidence for stock mixing throughout the South Atlantic and unknown movement rates. The use of traditional stock assessment models requires that all losses from the stock be accounted for, but emigration rates from N.C. waters have not been quantified; furthermore, the fraction of N.C. recruits originating from South Carolina, Georgia, or Florida waters is unknown. These concerns cannot be addressed with a stock assessment that only includes southern flounder in N.C. waters and would require a regional assessment approach. Another significant problem was that fishery-independent indices of abundance showed no trend over the time period assessed, 1991–2013, and some indices appeared to show conflicting patterns. Since traditional stock assessment models rely on fishery-independent indices of abundance to track population status over time, conflicting survey information and low data contrast made it difficult to accurately fit a traditional model. The 2014 southern flounder stock assessment was not accepted for management by the N.C. Division of Marine Fisheries due to legitimate and substantial concerns raised by the peer reviewers, concerns with which the division agreed.

The full draft stock assessment is available upon request.

SUMMARY OF PEER REVIEWS

The stock assessment was reviewed by a panel of three independent reviewers, representing experts in stock assessment or southern flounder biology. The peer review process assures that data and methodologies used to assess North Carolina stocks represent the best possible science and information. Three experts reviewed the 2014 southern flounder stock assessment, Drs. Steve Midway (assistant professor, Coastal Carolina University), Erik Williams (chief, Sustainable Fisheries Branch, National Marine Fisheries Service, Beaufort), and Genny Nesslage (senior stock assessment scientist, Atlantic States Marine Fisheries Commission). After carefully considering the results of the peer review, the North Carolina Southern Flounder Plan Development Team and Management Review Team decided that the stock assessment could not be approved for management.

Dr. Steven Midway Review

Dr. Midway evaluated the stock assessment on the merits of the treatment of biological information and deferred to comment on the quantitative aspects of the stock assessment. Since Dr. Midway is an ecologist and expert in southern flounder biology, not a stock assessment scientist, this was an appropriate role. Dr. Midway approved of the data used in the assessment and noted that the diversity of data sources used in the assessment was a strength. He also noted that the stock assessment represented an improvement over previous N.C. stock assessments both in terms of biological and quantitative considerations. Although he recommended that the assessment be used for management based on biological considerations, Dr. Midway was concerned that important model outputs did not appear to respond to changes in the fishery, noting high sustained fishing mortality and little corresponding change in stock biomass, and he was concerned that the migratory dynamics of the southern flounder stock were as of yet unquantified. In spite of these concerns, Dr. Midway recommended that the assessment be used for management.

Dr. Erik Williams Review

Dr. Williams identified several weaknesses in the description of the data used in the stock assessment, noting that several important graphs and tables were missing and that some aspects of the use of the data in the stock assessment were not clearly described in the text. He speculated that age-based selectivity might also provide useful information for the assessment model due to the highly variable size at age that characterize southern flounder populations, although the assessment only fit length-based selectivities. He suggested an alternate approach to estimating natural mortality, and suggested that two aggregate indices be used to track juvenile and general abundance rather than four. Most importantly, Dr. Williams identified the lack of model fit to survey data and the high level of mixing of the South Atlantic stock as major issues for fitting a traditional stock assessment model to N.C. data alone.

While Dr. Williams did indicate that the assessment was useful for management, he suggested that the data were useful, not the assessment output. Furthermore, he suggested that alternate assessment approaches be explored, such as trend analysis.

Dr. Genevieve Nesslage Review

Dr. Nesslage commented that appropriate data sources were used and treatment of the data within the model was correct given the biology of southern flounder. Many of Dr. Nesslage's comments corresponded to Dr. Williams' comments. She noted that further details regarding model structure and justification for model parameterization were needed, recommended that aggregate survey indices be used rather than individual indices of abundance, and suggested an alternate method to estimate natural mortality. In addition to comments corresponding to Dr. Williams', Dr. Nesslage also suggested a different treatment of uncertainty in the indices of abundance in order to achieve a better model fit and testing a different selectivity model. Finally, Dr. Nesslage concluded that the assessment was not useful for management because trends in data did not seem to be informative, model outputs did not appear to respond to changes in the fishery, and the stock was not limited to N.C. waters. She recommended that a longer time period be considered and that the stock be assessed on a regional level.

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Dr. Louis Daniel
Division of Marine Fisheries, NCDENR

DATE: Jan. 22, 2015

SUBJECT: 2014 Southern Flounder Stock Assessment

The 2014 southern flounder stock assessment was developed after a thorough review of available data and current southern flounder research as well as careful deliberation by the division's Southern Flounder Plan Development Team. The stock assessment represented the best science and data available for the N.C. stock, while maintaining continuity with earlier assessments of that stock. For consistency with the previous southern flounder stock assessment, the same statistical catch-at-age model was used; however, a more robust program capable of handling a wider range of data sources was selected. Several updates to the assessment data were also incorporated, based on new southern flounder research related to reproductive ecology, and data (genetic, otolith morphology, and tagging information) that show significant mixing throughout the South Atlantic population that likely occurs during spawning and recruitment. Available modelling approaches could account for stock mixing during recruitment, but no satisfactory approach was found to account for adult mixing during spawning, as adult movement rates are unknown.

Division stock assessments are reviewed by a panel of three independent reviewers. These reviewers are each experts in stock assessment or the biology of the species in question, and the peer review process assures that data and methodologies used to assess N.C. stocks represent the best possible science and information. Three experts reviewed the 2014 southern flounder stock assessment: Drs. Steve Midway (assistant professor, Coastal Carolina University), Erik Williams (chief, Sustainable Fisheries Branch, National Marine Fisheries Service, Beaufort), and Genny Nesslage (senior stock assessment scientist, Atlantic States Marine Fisheries Commission). Dr. Midway accepted the assessment for management based on the treatment of the species' biology; however, he noted that he was unable to evaluate the stock assessment model itself because he is not a stock assessment scientist. Reviewers indicated that all appropriate data sources were considered and that the model selection was appropriate for the available data; however, Drs. Williams and Nesslage noted that the biology of the species and available data did not permit the use of traditional stock assessment models for determining stock status of southern flounder in N.C. waters. Most importantly, each reviewer noted the recent evidence for stock mixing throughout the South Atlantic and unknown movement rates. The use of traditional stock assessment models requires that all losses from the stock be accounted for, but migration rates to and from N.C. waters

have not been quantified; furthermore, the fraction of N.C. recruits originating from South Carolina, Georgia, or Florida waters is unknown. These concerns cannot be addressed with a stock assessment that only includes southern flounder in N.C. waters and would require a regional assessment approach. Another significant problem noted by Drs. Williams and Nesslage was that fishery-independent indices of abundance showed no trend over the time period assessed, 1991–2013, and some indices appeared to show conflicting patterns. Since traditional stock assessment models rely on fishery-independent indices of abundance to track population status over time, conflicting survey information and low data contrast made it difficult to accurately fit a traditional model. Therefore; the 2014 southern flounder stock assessment was not accepted for management by the division due to legitimate and substantial concerns raised by the peer reviewers, concerns with which the division agrees.

The original Southern Flounder Fishery Management Plan was adopted in 2005 to end overfishing and rebuild the stock. The purpose of the 2014 stock assessment was to determine if those goals had been met in the set time frame. The fact that the stock assessment was not accepted for management provides no answer as to whether those 2005 goals were appropriate or met. Consequently, in the absence of a quantified estimate of the overfished and overfishing condition, N.C. Division of Marine Fisheries Management Policy 2014-1, "Rebuilding Schedules, implementing G.S. 113-182.1 (b)5) and (b)(6)" does not apply. This policy addresses the statutory requirements to set a time period to end overfishing within two years and to set a time period to rebuild the stock within 10 years from the time a fishery management plan is adopted.

While the current southern flounder stock assessment model cannot be used for management and timelines cannot apply, much information exists to manage southern flounder in North Carolina, and some of that information is troublesome. Of particular concern is the combination of large numbers of immature fish in the catch and evidence of declining recruitment since the 1990s that may result in the need for further management measures.

Given the importance of the southern flounder fishery, alternate approaches will be developed in lieu of a traditional stock assessment. The division's Southern Flounder Plan Development Team is currently developing an analysis of trends in fishery performance, abundance, and stock productivity. The trend analysis will employ the Traffic Light approach, used in the current Blue Crab Fishery Management Plan, to provide guidance for management of southern flounder in N.C. waters.

NCDMF Stock Assessment Program
External Peer Review

Assessment Information

Assessment Species:	Southern flounder (*Paralichthys lethostigma*)
Stock Assessment Report:	Stock Assessment of Southern Flounder, *Paralichthys lethostigma*, in North Carolina Waters—2014
Date Sent:	November 10, 2014

Dear Reviewer-

Thank you for agreeing to review the 2014 stock assessment of the North Carolina southern flounder stock. The purpose of the external peer review process is to ensure that the assessment and results presented are scientifically sound and that decision makers are provided adequate advice. Peer reviewers are asked to address the terms of reference in the terms of reference report that follows. Please be as specific as possible in recording your comments and suggestions for revision and improvement. Any additional suggestions to improve the stock assessment are appreciated. Reviewers are also welcome to make comments directly in the assessment report using the Track Changes feature in Microsoft Word.

Please return this form, the terms of reference report, and any additional comments to laura.lee@ncdenr.gov. We would like to have your review by December 5, 2014. A copy of the final report will be provided after it has been presented to the North Carolina Marine Fisheries Commission.

Thank you,

Laura M. Lee
Senior Stock Assessment Scientist
North Carolina Division of Marine Fisheries

TERMS OF REFERENCE REPORT FOR EXTERNAL PEER REVIEW

Reviewer Information

Reviewer Name:	Genevieve Nesslage
Business Mailing Address:	ASMFC 1050 N. Highland St, Suite 200A-N Arlington, VA 22201
Business E-Mail:	gnesslage@asmfc.org
Business Phone:	703-842-0727

1) Evaluate the thoroughness of data evaluation and presentation including:
   a) Justification for inclusion or elimination of available data sources

To the extent of my knowledge, all available, reliable sources of landings, biosamples, and survey data were included in the assessment. There was no mention of SEAMAP, but I assume that is because that program's surveys do not catch southern flounder.

The analytical team was well justified in their decisions to use fishery-independent juvenile and adult survey data sources in place of the Beaufort Bridgenet ichthyoplankton survey and fishery-dependent CPUE indices.

The assessment report notes (page 48) that there is little correlation and possibly some conflict among surveys used in the assessment. Unless movement rates between regions within NC waters can be obtained to support a spatially explicit assessment model, the analytical team may want to consider more careful inclusion/exclusion criteria or a model-based combination of indices into stock-wide indices to provide the model with more coherent information about what the trends in overall stock abundance might be.

   b) Consideration of survey and data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivities, sample size)

Description of data collection was thorough and transparent with regard to both strengths and weaknesses.

   c) Calculation and standardization of indices and other statistics

The methodology described was appropriate for the treatment of surveys not designed to target southern flounder. No diagnostics were provided to evaluate GLM performance. Without additional information, this portion of the TOR cannot be evaluated thoroughly.

A plot of all JAI and adult surveys in the same (respective) figures would have been useful for comparing trends.

Also, an overall description and visualization of landings trends (both total and by fleet) would have been helpful to include in the report as well.

2) Evaluate the adequacy, appropriateness, and application of data used in the assessment.

Focusing on the use of lengths (the most reliable type of data widely available for this species) was appropriate. The calculation/estimation of length-based maturity and selectivity curves was the best approach given the data.

Instead of averaging natural mortality estimates across all available approaches, would careful consideration of the assumptions of each model in relation to southern flounder biology help eliminate some of the options? Incorporating expert judgment into the selection of natural mortality estimators may result in values more suitable for the species.

As mentioned above, it might be worthwhile considering the application of a set of specific, explicit inclusion/exclusion criteria when selecting indices. Alternatively, a model-based combination of regional indices into stock-wide indices might provide the assessment model with more coherent information about what the trends in overall stock abundance might be. The model is likely struggling to make sense of differences among what may be (in some cases) sound- or river-specific trends.

Overall, I found description of the data and data treatment outside the model to be outstanding; however, details regarding how data were treated in the model were lacking. Much of this information is obtainable in the Stock Synthesis dat and control files, but justification for the values chosen is not outlined in the report. For example, the SEs applied to fishery catch and the errors assigned to annual index values were not discussed. How were effective samples sizes determined? Also, justification for fishery selectivity time blocks was not apparent. These are important decisions that affect model performance and results. More extensive description and justification is needed.

3) Evaluate the adequacy, appropriateness, and application of method(s) used to assess the stocks.

The analytical team should be applauded for adopting a modern, sophisticated (yet not overly complicated) approach to assessing this stock. Continued development and use of an integrated model is encouraged. Additional comments on methods by subtopic are provided below.

Model fit:

Plots of model fit to fleet landings were not provided. I assume they fit well; otherwise, the model should have been deemed highly unreliable and not used. However, I was surprised that such standard output was missing from the report. I suggest including the core, standard r4SS figures in future assessments that utilize SS as a modeling platform.

Poor fits to the Program 915 and 135 surveys were not surprising given they were highly constrained by the small specified SEs (<0.2) shown in the SS data file. The model should not be expected to be able to fit the high values for Program 135's index in the 1990s unless the SEs are loosened up. Even if annual SEs from GLM models were used (which I am assuming…a description is not in the report), it is almost impossible to believe that those indices track stock trends that well. Using a higher, ad hoc level of variance would allow the model the freedom to balance all the data sources in the model better and still try to fit those higher data points if at all possible.

As the report states, the model produced poor fits to indices and length composition fits were not stellar. The magnitude of retrospective pattern was disconcerting as well. Again, it is unclear

how well the model fit total landings. In general, the model does not appear to be performing well given the data and current configuration.

Migration and selectivity:

The issue of emigration outside NC waters is troubling. However, the analytical team expertly included several structural decisions to account for the movement and emigration of larger/older fish as best they could, including the use of dome-shaped selectivity for inshore fisheries and the use of annual recruitment deviations in place of a stock recruitment function. These model configuration decisions allowed for a more realistic portrayal of stock dynamics and avoided overestimation of fishing mortality on larger/older fish for inshore fisheries that target smaller/younger fish.

I question, though, the forcing of ocean fleet selectivities to be asymptotic given known emigration. If length data are available from the returned tagged fish, could they be used in some way to inform specification or partial estimation of the descending limb of the selectivity curve for this fleet?

Ultimately, these issues and others raised in the report (e.g., recruitment potentially being subsidized by SC/GA/FL spawners) cannot be addressed well or at all by the available data. In the absence of better tagging and migration studies, a regional assessment approach is recommended.

General selectivity:

In the interest of reducing the number of parameters, could the inshore recreational and commercial time blocks be dropped from the assessment? Figures 27 and 28 indicate they are not changing fishery selectivity that much. Perhaps I missed the justification for these time blocks and the need for them. If so, please disregard this comment.

The shift in ocean fleet selectivity to larger fish made sense given regulation changes; however, that issue should be discussed and used to bolster time block decisions in the report.

An alternative selectivity function that is more flexible in shape may improve model fit. The double normal forces the curve to adopt a particular shape and that may be causing some of the apparent length composition fitting issues. Although it requires more parameters, I suggest trying the spline option if you have not done so already.

Growth:

On page 43, the report states that conditional ages at length are used, but the control file has -1s in the Low and High Bin columns for the first fleet (commercial gill net?). The explanation for this was not clear.

To help improve fit to length composition data, I highly recommend loosening up (increasing) the specified CVs on your vonB parameters. These CVs may not be large enough to accommodate the true variation in the observed data. This may lead to overestimation of fishing mortality and patterning in the length composition fits.

Model components:

A table of likelihood components showing the relative contribution of each data source for the base and alternate models would have been helpful for comparison with the text in Sections 3.2.7 and 3.3.

4) Evaluate the methods used to estimate stock status determination criteria. Evaluate the adequacy and appropriateness of recommended stock status determination criteria.

The justification for a management target and threshold of 25–35% SPR was not provided and alternate reference points were not recommended. It is unclear to me why southern flounder management would differ from summer flounder which (unless I am mistaken) uses a threshold of $F_{35\%}$ and target $SSB_{35\%}$. Why a lower %MSP for a similar fish that grows and matures quite rapidly and displays relatively low variability in recruitment for a finfish?

5) Does the stock assessment provide a valid basis for management for at least the next five years given the available data and current knowledge of the species stock dynamics and fisheries?

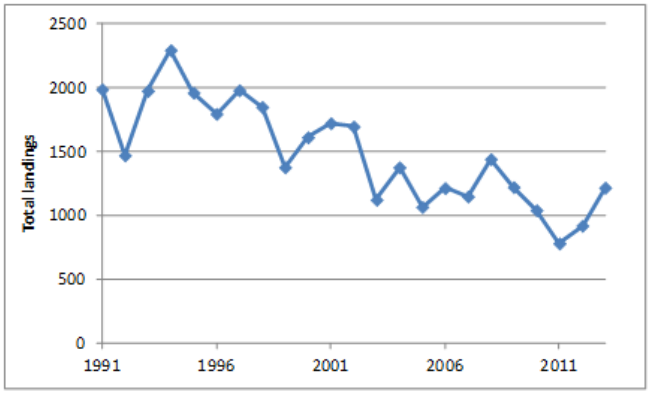
○ Yes

◉ No

Comment on response.

Despite the outstanding efforts of the analytical team, this assessment suffers from either uninformative data or too short a time series to detect trends in the stock. The model has great difficulty fitting contradictory and/or trendless data. It is quite possible that the data sources are actually informative but there have been no major changes (large declines or increases) in the stock since 1991.

My concern with stock status stems from counterintuitive data and results. If I interpreted Table 12 correctly, estimated landings have halved since 1991, but there has been no marked increase in survey trends or expansion of length or age structure in the catch. [Note: population length structure was not plotted, but the report did not make note of an estimated expansion in length structure of the stock so I assume none was noticeable.] Estimated discards have risen, but most discards appear to come from the recreational fishery which is still a small percentage of the overall catch.

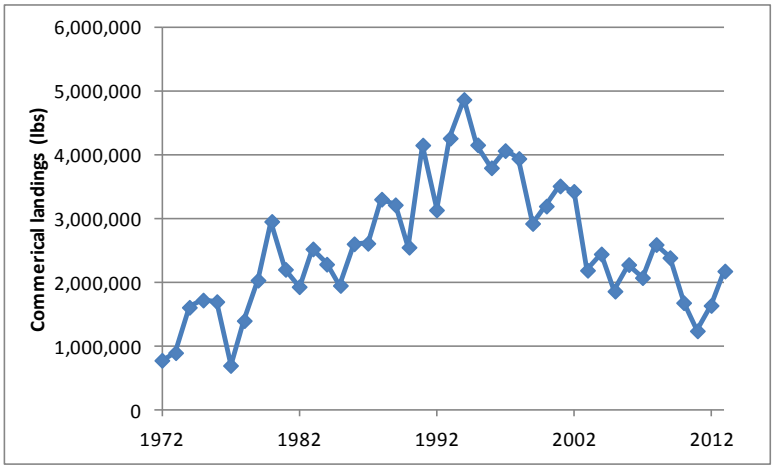


Estimated recruitment has declined, but I worry that is an artifact of the model trying to maintain some fit to stable length composition data in the face of halved landings and largely trendless surveys.

In short, it does not make sense that the stock has been experiencing overfishing across the entire time series if there has been no marked response to halving the catch. I think the model simply

cannot construct a coherent story about how the stock is responding to fishing mortality without a longer time series, more informative surveys trends, and more informative length structure changes.

I suggest placing the 1991+ data in the context of the history of the fishery to the maximum extent possible. A quick plot of total commercial landings of southern flounder since the 1970s (http://portal.ncdenr.org/web/mf/statistics/comstat/floundersou) indicates there has been significant contrast in the landings data if the time series could be extended back farther.



My naïve interpretation is that regulations limiting the gillnet fishery (particularly in Pamlico Sound) in the late 1990s and early 2000s may have contributed to a decline landings (Table 10). However, NC fisheries biologists and the analytical team would know best how to interpret these data.

I suggest the analysts consider supplementing their current SS model runs with alternate configurations that incorporate historical catch data and the statewide Program 120 survey extended back to the early 1980s (if the survey data can be standardized for changes in design and implementation). Estimates of total commercial and recreational harvest statistics appear to be available that far back as well. Use of the Program 120 survey would provide the model with information on recruitment without having to specify (or estimate) a stock-recruitment relationship. I am not familiar enough with the data to know if this is feasible, but, if it is, it might be worth trying and comparing with results from the 1991+ base run.

It is also possible that the NC portion of the stock is at the northernmost tip of the species' range and it may not be possible to assess this stock with confidence without adopting a more regional approach. At a broader spatial scale, trends in indices and stock responses to fishing and environmental influences may become apparent.

Given my reservations about the model's interpretation of the available data, I am concerned that the stock status determinations made in the assessment may be poorly informed by the short time series of available data relative to the history of the fishery. I suggest more exploration of historical data and growth parameterization be conducted before a final stock status determination be made and used for management.

6) Evaluate appropriateness of research recommendations. Suggest additional recommendations warranted, clearly denoting research and monitoring needs that may appreciably improve the reliability of future assessments.

Research recommendations are appropriate given the monitoring and modeling challenges presented by this stock. I am particularly concerned with recommendation #2 given application of gill net discard frequencies to recreational data may not be appropriate (especially for the offshore recreational fishery). If post-release mortality for some of these fisheries/gears is truly at or near 100%, this is an important recommendation to address.

I suggest the following addition to *Analysis* recommendations:

- Develop additional model runs in SS using all available historical catch and survey time series, if possible.

7) Are you aware of any reference material not cited in this report that should be included?

No.

8) Would you be willing to act as an external peer reviewer for a future NCDMF stock assessment?

(●) Yes

( ) No

9) Do you have any additional comments?

Please consult tracked edits and comments in the document for additional (minor) content and editorial comments.

NCDMF Stock Assessment Program
External Peer Review

Assessment Information

Assessment Species:	Southern flounder (*Paralichthys lethostigma*)
Stock Assessment Report:	Stock Assessment of Southern Flounder, *Paralichthys lethostigma*, in North Carolina Waters—2014
Date Sent:	November 10, 2014

Dear Reviewer-

Thank you for agreeing to review the 2014 stock assessment of the North Carolina southern flounder stock. The purpose of the external peer review process is to ensure that the assessment and results presented are scientifically sound and that decision makers are provided adequate advice. Peer reviewers are asked to address the terms of reference in the terms of reference report that follows. Please be as specific as possible in recording your comments and suggestions for revision and improvement. Any additional suggestions to improve the stock assessment are appreciated. Reviewers are also welcome to make comments directly in the assessment report using the Track Changes feature in Microsoft Word.

Please return this form, the terms of reference report, and any additional comments to laura.lee@ncdenr.gov. We would like to have your review by December 5, 2014. A copy of the final report will be provided after it has been presented to the North Carolina Marine Fisheries Commission.

Thank you,

Laura M. Lee
Senior Stock Assessment Scientist
North Carolina Division of Marine Fisheries

TERMS OF REFERENCE REPORT FOR EXTERNAL PEER REVIEW

Reviewer Information

Reviewer Name:	Steve Midway
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Business Phone:	Office 843–349–6404; Cell 919–793–5386

1) Evaluate the thoroughness of data evaluation and presentation including:
   a) Justification for inclusion or elimination of available data sources

      Overall I thought the use of data was well presented and all efforts were made to include relevant data. Obviously when merging several data sources into one assessment there will be questions, but I have no major comments on the data sources and refer to my minor comments and questions in the text.

   b) Consideration of survey and data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivities, sample size)

      The main strength I see is the diversity of sampling programs that capture southern flounder, which not only helps describe a wider size/age range, but also permits increased inference (even when some programs, like larval sampling, are excluded). Obviously a weakness is the lack of (survey) data for offshore adults who have either moved offshore seasonally or are permanent offshore residents (and the distinction is important, too). Clearly this demographic will need future efforts toward description to address major questions about life history, habitat use, and spatial dynamics beyond the unit stock.

   c) Calculation and standardization of indices and other statistics

      I'm less familiar with standard methods for calculation of indices, and would defer to the comments of other reviewers. However, I have made some minor comments throughout the text where I was unclear or uncertain about a specific aspect of estimation or statistical procedures.

2) Evaluate the adequacy, appropriateness, and application of data used in the assessment.

   Again, the offshore adults is a lingering question for this species; however, I was impressed with the changes made from the previous assessment. I think based on the existing sampling programs used and substantial improvements made in this assessment, the data are adequate and appropriate for an improved assessment of southern flounder.

3) Evaluate the adequacy, appropriateness, and application of method(s) used to assess the stocks.

   Coming into this review I was unfamiliar with Stock Synthesis. However, based on the description of this method (both in the assessment text and from the citations) it appears to be

a good choice for this species, namely in its generation of uncertainty and accommodation of selectivity patterns for multiple sampling programs, which is clearly the case. The flexibility of Stock Synthesis (i.e., use with varying amounts and types of data) also would appear to be something that is a strength as southern flounder assessment could potentially stay with this model in future assessments (as opposed to changing assessment models each assessment).

4) Evaluate the methods used to estimate stock status determination criteria. Evaluate the adequacy and appropriateness of recommended stock status determination criteria.

   Obviously based on the information and rates presented in Section 4, the designation of overfished with overfishing occurring makes sense. However, I would like to see more effort made to reconcile the historically high *F* values and extremely low SPR with the fact that biomass has not appreciably varied over 2 decades. For at least 10 years, *F* was 2–3x the threshold value, yet biomass did not perceptibly respond (decline), nor has it in the most recent decade of continued overfishing. (And most of the abundance indices are variable, but not strongly declining.) I have thought about this before, and would direct you to Chapter 4 (http://sites.psu.edu/fishresearch/wp-content/uploads/sites/10599/2014/03/Midway-Dissertation.pdf). I don't think the answer is explicit in this chapter, but without a reliable stock-recruit relationship some type of larval subsidy is perhaps the most parsimonious answer regarding the persistence and stability of biomass in the face of very high harvest. (I will also note that this chapter is in preparation for submission to a peer-reviewed journal, and I should soon be able to provide a revised version of the population modeling presented in the dissertation.) So, to circle back to the question, I think the stock status determination is analytically defensible, but needs continued thought.

5) Does the stock assessment provide a valid basis for management for at least the next five years given the available data and current knowledge of the species stock dynamics and fisheries?

   ○ Yes

   ○ No

   Comment on response.

   I have selected Yes, but the circle does not fill in electronically. While questions remain, I see this assessment as both the best available information for managing the NC unit stock of southern flounder, as well as advancement from previous assessments.

6) Evaluate appropriateness of research recommendations. Suggest additional recommendations warranted, clearly denoting research and monitoring needs that may appreciably improve the reliability of future assessments.

   Overall, the research recommendations are comprehensive and appropriate. One minor recommendation I might put forth would be to consider the squash-mount maturity preparations/slides that were extremely precise in classifying maturity stages in southern flounder (see Midway et al. 2013). In addition to the utility of the method presented in the paper, I have had discussions with multiple biologists at SCDNR who are successfully

exploring this approach for other species. This method does not rely on histology, yet produces near-histological quality data with minimal effort.

Continuing to elucidate patterns of inshore habitat use, demographics, and harvest (and discards, etc.) is important, but I think that focusing on recommendations 7–9 will serve the critical mission of completing the understanding of the southern flounder life cycle and inform the assessment process more than other areas. (That being said, I know these are likely the most difficult research objectives in addition to the fact that they have been recently worked on.) I would also encourage you to reference the dissertation chapter linked above for my attempt at your Analysis recommendation. In the coming weeks/months as I prepare this chapter for submission, I would be happy to have a discussion with NCDMF for your thoughts on my approach, and how it might be improved and potentially used in this assessment document.

7) Are you aware of any reference material not cited in this report that should be included?

References seem comprehensive and largely match the literature I have used for southern flounder.

8) Would you be willing to act as an external peer reviewer for a future NCDMF stock assessment?

○ Yes

○ No

Again, Yes, but the bubble is not active.

9) Do you have any additional comments?

Overall, I wish I were able to comment more thoroughly on the assessment model; however, my knowledge of assessment models is more academic than practical. I trust other reviews are more assessment-minded and have provided good comments. I do feel qualified to comment on the biology of the species, and in general this assessment, to me, presents a significant step forward with respect to integrating biology into the assessment.

NCDMF Stock Assessment Program
External Peer Review

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Thank you,

Laura M. Lee
Senior Stock Assessment Scientist
North Carolina Division of Marine Fisheries

TERMS OF REFERENCE REPORT FOR EXTERNAL PEER REVIEW

Reviewer Information

Reviewer Name:	Dr. Erik H. Williams
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Business Phone:	252-728-8603

1) Evaluate the thoroughness of data evaluation and presentation including:
   a) Justification for inclusion or elimination of available data sources

      The report seems to focus on data that were included, with not much being considered, but ultimately rejected. It is not clear how the age data are being used in the assessment model. It seems this whole document relies on a person with some experience with Stock Synthesis. The document says the age data are entered into the model, yet the growth parameters are fixed and the selectivity curves are estimated as functions of length, not age. This leaves me wondering if the age data is being used for anything in the assessment model. Are there annual age composition fits? None are shown in the document. This is a major weakness of this document and potentially the stock assessment.

      Generally the justification for including data seems appropriate. Aside from the concerns mentioned above about the age data, there are some concerns about the index data being used (see below).

   b) Consideration of survey and data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivities, sample size)

      Stock Definition:

      The documentation for the stock definition is clear. The limited tagging data are presented and used in an appropriate manner. The issue remains that this is clearly an open population being modeled in this stock assessment.

      Movement and Migration:

      Section 1.2.2 in the report should include more detail. The 15% emigration rate is mentioned later in the report, but not in this section, where it clearly belongs. This is a critical issue for this stock assessment and I would expect the write-up to reflect that with much more detail and discussion of available data, alternate hypotheses, anecdotal information, etc.

      Age, Size, Growth:

      The age and length data for this species seems fairly extensive based on the sample size tables presented in the document, yet it is completely unclear how all this data is being used or not used in the assessment. There is extensive discussion about stratifying the length data into six month periods, but only one overall growth curve is presented for

each sex. Were six month growth curves fit? The model uses two seasons, but the same growth curve for each season? It appears that the growth curves were fixed in the model.

The sampling design, or lack of sampling design for collecting length and age samples could use some more detail. Are the age data useless because of the biased sampling design? I am not clear on this. Are the lengths biased in some way? How exactly were the fishery specific length composition data put together? Are there fishery specific age composition data available? I realize later in the report that there is a statement about the age sampling being non-random. But, were there any attempts to correct the data for use in the assessment?

Maturity:

The maturity data seems fairly well documented and one of the few sections of the report that was actually clear and concise.

Mortality:

The choice of natural mortality values for an assessment is usually one of the most important choices made. In this report a single paragraph is devoted to this topic. That is woefully inadequate. The choice of M estimators needs to be discussed and justified. It looks as if the analyst just picked a few formulae off the shelf and then averaged them all, without regard to their utility for this species. For instance, the Ralston estimator is almost never used and should be discarded. The Jensen estimator is just one estimator and should not appear twice in the averaging. Basically these M estimators should be cast into categories of estimators, such as max age based (Hoenig), life-history invariant (Jensen, Charnov), and size based (Lorenzen). The strengths and weaknesses of each should be discussed, with particular note to the species at hand. Which methods may have more utility for Southern Flounder? Why?

Habitat:

It seems clear from the document that the knowledge about movement and habitat is limiting, as it can be for many fish species. However, it would have been nice to see a little more data from GA and SC to see if anything from those regions can be gleaned for this assessment. Perhaps that was done and it is not clear to me. There is mention of tagging studies from GA and SC, but not much detail about what is known in those areas about Southern Flounder.

Descriptions of Fisheries:

This is very clear and understandable. It seems that getting better discard estimates should be a high priority for research.

Fishery-Independent Data:

It would have been nice to see a summary table comparing the Program 120, 135, 195, and 915 data side by side. Perhaps indicating months of data collection, amount of area covered, number of stations, etc. In any event, the documentation seems clear enough to understand the data, but what is unclear is why the choices were made for inclusion or exclusion of the data, and why the data was subset in the ways that it was for Southern Flounder. For example, Program 120 seems inferior to Program 195, which seems to cover more time and space, yet two indices, carrying equal weight in the model are used

from these programs. Why? And, May and June months were used for Program 120 data, yet the Program 195 data was limited to September. They are both measuring age-0 Southern Flounder. Why the discrepancy in months used?

The Program 135 and 915 data are both measuring adult Southern Flounder, but I see no length composition data. This leaves me wondering how this data is being treated in the model. Maybe if I was able to read Stock Synthesis input files I might be able to find it, but if that was an expectation for this review, then you called upon the wrong reviewer. More discussion of the indices is below.

c) Calculation and standardization of indices and other statistics

There are several issues with the indices that were produced for this assessment that warrant further consideration or explanation. The document is limiting in its description of why index data were subset and ultimately selected. For instance, there is no clear linkage between the months chosen for modeling index data and the months during which one would expect to see Southern Flounder. There is discussion of taking the months with the highest catch rates, but how high and what percentage of the catch is excluded in the months that were dropped? This point obviously does not apply to all the index data, because some of the fishery-independent sampling was already limited by design.

The potential biases and uncertainties sections of the index reports are incomplete and border on the useless. Saying that a survey is not designed for the species in question and not explaining how that might affect the relationship between survey abundance and true abundance is a dereliction of duty. I would guess that 95% of surveys used in fisheries are never designed for the species index that is being calculated. What is more important is to discuss the spatial and temporal overlap of the species and survey. This is not done very effectively in this assessment.

The justification for choice of indices to be put into the model is not clear. These indices should be compared in two ways, (1) relative to each other and (2) based on the properties of how well they capture abundance. Having more than one index that measures the same thing should not be put into the model. The model does not have a good means to sort out the differences, especially when no age data is being used. I do not understand the reason for including both program 120 and 195 data since they both are measuring age-0 Southern Flounder. Either combine them into a single index or select the better one. Because the length and age composition data is not presented for any of the indices, I am not sure whether the same goes for program 135 and 915 index data. If they have the same selectivity (or even roughly the same), then combine them or select the best.

The documentation and diagnostics for the indices is too little for me to offer any advice about how reflective they are of abundance. The Mann-Kendall analysis in section 2.3 is pointless. The pairwise correlation analysis is good, but those results showing very little correlation are the very results you are looking for to question the choice of indices for inclusion in the model, yet none of that is done in this report. Lack of correlation among your indices (assuming they are lagged appropriately) should be a big red flag and warrants further investigation, discussion, and justification than what is in this report.

2) Evaluate the adequacy, appropriateness, and application of data used in the assessment.

A stock assessment relies on the accuracy of each input data source. In order to have a useful model you must at a bare minimum have an understanding of the total removals from the stock. In the case of Southern Flounder, there is a good set of landings estimates, but the discards are highly uncertain, or even ignored in the case of shrimp trawl bycatch. Nonetheless, that is a common problem for many stock assessments. The best way to address this is through sensitivity runs and uncertainty estimates.

The next critical piece of information for a size/age-structured model is size and age structured data. In this case length composition data is being used and it remains unclear to this reviewer what is being done with the age data. In any event this data needs to be plotted and visually examined to determine if (1) year class strengths/weaknesses can be observed moving through the data, (2) if shifts in the smaller ages/sizes correspond to changes in minimum size regulations, and (3) if there are notable shifts in the maximum size/age of fish over time. None of this appears to have been done in this assessment. It should have been noted upon examination of the length composition data that there is no sign of year classes and that there seems to be little response in the data to changes in the minimum size limit. These are concerns when going forward with a size/age-structured model like Stock Synthesis. It may have suggested that a surplus-production model was more appropriate, but I caveat that statement with the issue of not being able to adequately evaluate the age data. The age data may have been more valuable in this case. It is often the case that age data contains far more important population dynamic information in it compared to length data, especially when the variation in size at age is as great as it seems to be for Southern Flounder.

Of course a very critical piece of information for any assessment, especially one that seeks to provide long-term, equilibrium benchmarks is abundance data, usually in the form of relative CPUE indices. In this case there appears to be both juvenile (age-0) and adult (age range not documented) indices. Unfortunately there are two of each and they appear to conflict. This is a problem for any stock assessment and usually needs to be resolved by the analyst by either combining the data or eliminating an index. Forcing the model to choose between the indices just adds noise and potential bias to the model and results.

3) Evaluate the adequacy, appropriateness, and application of method(s) used to assess the stocks.

The stock synthesis assessment model is a powerful model that must be applied with care and full understanding of the underlying processes. For the set of data, which includes landings, discards, size composition, age composition (???), and indices, this model is appropriate. Unfortunately the way this report is written, determining more precisely how various settings were structured for this model is near impossible without being able to read stock synthesis input files, which I cannot read. Some details that I am left wondering about include: how are the discard selectivity curves (retention curves) being estimated? What selectivity function is being used for all the curves? What selectivity is being used for the adult indices? How is the age data being fit in the model? What are the likelihood components being estimated? What are the values of those likelihood components? What are the sample size inputs for the multinomial components? What are the CV values being used in the lognormal

likelihood components? There is a lot left unknown to me because of poor documentation and the inability to interact with the analyst during a desk review.

If I could read stock synthesis input files I might be able to find some of this information, but I cannot do that.

The choice of dome-shaped selectivity curves is a tricky one. In all assessment models like this one there is a confounding between the degree of doming in the curve (the descending limb of the selectivity curve) and the fishing mortality rate. I would have liked to see sensitivity runs with alternate hypotheses about selectivity shape and form.

The likelihood components are very poorly documented in this report, more specifically the error levels assumed for each data set. What are the multinomial n's and the index and landings CV's? The model is set with all likelihood multipliers at 1.0. This assumes that all error levels are specified correctly, which is almost never the case. Recent trends in the literature (see Francis 2011) suggest that likelihoods should be re-weighted such that residuals conform to assumptions of N(0,1). At a minimum some other likelihood weighting scheme should have been explored. The typical pattern seen in these models is that the multinomial composition components are over-weighted, which by the looks of the index fits, seems to be the case in this model. But, again the poor documentation makes this insight difficult.

Uncertainty is characterized through sensitivity runs. This is inadequate, especially if the range of sensitivity values is not directly tied to the amount of uncertainty in the input data. What is the uncertainty in the F level that corresponds to $F_{35\%}$? This is probably the most critical output, yet there is no specified level of uncertainty. Sensitivity analyses are really meant to determine behavior of the model to different assumptions, not characterize uncertainty. The author(s) should look into delta-method, bootstrap, Monte Carlo, and MCMC approaches to characterizing uncertainty.

4) Evaluate the methods used to estimate stock status determination criteria. Evaluate the adequacy and appropriateness of recommended stock status determination criteria.

   Because of the open nature of this stock assessment, equilibrium based stock status criteria are not appropriate. The SPR rates are useful, but the uncertainty about selectivity, natural mortality, and even maturity should be factored into this calculation.

5) Does the stock assessment provide a valid basis for management for at least the next five years given the available data and current knowledge of the species stock dynamics and fisheries?

   (•) Yes

   ( ) No

   Comment on response.

   Although this stock assessment has its issues, as almost any stock assessment does, it is important to realize that like most stock assessments it represents a compilation of all available data for the fishery and species. Because it is a compilation of all information, it is ultimately useful for management. The question and concern is what type of management

can be justified with this assessment? As a scientist and reviewer of this assessment, I do not want to offer management advice, as it clearly is not my place. Instead what I will try to do is highlight some of the important results and data that reflect on the population dynamics/sustainability of the stock, while keeping an eye on the associated level of uncertainty with each. The best way to think of this is as indicators of stock condition, with some being clearer than others.

First, it should be clear that the first major shortcoming of this stock assessment is the modeling of an open population, which means there is uncertainty in the feedback between spawning stock, recruitment, and ultimately fishing mortality rates. The assessment assumes there is no stock-recruit relationship, which means that it assumes recruitment is essentially constant (with some environmental noise around it). Of course that is never the case because ultimately a stock must have some level of spawning to produce some recruits, they don't just appear out of thin air. So, we know that at some low levels of spawning stock, recruitment must become impaired. The question is how low? Because of the open population we have of Southern Flounder in NC, another layer of uncertainty is added to the whole system. Certainly this type of situation is not conducive to estimating long term sustainability benchmarks, and managers should take note of that.

In the absence of long term sustainable benchmarks there are some things that managers can continue to keep an eye on for sustainability issues. For instance what are recent trends in the abundance indices, what are the recent trends in recruitment and fishing mortality, what are the recent trends in age/length composition? Downward trends in abundance indices, downward trends in recruitment, increases in fishing mortality, and truncation of the older/bigger fish from the age/length composition should trigger concern from managers. Other changes in the data should be noted as well, like shifts in maturity or size-at-age.

What I am suggesting here is that this assessment is not going to help with any traditional benchmarks because the open population renders them useless. But, the recent trends in the data and assessment model output are useful. In evaluating these trends it is important to try and understand the root cause if possible. For instance, if recruitment is declining, we must ask why? Is there increased fishing from the other areas? Is there increased fishing in NC? Is there a change in the environment? Find the most credible explanation and this will help in deciding what can be controlled and what is uncontrollable. But recognize that controllable or uncontrollable signals may still require action on the part of managers.

What do I see in these results? Fishing mortality is showing an overall long term decline, with a recent upturn in the last few years. This is largely a reflection of the landings trend, which means any direct actions on landings levels should result in changes in fishing mortality. SPR and F are directly inversely related. Recruitment is showing a general long term decline, with a recent upturn. This could be concerning, especially since the most recent estimates of recruitment are the most uncertain. The total biomass trend is essentially flat which suggests things are fairly sustainable, but recognize that the flat trend in biomass came during a period of decreasing landings. If the decreased landings were having really positive results, we should have seen biomass trend upward. Of course recruitment has been trending downward, hence it balances out into a seemingly flat biomass time series.

The length frequency (composition) data is amazingly consistent over time, showing very few shifts or modes due to year classes. This is likely a result of the apparent large variation

in size-at-age in the growth curve data. Unfortunately this also points out a severe limitation in the utility of the length data. It does not reflect any year classes moving through the population and does not show any shifts in structure due to changes in fishing mortality or even due to changes in regulations. I would expect to see a little more shift in the small fish being kept, reflecting the increase in minimum size limits over time. It almost appears that the minimum size limits are simply being ignored.

However, the most unexpected and concerning trend in the data is the apparent shift in the age data toward younger fish. This is during a time of increasing size limits (which seem to be ignored) and stable length compositions. The catch since 2008 seems to be predominated by age-1 fish, with an increasing fraction of age-0 fish. This is of concern from a long term sustainability perspective. The reason for this needs to be explored and management measures should attempt to reverse this trend.

6) Evaluate appropriateness of research recommendations. Suggest additional recommendations warranted, clearly denoting research and monitoring needs that may appreciably improve the reliability of future assessments.

   The research recommendations seem appropriate.

7) Are you aware of any reference material not cited in this report that should be included?

   No references that should have been cited, but plenty of material that should have been considered, applied, and possible cited. Without looking up the exact references, I would direct the author(s) to work on selectivity estimation (Sampson, Legault, and a recent Fish Res issue), adjusting age comps for biased sampling (Chih), likelihood re-weighting (Francis), and index selection (Hilborn, Walters).

8) Would you be willing to act as an external peer reviewer for a future NCDMF stock assessment?

   (•) Yes

   ( ) No

9) Do you have any additional comments?

   Because the review of this stock assessment is being conducted as a desk review, which does not allow for interaction between the reviewers and stock assessment analyst, it is incumbent that the documentation be very thorough and inclusive. I find that not to be the case for this assessment. It is a major shortcoming of this assessment and severely impinges my ability to adequately review it. Half the document is attachments of Stock Synthesis (SS) files. By themselves they serve no utility for non-SS users. Therefore I am left to rely on the Tables and Figures alone, which are very incomplete. For future reviews, consider a face-to-face review, or have a much more thorough set of documents. I appreciate the need to keep a stock assessment report that is readable and understandable, but there are many supplemental things that are needed for a good technical review.

   For instance, almost all input data should appear in Table form, with some appearing in Figure form as well. Consider actually including a spreadsheet of the assessment input data and even the files and software for running the model. Or provide some digital copies of the

input and output files, not just copy and pasted versions in the report. Diagnostics and more details are needed for index GLM analyses and data subsetting.

It is amazing that this assessment report has a single equation in it for maturity and nothing else. I recognize that the SS documentation is referenced, but at the same time that does not provide enough information to know how preliminary data may have been processed, nor does it allow the reviewer the details necessary to know exactly which equations are being used for selectivity, how F's are being estimated, and other important details.

Draft Issue Paper
Determine Need For and Impacts of Sheepshead Size, Creel, and Trip Limits in North Carolina

Jan. 30, 2015

I. ISSUE

Determining if management measures are needed for sheepshead and how to evaluate options without traditional stock assessment reference points.

II. ORIGINATION

At its July 2014 North Carolina Division of Marine Fisheries (NCDMF) Management Review Team (MRT) meeting, the committee requested that staff update the existing issue paper on the implementation of the proclamation authority and investigate potential management measures that may or may not be implemented as safeguards for the North Carolina sheepshead population.

III. BACKGROUND

Management History:

The initial 2004 North Carolina Interjurisdictional Fishery Management Plan (IJFMP) incorporated reef fish, including sheepshead, in the plan management unit which was defined as fish stocks managed by the federal fishery management councils or the Atlantic States Marine Fisheries Commission (ASMFC). Under the IJFMP, sheepshead was incorporated as a species managed by the South Atlantic Fishery Management Council (SAFMC) within its Snapper Grouper Fishery Management Plan. Possession was restricted to the aggregate 20 fish creel limit and this measure was implemented by proclamation (via rule 15A NCAC 03M .0512), in accordance with the IJFMP policy to comply with regulations developed through federal fishery management plans. On April 16, 2012, sheepshead was formally removed from the SAFMC's Snapper-Grouper Fishery Management Unit in the Comprehensive Annual Catch Limit (Comp ACL) Amendment. Subsequently, North Carolina's proclamation authority for the management of sheepshead was invalidated because the species was no longer part of the IJFMP, nor was there a standalone state FMP for sheepshead.

At a November 2012 business meeting, the North Carolina Marine Fisheries Commission (NCMFC) requested that division staff develop an issue paper on providing proclamation authority for implementing size, bag limits, and trip limits for sheepshead. Staff prepared an issue paper for the regional and Finfish Advisory Committees that described the current trends in the fishery as well as the species life history. The regional and Finfish committees all recommended the same management option: proclamation authority allowing the full list of management tools stated in the proposed rule. Additional committee advice included more detailed analysis of existing biological data, conducting a stock assessment if possible, and soliciting public input on future management measures. The NCDMF recommended establishing proclamation authority for gear, time, season, area, size, bag, and trip to manage sheepshead and present the issue to Finfish and regional advisory committees to solicit public comment on specific management measures. At the November 13-15, 2013 Marine Fisheries Commission Business meeting, the commission approved Rule 15A NCAC 03M .0521 which specifies the Director's proclamation authority for sheepshead, including the ability to restrict time, area, means and methods, season, size, and quantity.

In May 2014 the ASMFC South Atlantic State/Federal Fisheries Management Board considered whether to manage sheepshead through the Interstate Fisheries Management Program. The board concluded it was best to let each state come up with their own management options due it being unclear whether sheepshead are a true migratory species and given the ASMFC limited resources and budget constraints. To date there is no plan for a coastwide stock assessment by the ASMFC and any formal stock assessment would have to come from each state agency, none of which appeared to have sufficient data sets to complete one. While the stock status of sheepshead is unknown, the stock appears to be healthy; however, there have been concerns that increased fishing pressure due to more restrictive regulations on other species may negatively impact the stock.

This paper serves to review the status of the sheepshead fishery in North Carolina and presents several management options for NCMFC's consideration.

Life History

Sheepshead (Archosargus probatocephalus) is a relatively large and long-lived member of the family Sparidae (Porgies). The species is greenish-gray to silvery in color, with five to seven distinct vertical black bars and an oval shaped laterally compressed, deep body. Sheepshead commonly attain a length of 20 -25 inches and a weight ranging from 5 to 15 pounds. Fish in the 20 to 25 pound range are occasionally landed in North Carolina (Manooch 1984). Sheepshead are generally found from inshore brackish waters to offshore around rock and hard substrate, like jetties, pilings, and other structure covered with barnacles, mussels, and oysters. They have medium sized mouths with strong incisors and molars for picking up and crushing shellfish and sea urchins. Sheepshead are found in coastal waters of the eastern United States year-round based on recreational catches. Their range is from Nova Scotia to Florida along the east coast of North America continuing on to the Gulf of Mexico southward to the south Atlantic waters off Rio de Janeiro. Recreational landings of sheepshead in North Carolina are typically lower during the late fall through early spring (November-April). The decrease in landings might represent a spawning migration to oceanic waters as the temperature cools in the fall (Tremain et al. 2001). While in coastal offshore waters during the winter and spring, adults spawn on reefs (McDonough et al. 2011). They are found in coastal waters, bays and estuaries, and are tolerant of low salinity brackish waters as well. The current world record is 21 pounds, 4 ounces and was caught in New Orleans, Louisiana on April 16, 1982 (IGFA 2014). The North Carolina state record is 19 pound, 6 ounces and was caught off Oregon Inlet in 1999.

Sheepshead exhibit rapid growth from ages zero to six and have been reported to reach up to 29 inches TL in North Carolina (~28 FL; Schwartz 1990). However, less than 50 percent of the individuals are sexually mature at age one (10 inches FL). At age two (12 inches FL) most females are mature, with all sheepshead being mature at age four (14-25 inches FL). A recent study in the Chesapeake Bay found that the age at which half of the individuals could spawn (L50) was 1.51 for males (~11 inches FL), and 1.62 for females (~10 inches FL; Ballenger 2011). Both males and females were 100 percent mature at approximately 13 and 14 inches FL, respectively. Ballenger (2011) also noted that on average sheepshead in the Chesapeake Bay region attained a larger maximum size and age as compared to their more southern counterparts; reaching a maximum age of 35, living 12 to 21 years longer than previously reported. Ballenger (2011) concluded that differences in the age and growth of sheepshead found in the Chesapeake Bay region and that of sheepshead south of Cape Hatteras suggest two distinct populations in Mid-Atlantic Bight.

In South Carolina there is evidence of earlier maturation as compared to sheepshead found in North Carolina and those in the Chesapeake Bay region, with 50 percent of males and females being mature by age one (~9 inches FL) and greater than 80 percent by age three (~12 inches FL; McDonough et al. 2011). All males were mature by age four (~15 inches FL) and all females by age five (~16 inches FL). In Louisiana sheepshead also appear to mature earlier with the majority of both sexes being mature by age two; with all males and females being mature by ages three and four, respectively (Render and Wilson 1992).

In addition to differences in regional growth and maturity, migration is thought to be limited. Migration patterns based on mark recapture studies have not documented large scale movements. One study in Florida documented movement towards inlets during the fall and winter showing a more east-west offshore flow pattern than a north-south migration (Tremain et al. 2001). A Georgia study documented a maximum distance travelled of 70 miles (Woodward et al. 2000).

Description of the Fishery (Coastwide)

Sheepshead are a highly sought after in both the recreational and commercial fishery along the Atlantic Coast (Figure 1). From 1981 to 2013, the average landings of sheepshead from the East Coast of the United States were 1.89 million pounds per year. The majority of the landings occurred in the recreational fishery, which averaged 84 percent of the total harvest or 1.34 million pounds. Since 2002, the commercial harvest has ranged from 182,894 pounds in 2013 to a high of 318,061 pounds in 2009.

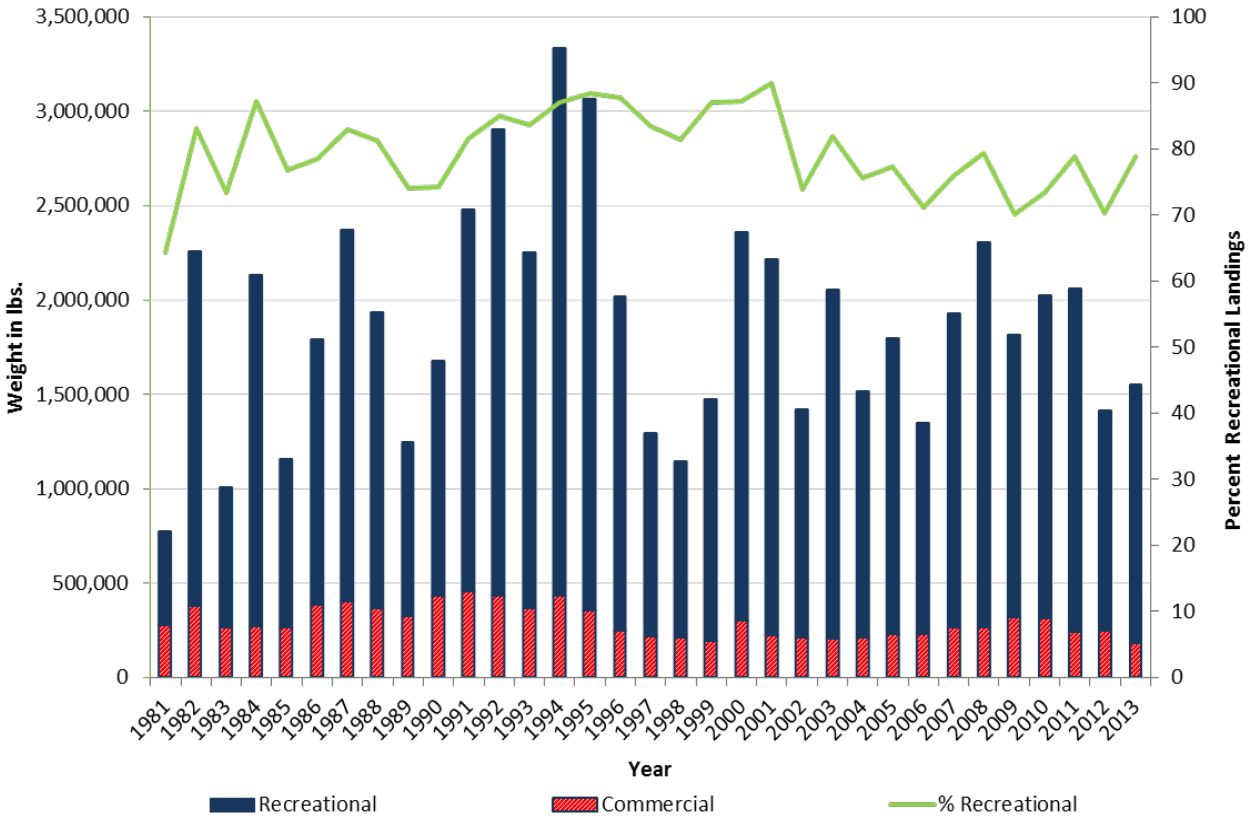

Figure 1. Recreational and commercial landings of sheepshead from the Atlantic Coast from 1980 to 2013.

Florida, South Carolina and North Carolina fisheries comprise the majority of sheepshead harvested recreationally along the Atlantic Coast. From 2002 to 2013, over 97 percent of the recreational harvest occurred in the South Atlantic (North Carolina, South Carolina, Georgia, and Florida). The recreational catch in Florida was highest on the East Coast every year except from 2007 to 2009 (Figure 2). On average, Florida harvests just below 50 percent of the recreational landings, accounting for 27 percent to as much 68 percent of the coastwide harvest annually. South Carolina ranked second in the highest total recreational landings from the South Atlantic from 2002 to 2013. Recreational landings in North Carolina have been highly variable, ranging from a low of 148, 454 pounds in 2006 to high of 725,623 pounds in 2007. North Carolina is the only state that saw an increase in the recreational landings in 2012 and 2013. Proportional standard errors (PSEs) for all years were below 15.5 except for in 2008 when the PSE was 21.1. The PSE expresses the standard error of an estimate as a percentage of the estimate and is a measure of precision. Catch estimates for commonly caught species, like sheepshead, often are more precise than for rare event or pulse fisheries. PSE values greater than 50 indicate a very imprecise estimate.

The commercial harvest of sheepshead along the Atlantic Coast is primarily from two states overall: Florida (54 percent) and North Carolina (31 percent)(Figure 3). Virginia, Georgia and South Carolina accounted for 3.5 percent of the total Atlantic Coast commercial harvest. The northern states provide less than 0.1 percent of the sheepshead catch for the 12 year average. Florida has consistently harvested over 100,000 pounds for that same time period, averaging 152,349 pounds a year. Their four primary gears are cast nets, hook and line, diving spears and haul seines. From 2002 through 2008, North Carolina's landings varied averaging only 67,223 pounds a year, but since 2009, that average has increased to 140,239 pounds a year, a 73,000 pound or greater than 100 percent increase (Figure 3). The popularity of sheepshead has grown in North Carolina in the last five years, especially looking at specific gears used commercially to land sheepshead. North Carolina's leading commercial harvest gears have been gill nets, pound nets and haul seines. Use of gigs and spear fishing gear are also increasing.

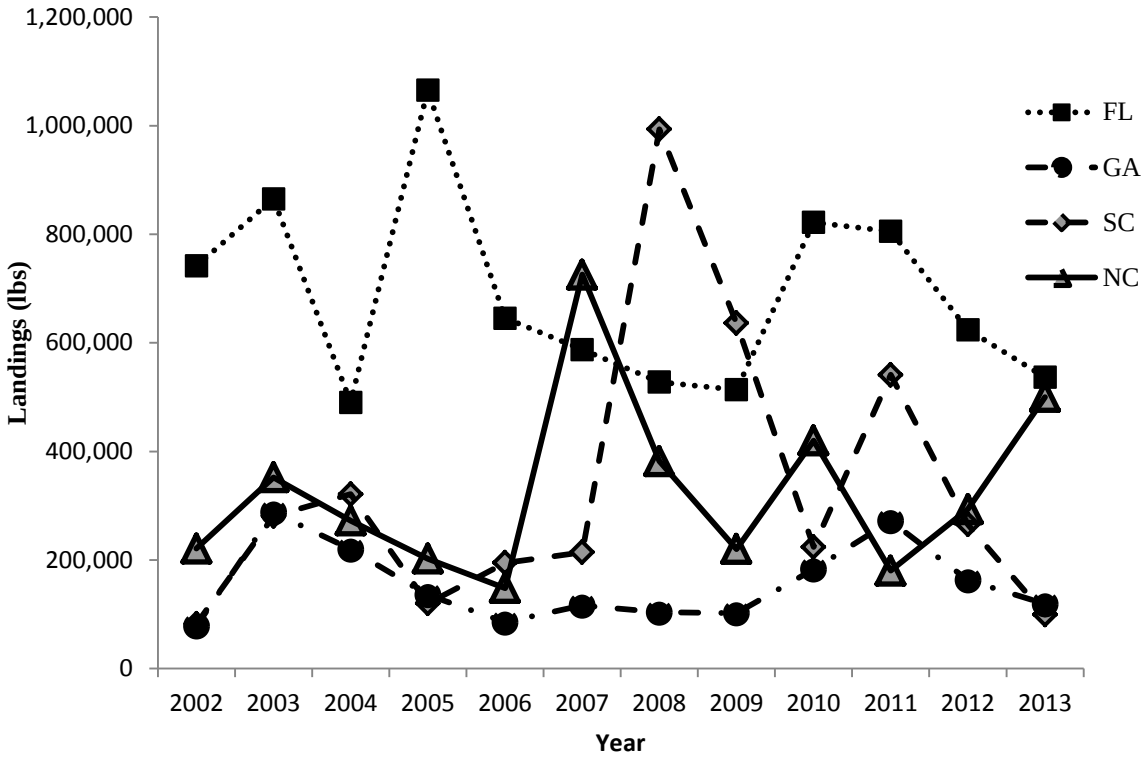

Figure 2. Recreational landings by state in the South Atlantic from 2002 to 2013.

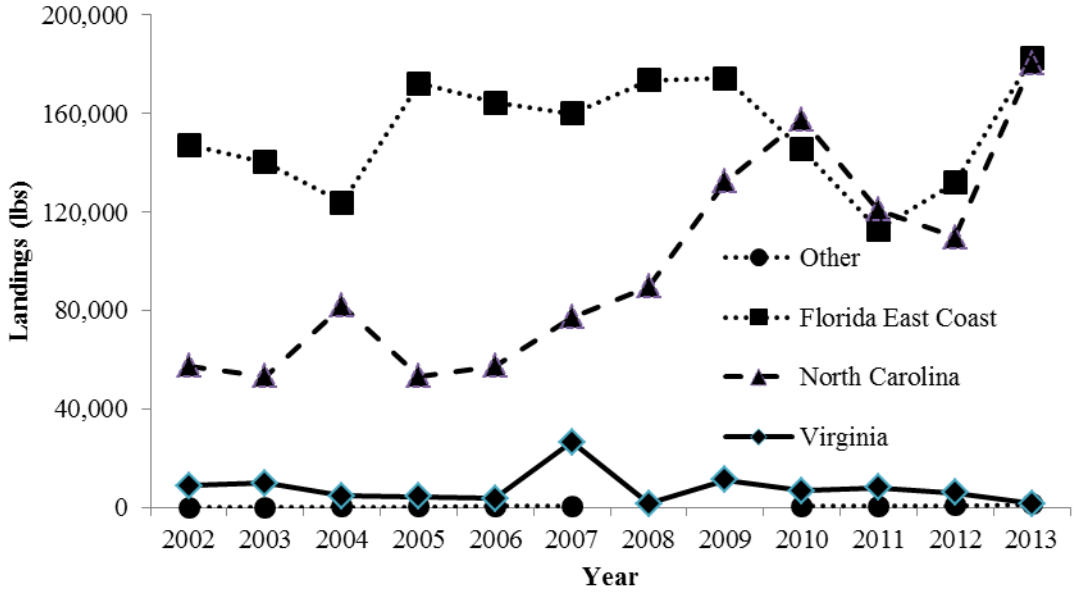

Figure 3. Commercial landings of sheepshead by state along the Atlantic Coast from 2002 to 2013

Description of the Fishery (North Carolina)

Sheepshead is a very popular recreational and commercial species in North Carolina. Seemingly, their popularity has increased in the last few years as have their landings. Sheepshead have become a favorite food fish due to their mild taste and are becoming more targeted in the recreational fishery. They are excellent baked, fried or broiled, their meat is white and dry and large bones are easily avoided (Manooch 1984). They are caught recreationally and commercially statewide, mostly from April through November. While fish are present in the fishery every month of the year, there is a peak in landings in the fall months. The highest harvest in the commercial fishery occurs in (Figure 4a). Recreational harvest peaks fluctuate among waves 3-5 (May through October), and in 2013, most sheepshead were caught in the wave 4 (July/August; Figure 4b). Harvest from recreational fishermen using hook-and-line peaked in 2007 at 725,623 pounds. In 2013, over 500,096 pounds of sheepshead were landed by recreational hook-and-line, almost tripling what was harvested in 2011 (180,319 lbs.). While the recreational hook and line landings appear to have increased over the last two years, preliminary data for 2014 indicates that approximately 129,000 pounds have been harvested since October 2014. It seems that landings continue to fluctuate between the years without trend.

Sheepshead are primarily caught as bycatch in several of North Carolina's commercial fisheries, with the majority of the landings coming from gill nets, pound nets, and haul seines (Table 1). As with the recreational fishery, landings fluctuate from year to year. Gill net landings show that in 2011, 42,374 pounds of sheepshead were harvested, with 36,924 pounds in 2012, increasing to 63,667 pounds in 2013. Haul seines landed 12,539, 7,494, and 12,389 pounds in 2011-2013, respectively. Pound nets were the most variable with 55,600, 43,847, and 82,360 pounds harvested in those same three years. Commercial sheepshead landings for the last 12 years have ranged from 53,232 pounds in 2005 to the 180,225 pounds harvested in 2013, generally increasing since 2009.

Table 1. NC commercial landings of sheepshead by gear from 2002 through 2013.

Gear	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Other	199	189	78	48	92	152	168	523	190	94	940	1,840
Dive	558	442	408	2,369	812	2,442	2,912	3,180	3,003	361	9,987	10,975
Gill Nets	16,923	24,187	23,287	16,482	18,819	21,209	28,813	58,797	60,601	42,391	36,924	63,667
Haul Seines	6,081	8,091	4,924	4,567	11,988	7,868	10,728	16,060	38,597	13,143	9,473	12,350
Hook and Line	485	214		394	103	175	143	378	476	1,689	642	810
Trawls	5,185	8,450	43,885	17,235	11,886	29,416	5,564	4,237	5,478	1,992	2,140	3,940
Pound Nets	27,961	11,766	9,055	12,137	13,793	15,912	41,107	49,164	49,207	55,601	43,847	82,360
Gigs										5,585	5,929	4,285
Total	57,392	53,339	81,637	53,232	57,493	77,174	89,435	132,339	157,552	120,856	109,881	180,225

In 2013, pound nets comprised 45.7 percent, gill nets comprised 35.3 percent and spear fishing landings comprised 6.1 percent of the total commercial landings. Those three gears alone comprised 87.1 percent of all the commercial landings for 2013 (Figure 5). Sheepshead popularity among divers has increased greatly in recent years with spear-fishermen landing over 10,975 pounds of sheepshead in 2013. While only 6 percent of the total commercial landings were harvested by divers in 2013, harvest increased dramatically from the 361 pounds landed in 2011 to the almost 11,000 pounds, two years later. The majority of the dive trips harvesting sheepshead occurred in the Masonboro Sound area in New Hanover County; they averaged approximately 107 pounds per trip, within the last three years as compared to the 10 year average of only 40 pounds.

In North Carolina, both the recreational and commercial landings have fluctuated in the last 12 years, although the commercial landings have stayed more consistent than the recreational landings (Figure 6). One difference between the commercial and recreational landings is most of the commercial landings are incidental to targeting other species while recreational landings tend to be more of a targeted fishery. Other variables play into these landings such as weather, effort, and availability.

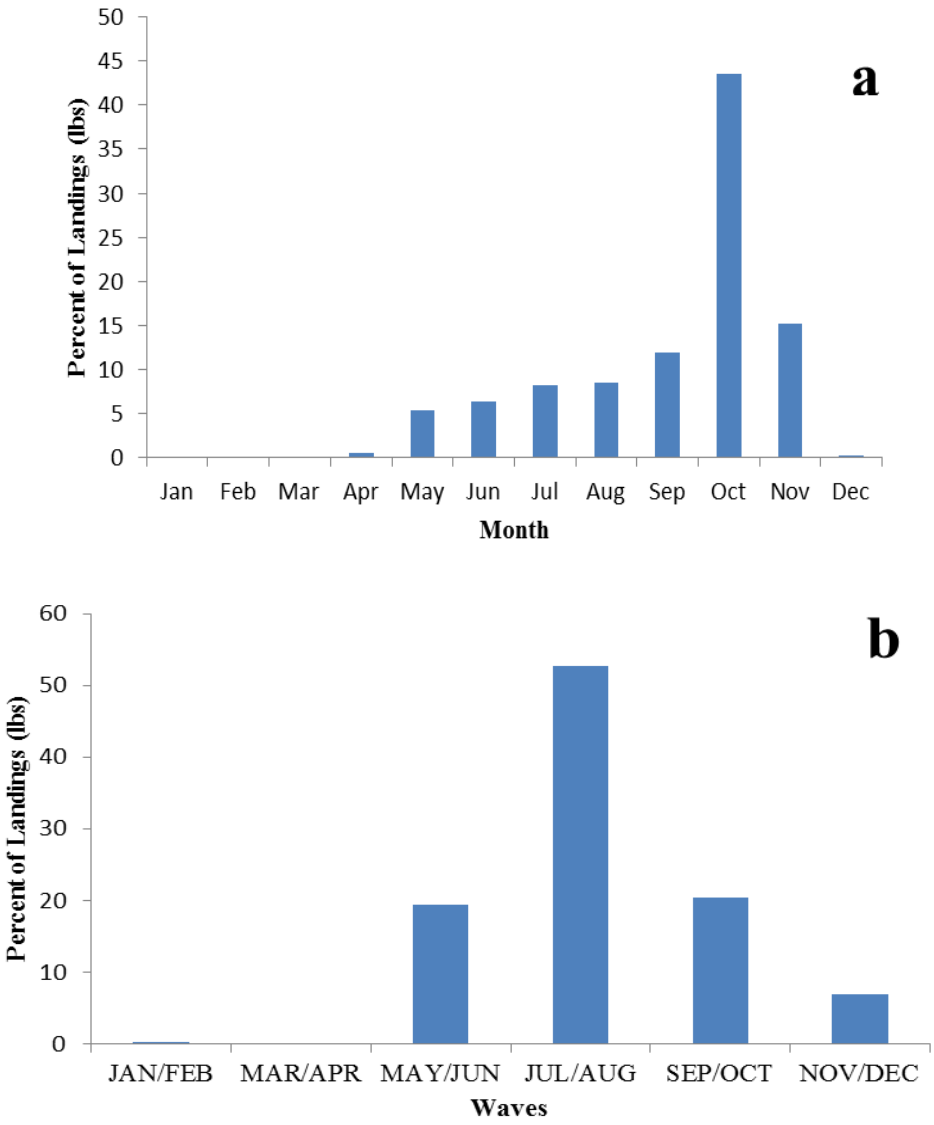

Figure 4. Percent of total landings (pounds) harvested by month for NC sheepshead, a.) commercially, 2011 – 2013 and b.) recreationally by wave from the Marine Recreational Information (MRIP) for 2013.

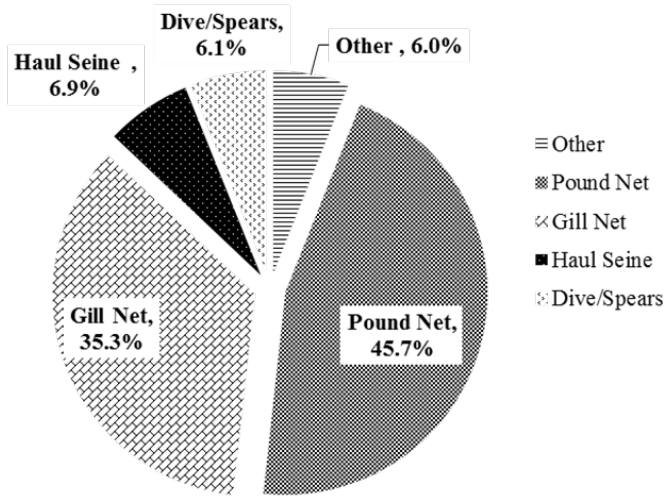

Figure 5. Percentages of North Carolina commercial landings by gear for 2013

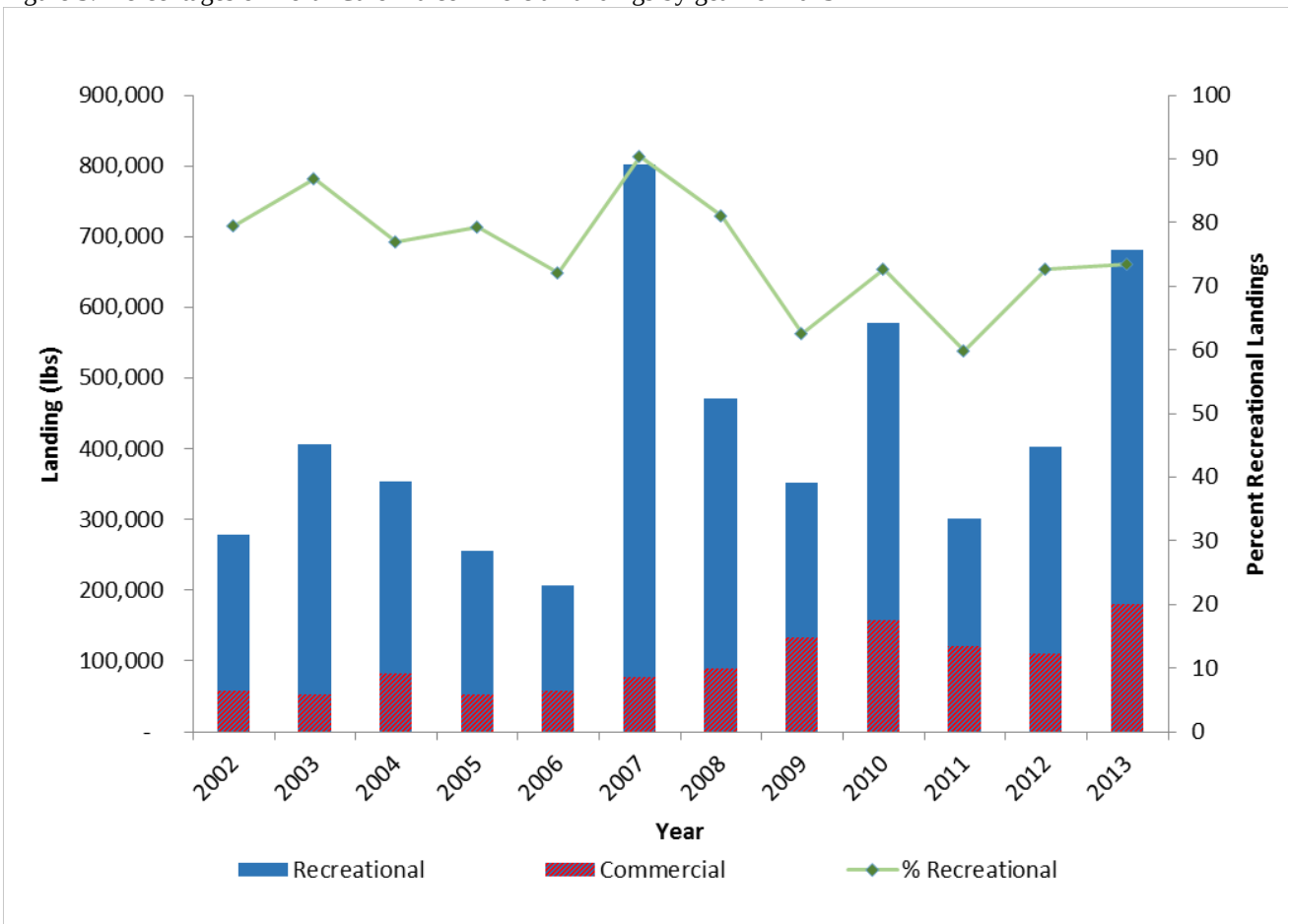

Figure 6. North Carolina sheepshead recreational and commercial landings from 2002-13 (recreational landings courtesy of Program MRIP, commercial landings courtesy of North Carolina Division of Marine Fisheries Trip Ticket Program).

IV. AUTHORITY

G.S. 113-134, 113-182, 113-221.1, 143B-289.52
15A NCAC 03M .0521

V. SUMMARY FINDINGS

Until a stock assessment can be done, there are several management measures that could be used to limit the harvest of sheepshead and address any concerns of overfishing or exploitation of juvenile sheepshead. The focus of this information paper is to provide potential management options for sheepshead. This paper provides information to determine how effective minimum size limits, slot limits and/or creel and trip limits would be as management measures for reducing the overall harvest of sheepshead. The harvest reductions provided are estimates calculated based on several assumptions about the data, gear selectivity, gear efficiency, and size class strength. Violations of any or all of these assumptions can affect the precision and accuracy of these numbers. Harvest reductions based on length frequency distributions also have the potential to be biased when the sample size is low and may not be a true indicator of relative fish abundance, thus overestimating harvest reductions. All data presented in this paper is only informational and does not suggest any comprehensive analyses was performed that would be produced with a formal stock assessment.

Recreational Options

To determine what effect a minimum size limit and/or a slot size limit as well as creel limit would have on the recreational landings of sheepshead, length frequency and catch per angler trip data was obtained from the Marine Recreational Information Program (MRIP). MRIP is the primary survey used to collect data on angler harvest from ocean and inside waters along the entire North Carolina coast. MRIP consists of two components, the Access-Point Angler Intercept Survey (APAIS) and the Coastal Household Telephone Survey (CHTS). The CHTS utilizes a random digit dialing (RDD) telephone survey approach to collect marine recreational fishing effort information from residential households located in coastal counties. APAIS, an onsite intercept survey conducted at fishing access-sites, is used for collection of individual catch and discard data for calculation of catch rate at the species level. Creel clerks collect intercept data from January through December (in two-month waves) by interviewing anglers completing fishing trips in one of the four fishing modes (man-made structures, beaches, private boats, and for-hire vessels). Individual lengths (mm-FL) and weights (kilograms) are recorded for each individual species sampled. To calculate length frequencies, millimeters (mm) were converted to inches for this paper and most lengths are in fork length and not total length. Results from both component surveys are combined at the state, area, fishing mode and wave level to provide estimates of the total number of fish caught, released, and harvested; the weight of the harvest; the total number of trips; and total participation in marine recreational fishing.

A modal length frequency distribution was observed for sheepshead caught recreationally from 2002-2013 (Figure 7). These lengths ranged from 6 inches to 25 inches FL, with no particular size dominating the catch. The length frequency for sheepshead varied from year to year, which could be due to variability in the availability of various size sheepshead from year to year or could possibly due to low sample sizes in the recreational fisheries. On average, 22.56 percent of the sheepshead measured from the recreational fishery were 10 inches FL or less (~ size of 50 percent maturity), 40.4 percent were 12 inches FL or less, and 57.5 percent were 14 inches or less. Below are the options of size limits alone with their related reductions and then reductions occurring from a combination of both, size and bag limits.

Size Limits

Listed below are the recreational options of various minimum size limits. Table 2 provides the annual percent harvest reductions based on a 10, 12 and 14 inch minimum fork length size limit and a 12 – 20 inch fork length slot limit for each year from 2002 through 2013, as well as an overall 12-year average. The reduction from a 10 inch minimum size limit ranged from a low of 4.1 percent in 2002 to a high of 40.2 percent in 2013. The overall average reduction across years was 18.3 percent. For a 14 inch minimum size limit, where the majority of fish are mature, higher reduction percentages occur (Average reduction was 33.7 percent across all years). Recreational landings increased considerably in both 2012 and 2013, resulting in higher percent reductions for those two years in all calculations of minimum size limits. It is important to note that the harvest increased as a result of small fish as

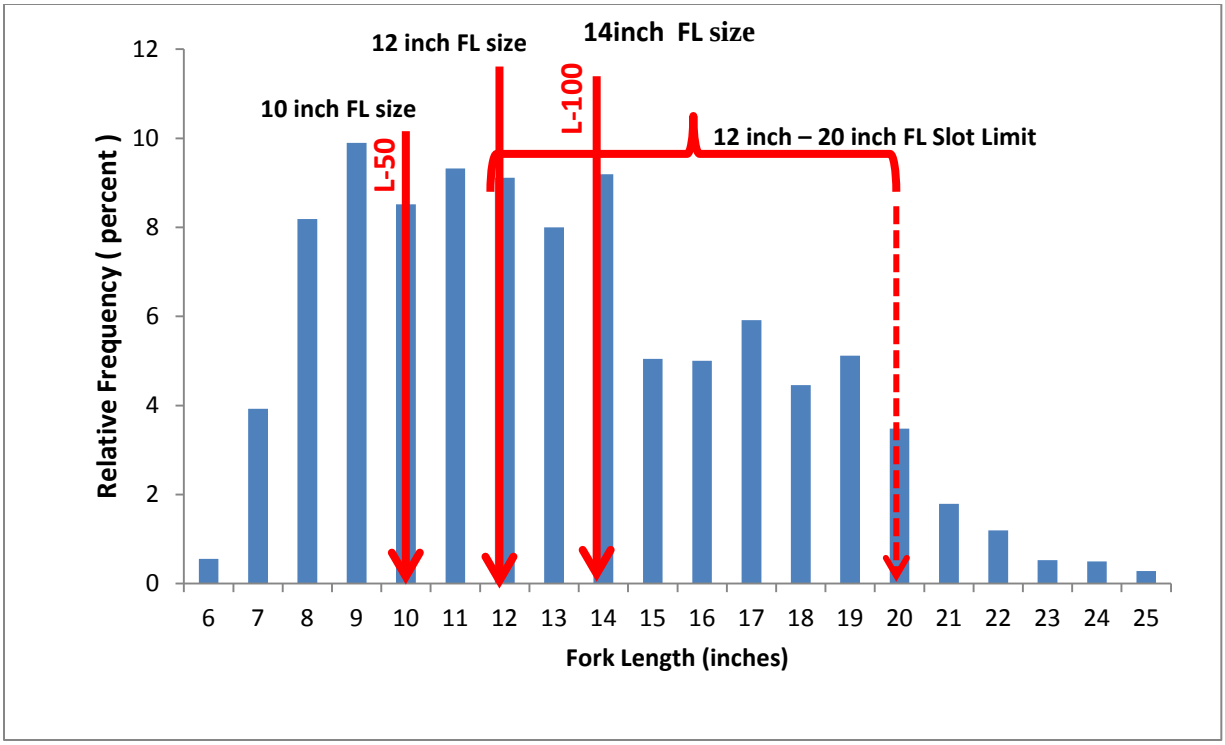

Figure 7. A length frequency distribution of sheepshead landed recreationally, 2002- 2013. Arrows indicate potential size and slot limits considered for management. L-50 and L-100 represent the lengths at 50% and 100% maturity.

opposed to a proportional increase in harvest across all size classes. With the large amount of fish harvested in 2013, a 76 percent reduction would have occurred in that year, but only be a 52 percent reduction over all 12 years. Even with a 14 inch limit, there are still 42.5 percent of fish greater than 14 inches (up to 25 inches) left to catch (Figure 7). None of the size bins from this range (6 to 25 inches) contain more than 9.8 percent of fish by number for any one inch size group, demonstrating that anglers are catching sheepshead from all size and age classes.

A slot limit of 12 inches to 20 inches would incorporate allowable fish within these sizes where 80 to 100 percent are mature and all other fish smaller or larger would have to be released. Again, these reductions are greater than those of the 10 inch and 12 inch minimum size limits, but that would be expected. However, the 12 year overall reduction would be less (44.4 percent) than the overall 14 inch minimum size limit reduction of 51.6 percent (Table 2).

Table 2. Percent recreational reductions in numbers based on a 10,12, 14 inch (Fork Length) minimum size limit and a 12 inch to 20 inch (FL) slot limit for sheepshead in NC.

Minimum Size Limit (FL)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average Reduction
10" min	4.1	25.1	8.8	6.8	16.6	9.6	29.1	35.7	5.9	4.3	33.4	40.2	18.3
12" min	21.2	42.5	17.2	8.3	30.0	15.6	45.0	67.2	31.1	17.9	38.5	70.5	33.7
14" min	49.0	52.0	25.8	16.1	46.2	37.5	75.6	79.1	47.1	59.8	54.7	76.4	51.6
12"-20" slot	33.2	52.4	48.0	41.3	37.2	30.5	46.5	69.5	36.7	22.4	41.7	73.4	44.4

Size Limits with Bag Limits

Bag limit analysis indicated most recreational trips caught five fish or less (87 percent of trips) from 2006 to 2013 (Table 3). Greater than 95 percent of the trips had 10 fish or less from 2006 to 2013. No trips have been observed to exceed the past bag limit of 20 fish (included in the SAFMC 20 fish aggregate limit).

Table 3. The cumulative percent of recreational trips with five fish or less, 10 fish or less, 15 fish or less, and 20 fish or less for NC sheepshead.

Number of fish	2006	2007	2008	2009	2010	2011	2012	2013	Combined
5 fish	96	79	86	86	87	97	89	81	87
10 fish	100	91	94	95	97	99	98	95	96
15 fish	100	98	99	100	100	100	100	98	99
20 fish	100	100	100	100	100	100	100	100	100

10 inch FL Minimum Size Limit with bag limit

A 10-inch fork length sheepshead is the approximate size where 50 percent of females are mature while males are around 11 inches at 50 percent maturity, based on a Virginia study. In South Carolina, males are 100 percent mature at age 4 or 14.8 inches FL and females at age 5 or 15.75 inches FL, respectively. If a 10-inch FL size limit and a one-fish bag limit were implemented, there would be a reduction in catch of approximately 74 percent of the sheepshead landed based on the average from 2004 to 2013 (Table 4). A bag limit of five fish would result in a reduction of 39.7 percent, whereas a 10-fish bag limit would yield an overall 28 percent reduction, based on the last 10 years of landings (Table 4). A bag limit going from 5 fish to 1 fish has a much greater harvest reduction than does a reduction going from 10 fish to 5 fish because angler success at maxing out the bag limit is much greater at the lower values. However, if the stock status is sustainable, a 10-fish bag limit would not seem unreasonable and could always be reduced in the future.

Table 4. Annual estimated recreational harvest reductions in numbers of fish based on 10inch FL size limit and up to a ten fish bag limit, 2004 – 2013 for NC sheepshead.

Size	Bag	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average Reductions
10	1	51.6	52.2	50.4	75.5	78.1	80.9	67.9	56.7	74.5	83.9	74.3
	2	30.3	30.8	30.1	61.0	67.4	69.0	47.8	31.2	62.0	72.9	59.8
	3	17.8	16.9	22.4	51.0	60.3	60.1	35.3	16.8	54.3	65.5	50.5
	4	12.6	12.5	20.5	43.9	54.6	54.2	26.5	11.3	48.9	59.9	44.2
	5	10.6	10.2	19.5	38.1	50.8	50.5	20.3	9.6	44.9	55.2	39.7
	6	9.4	7.9	18.6	32.3	47.4	47.0	16.0	8.2	41.9	52.1	36.1
	7	8.8	6.8	17.6	28.1	44.3	43.8	13.0	7.3	39.8	49.5	33.3
	8	8.8	6.8	16.6	34.3	41.2	41.7	10.4	6.9	38.2	47.8	31.1
	9	8.8	6.8	16.6	21.9	38.5	39.7	8.8	6.5	37.3	46.7	29.5
	10	8.8	6.8	16.6	19.4	36.4	38.2	8.0	6.0	36.5	45.7	28.2

12inch FL Minimum Size Limit with bag limit

Most 12 inch FL sheepshead in North Carolina are mature by this length and are about two years of age. A 12-inch FL minimum size limit with a one fish bag limit would yield an 80.3 percent overall reduction. A bag limit of five fish would result in a 53.8 percent reduction. In 2005, that yearly reduction would have been 11.7 percent and in 2013, that reduction would have jumped to 77.9 percent. Going from 10 to one fish provided a range of 45 percent to 80 percent reductions.

Table 5. Annual estimated recreational harvest reductions in numbers of fish based on 12 inch FL size limit and up to a ten fish bag limit, 2004 – 2013 for sheepshead in NC.

Size	Bag	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average Reductions
12	1	56.0	53.0	58.4	77.2	83.0	90.2	76.5	62.9	76.5	92.0	80.3
	2	36.6	31.9	41.3	63.6	74.7	84.2	61.8	40.9	64.9	86.6	69.2
	3	25.3	18.3	34.9	54.3	69.2	79.6	52.7	28.6	57.8	82.9	62.0
	4	20.6	14.0	33.3	47.6	64.8	76.6	46.2	23.9	52.8	80.2	57.2
	5	18.8	11.7	32.4	42.2	61.8	74.7	41.7	22.4	49.0	77.9	53.8
	6	17.7	9.5	31.6	36.8	59.2	72.9	38.5	21.2	46.3	76.3	51.0
	7	17.2	8.3	30.8	32.9	56.8	71.3	36.3	20.5	44.3	75.1	48.8
	8	17.2	8.3	30.0	38.7	54.4	70.2	34.4	20.1	42.9	74.2	47.2
	9	17.2	8.3	30.0	27.1	52.3	69.2	33.3	19.7	42.0	73.7	45.9
	10	17.2	8.3	30.0	24.8	50.7	68.4	32.6	19.4	41.3	73.2	44.9

14inch FL Minimum Size Limit with bag limit

At fourteen inches (FL) in length, both sexes of sheepshead have reached 100 percent maturity and are either three or four years of age. Below, Table 6 shows the annual estimated recreational harvest reductions based on a 14-inch FL minimum size for each year since 2004 through 2013. Calculations with various bag limits are shown. A five-fish bag limit would have a 67.4 percent reduction. A 10-fish bag limit would have a 61.1 percent reduction.

Table 6. Annual estimated recreational harvest reductions in numbers of fish based on 14 inch FL size limit and up to a ten fish bag limit, 2004 – 2013 for NC sheepshead.

Size	Bag	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average Reductions
14	1	60.6	56.9	68.0	83.1	92.5	93.8	81.9	81.8	82.7	93.6	86.1
	2	43.3	37.7	55.0	73.0	88.8	89.9	70.6	71.1	74.1	89.3	78.2
	3	33.1	25.2	50.0	66.1	86.3	87.0	63.6	65.0	68.9	86.4	73.2
	4	28.9	21.2	48.8	61.2	84.4	85.1	58.7	62.7	65.2	84.2	69.8
	5	27.3	19.2	48.2	57.2	83.1	83.9	55.2	62.0	62.5	82.3	67.4
	6	26.3	17.1	47.5	53.2	81.9	82.8	52.8	61.4	60.4	81.1	65.4
	7	25.8	16.1	46.9	50.3	80.8	81.8	51.1	61.0	59.0	80.1	63.9
	8	25.8	16.1	46.2	54.5	79.8	81.0	49.6	60.8	57.9	79.4	62.7
	9	25.8	16.1	46.2	46.0	78.8	80.4	48.7	60.7	57.3	79.0	61.8
	10	25.8	16.1	46.2	44.2	78.1	79.9	48.2	60.5	56.8	78.6	61.1

Recreational Slot Limit

Based on the length frequency distribution, 51.8 percent of the sheepshead landed were between 12 inches and 20 inches FL. Annual estimated harvest reductions based on a 12 to 20 inch (FL) slot limit with any bag limit range from 51 percent up to 83 percent (Table 7). A slot limit with a five fish bag limit would reduce catch of sheepshead by 59.6 percent overall, while a 10 fish bag limit would provide a 51.8 percent reduction.

Table 7. Annual estimated recreational harvest reductions in numbers of fish based on a 12 inch to 20 inch FL slot limit size limit and up to a ten fish bag limit, 2004 – 2013 for NC sheepshead.

Size	Bag	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average Reductions
12" through 20"	1	72.4	69.9	62.6	81.2	83.5	90.9	78.4	64.9	77.7	92.8	82.8
	2	60.3	56.4	47.4	70.0	75.4	85.3	64.9	44.2	66.7	87.9	73.0
	3	53.1	47.7	41.6	62.3	70.1	81.1	56.5	32.5	60.0	84.6	66.8
	4	50.2	44.9	40.1	56.9	65.8	78.3	50.5	28.1	55.3	82.2	62.6
	5	49.1	43.5	39.4	52.4	62.9	76.5	46.4	26.6	51.7	80.1	59.6
	6	48.4	42.0	38.7	48.0	60.3	74.9	43.5	25.5	49.1	78.7	57.2
	7	48.0	41.3	37.9	44.7	58.0	73.3	41.5	24.8	47.3	77.6	55.3
	8	48.0	41.3	37.2	49.5	55.7	72.3	39.7	24.5	45.9	76.8	53.8
	9	48.0	41.3	37.2	39.9	53.6	71.4	38.7	24.1	45.1	76.3	52.7
	10	48.0	41.3	37.2	38.0	52.0	70.7	38.1	23.8	44.4	75.8	51.8

Commercial Options

Length frequencies and the number of trips landing sheepshead obtained from the NCDMF commercial fisheries dependent sampling programs (Program 400s) were used to determine the impacts of a minimum size limit and/or a slot size limit and commercial trip limits on commercial landings of sheepshead. Length frequencies of sheepshead caught and the number of trips landing sheepshead were examined for the estuarine gill net, ocean gill net, gig, pound net, long haul seine, and ocean trawl fisheries. Sheepshead lengths were collected at local fish houses or on the water at the net when possible. At the fish house random samples of the graded catch (cartons from each market category) were taken. Individual fish were measured (mm, fork length-FL) and total weight (0.1 kg) of all fish measured in aggregate was obtained. Fork lengths are the standard lengths by protocol of the Division's sampling methods for this species. All lengths unless otherwise stated are in FL and any size limit proposed would be in fork length. Currently there is no conversion from FL to total length (TL) for North Carolina; however, Georgia converted its 10-inch FL minimum size limit to a 10.7-inch TL. For this information paper, millimeters (mm) were converted to inches. Subsequent to sampling a portion of the catch, the total weight of the catch by species and market grade was obtained for each trip, either by using the trip ticket weights or some other reliable estimate (i.e., fish house receipts). The number of individuals, aggregate weight, and length frequencies of each species in a sample were expanded to represent the species quantities in the sampled catch (trip ticket). Expansion was accomplished by matching at the market grade level biological fish house sample data (mean weight or length data) to the corresponding North Carolina Trip Ticket Program market grade harvest. For example, the total length frequency of a species within a catch was derived by expanding the length frequency of the individuals measured in the subsample of a market grade (culled samples) to the total market category weight of that species in the sampled trip.

From 2002 to 2013, the major commercial gears used were estuarine gill nets, gigs, spearfishing while diving, long haul, ocean gill nets, ocean trawl, and pound nets (both flounder and sciaenid combined). The percentages of landings harvested by these various gears have already been mentioned (Figure 5). Below are the length frequency graphs of sheepshead harvested from specific gears (Figures 8 and 9). Commercial reductions based on size limits and trip limits are presented in two separate sections. The first section describes harvest reductions from implementation of size limits of 10, 12, and 14-inches (FL) and a slot of 12 to 20 inch FL (Table 8). The other section discusses harvest reductions calculated from trip limits of 100 to 500 pounds. These are all associated with the different gears used in N. C. coastal waters. The reductions are for all years combined from 2002 through 2013.

Reductions using size limits by gear

Overall estimated harvest reductions based on size limit options vary by fishery and range from 4.2 percent to 73.6 percent (Table 8). The largest overall reductions (73.6 percent) would occur in the gig fishery. All gears with the exception of the ocean trawl fishery would experience harvest reductions of 64.2 percent to 73.6 percent if a 14-inch FL minimum size limit were imposed. The overall estuarine gill net harvest would be reduced by as little as 6 percent with a 10-inch FL size limit and as much as 65 percent with a 14-inch FL size limit. Annual reductions in the pound net fishery would range from 21.2 percent to 69 percent.

Estuarine Gill Nets

A uni-modal length frequency distribution was observed for sheepshead caught in this gear from 2002-2013 (Figure 8a). The percentage of sheepshead landed in gill nets between 11 and 14 inches FL was 64.6 percent. The overall harvest reduction with a 10 inch minimum size limit is 6.0 percent, for a 12 inch size limit the reduction would be 28.3 percent, a 14 inch size limit would reduce catch by 64.9 percent and a 12-inch to 20-inch slot limit would reduce harvest by 28.9 percent (Table 8).

Pound Nets

Sixty-seven point two percent of the fish harvested in this gear were from 8 to 13inches FL (Figure 9g). This demonstrates the wider size selection of sheepshead caught in this gear. The estimated harvest reduction with a 10 inch minimum size limit is 21.2 percent. The overall harvest reduction with a 12-inch minimum size limit is 47.5 percent. A 14 inch size limit would result in a 69 percent reduction and a slot limit between 12 and 20 inches would reduce catch by an overall 49.5 percent (Table 8).

Gig

A modal length frequency distribution was observed for the sheepshead caught in the gig fishery from 2002 -2013 (Figure 8b). Forty-five percent of the gig fishery is comprised of 11-inch to 14-inch FL sheepshead. The overall harvest reduction for years 2002 through 2013 in the gig fishery is 20.1 percent for a 10-inch size limit, 39.8 percent for a 12-inch size limit, 73.6 percent for a 14-inch size limit and 41.7 percent with the 12 to 20 inch slot limit (all FL, Table 8).

Long Haul

Approximately 61.2 percent of the sheepshead landed in the long haul fishery from 2002 to 2013 were between 10 and 13 inches FL, with one large fish being caught at 37 inches FL. Long haul gear was the third largest harvester of sheepshead with 12.1 percent or ~ 59,660 fish caught in this gear (Figure 9d). With just minimum size limits imposed, weighted average reduction percentages range from 9.7 percent (10-inch FL), 39.7 percent (12-inch FL), and 70.9 percent (14-inch FL). Adding a 12 to 20 inch FL slot limit would yield a 41 percent overall combined reduction (Table 8).

Ocean Gill Net

The length frequency distribution of the ocean gill net fishery demonstrates high abundance of nine-inch sheepshead (32.2 percent). Additionally, 84.5 percent of the landing are comprised of 8-inch to 15-inch FL sheepshead, representing a wide range of sizes (Figure 9e). Table 8 depicts the overall harvest reductions from size limits of 10, 12, and 14 inch sizes of 40.9, 55.5, and 70.5 percent, respectively. The slot limit of 12 to 20 inches FL would reduce harvest from the ocean gill net fishery by 59.4 percent.

Ocean Trawl

The ocean trawl fishery captured 92,094 (7.9 percent) fish from 192 trips. There is no data for this fishery for 2012 and 2013 (i.e., all data are from the years 2002 through 2011). Of these fish, 14,426 (64.1 percent) were comprised of 18 to 21-inch FL size classes (Figure 7f). Smaller sheepshead from six to 16-inches FL comprised 21.7 percent of the length-frequency distribution, whereas the majority was larger sized sheepshead within the 19 to 21 inch FL size group or 54.4 percent (Figure 9f). A 10-inch FL size limit would yield overall a 4.2 percent reduction, a 12-inch FL size limit would yield an 8.3 percent reduction, a 14-inch FL size limit would yield a 15.8 percent reduction and the 12 to 20 inch FL slot limit would yield a 48.4 percent reduction in harvest.

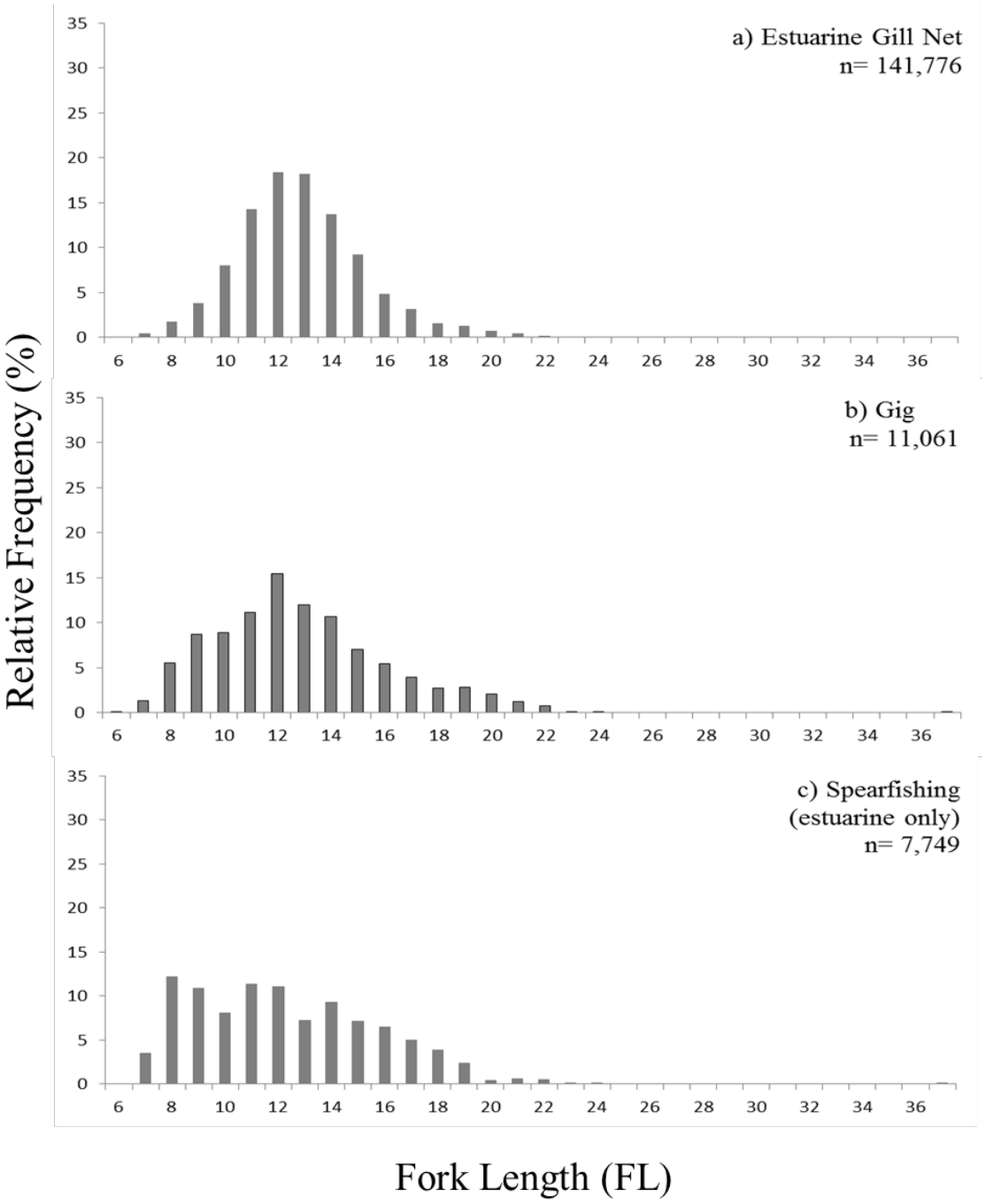

Figure 8. Weighted length-frequencies for estuarine gill nets, gigs, and spearfishing commercial gears from 2002-2013 in North Carolina.

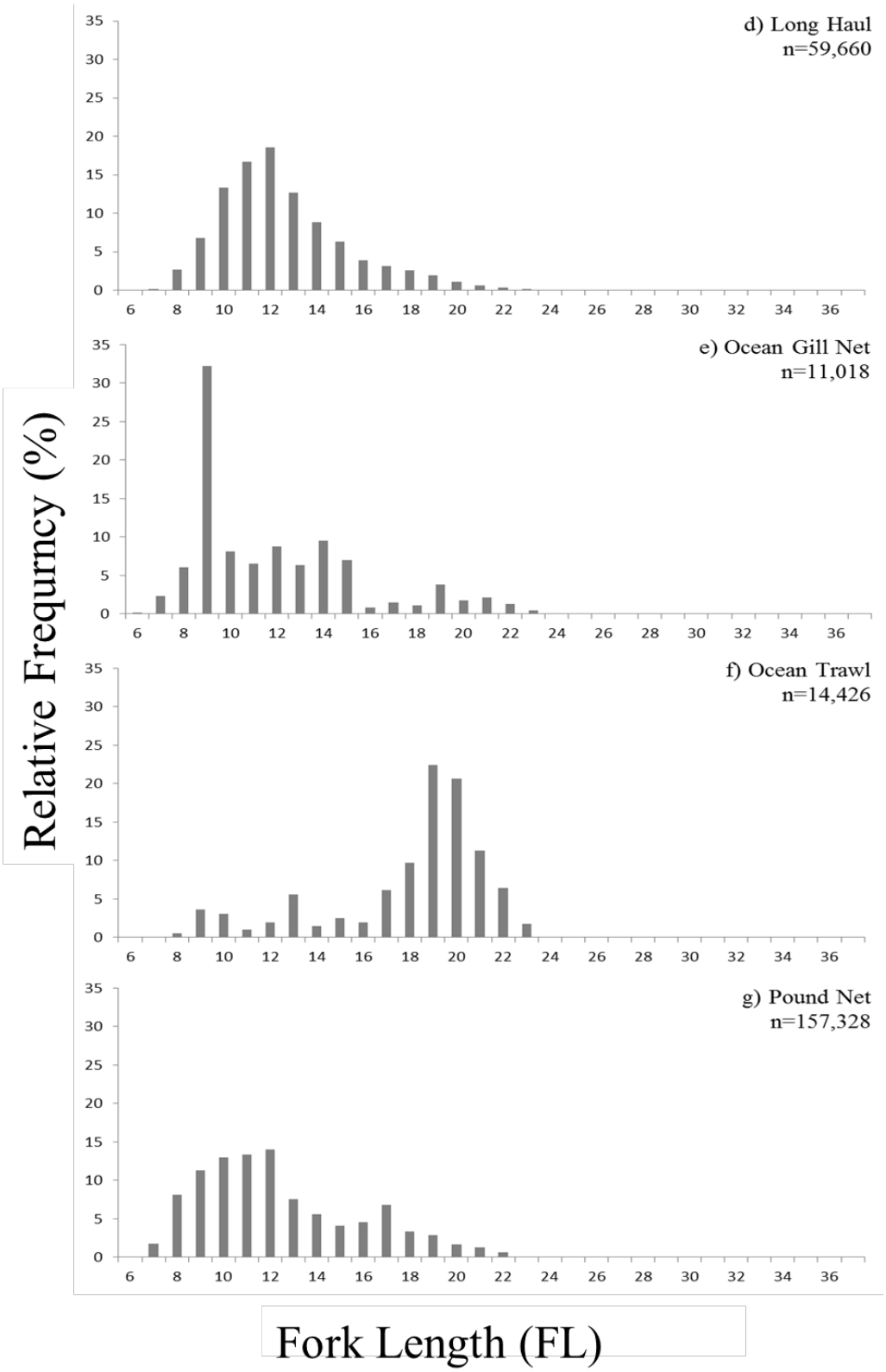

Figure 9. Weighted length frequencies of fish harvested from commercial gear of the long haul, ocean gill net, ocean trawl, and pound net fisheries from 2002-2013 in North Carolina.

Table 8. Percent reductions in harvest numbers for commercial gears based on various options of size limits of 10-inch, 12-inch, 14-inch FL and a slot limit of 12 inches to 20 inches FL for NC sheepshead. Reductions are based on number of pounds landed per year with the last column showing all years combined.

Option	Fishery	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	All years combined (2002-2013)
10" Size Limit	Estuarine Gill Net	5.2	1.0	1.1	0.0	1.4	6.1	8.2	7.2	2.0	0.4	24.2	7.6	6.0
	Pound Net	27.7	5.9	0.0	1.3	11.3	40.6	27.3	18.0	2.0	1.7	79.6	10.1	21.2
	Gig	13.5	15.4	0.3	14.0	5.8	14.9	15.4	15.1	4.5	0.7	47.4	12.4	20.1
	Long Haul	5.9	15.4	0.0	9.8	1.9	11.9	15.9	12.4	2.4	0.0	34.2	25.5	9.7
	Ocean Gill Net	12.1	0.0	0.0	9.6	3.4	8.1	10.0	86.5	67.2	0.0	44.8	72.7	40.9
	Ocean Trawl	59.7	4.7	0.2	11.4	0.0	0.0	50.0	13.4	0.1	0.3			4.2
	Spear/Diving			0.3		7.1	13.1	17.4	14.0	4.7	0.9	48.1	12.8	26.5
12" Size Limit	Estuarine Gill Net	17.1	37.0	4.2	7.2	9.7	32.1	39.0	45.6	18.3	7.4	26.9	40.9	28.3
	Pound Net	78.8	35.1	1.8	3.4	21.3	54.4	63.6	48.0	21.2	2.7	85.2	49.5	47.5
	Gig	39.8	42.5	1.6	23.5	20.5	33.1	47.0	48.9	27.7	7.3	53.1	41.4	39.8
	Long Haul	7.4	51.4	4.8	12.8	19.0	37.8	45.4	65.9	29.9	9.6	34.6	69.3	39.7
	Ocean Gill Net	33.3	0.0	0.0	16.0	6.7	22.0	32.5	92.1	97.1	0.0	49.0	85.3	55.5
	Ocean Trawl	59.7	9.7	0.4	22.8	0.0	0.1	50.0	46.0	0.6	5.2			8.3
	Spear/Diving			2.0		14.0	30.3	54.1	47.0	27.7	8.2	53.4	42.3	45.8
14" Size Limit	Estuarine Gill Net	33.7	73.2	45.3	38.1	33.9	68.1	73.8	85.4	69.7	51.1	51.5	67.3	64.9
	Pound Net	81.2	63.0	16.1	11.3	34.0	69.5	77.0	79.2	58.2	16.4	86.0	83.8	69.0
	Gig	47.0	57.9	6.4	37.4	34.0	55.3	77.7	83.1	71.8	41.9	62.5	67.0	73.6
	Long Haul	13.7	65.3	37.8	15.8	31.8	49.9	76.6	98.2	78.3	58.3	36.4	69.8	70.9
	Ocean Gill Net	34.9	41.9	1.0	25.0	29.8	54.0	85.5	92.1	97.1	40.1	53.6	88.8	70.5
	Ocean Trawl	59.7	20.7	1.6	22.8	0.0	15.4	50.0	82.1	28.5	33.1			15.8
	Spear/Diving			7.6		26.0	54.8	72.6	82.4	71.3	45.9	60.6	67.4	64.2
12"-20" Slot Limit	Estuarine Gill Net	17.1	38.0	5.2	8.8	11.8	33.1	39.8	46.2	18.5	8.0	27.5	41.3	28.9
	Pound Net	79.9	37.9	11.7	13.2	28.3	59.5	66.1	48.8	23.2	6.0	85.5	50.8	49.5
	Gig	44.6	48.1	25.7	28.5	25.4	38.9	48.7	49.7	28.4	9.4	53.6	43.3	41.7
	Long Haul	8.4	53.4	4.8	27.2	28.3	44.8	46.5	65.9	30.1	10.1	35.3	69.3	40.9
	Ocean Gill Net	33.7	0.0	13.1	16.0	26.8	30.8	33.0	97.0	100.1	0.0	75.6	85.3	59.4
	Ocean Trawl	62.6	25.0	27.8	38.7	0.8	15.3	50.0	46.7	71.8	7.8			27.8
	Spear/Diving			51.7		33.1	43.6	58.7	48.7	29.5	11.2	53.9	44.7	47.5

Spears/Diving

The length frequency distribution of the spear/dive fishery was made up of 7,749 sheepshead, of which 4,189 or 53.4 percent were all between 8 and 12 inches FL. Percentages of overall harvest reductions by size limits (10, 12 and14 inches FL) would be 26.5, 45.8, and 64.2 percent and the slot limit size limit of 12 to 20 inches FL would yield a 47.5 percent reduction (Table 8).

Previously mentioned was the increase in landings from the spears/diving fishery. When looking at the landings from 2011 through 2013, spearing for sheepshead took place from Bogue Sound south to Brunswick County. In 2011, a total of only 361 pounds was harvested from Masonboro Sound and the ocean, both in state and federal waters. In 2012, that number jumped to 9,987 total pounds harvested, with less than 500 pounds coming from Bogue Sound, and approximately 35 pounds, from the Cape Fear River. The remaining 9,483 pounds came from Masonboro Sound and the ocean, south of Cape Hatteras. The number of pounds speared from Masonboro Sound was 9,099 pounds or 94 percent of the years catch. In 2013, the total landings were 10,975 pounds, of which approximately 500 pounds came from the Cape Fear and Brunswick County Intracoastal Waterway (ICWW); the remaining 95 percent or 10,433 pounds were harvested from the same three locations of Masonboro Sound, and the ocean both inshore and outside three miles. The effort in this fishery has increased substantially in the last three years and preliminary landings from 2014 (through September) are approximately 15,000 pounds. While this may not be significant when looking at overall commercial landings, it should at least be mentioned. Gigs harvested 4,285 pounds or 2.4 percent in 2013, and 5,929 pounds (5.4 percent) of 2012 landings.

Commercial Trip Limits by Gear

Estuarine Gill Nets

A total of 99.3 percent of the estuarine gill net trips sampled landed from one to 100 pounds of sheepshead from 2002-2013 (Table 9). An average of nine pounds of sheepshead was landed per trip (Table 10). Less than one percent of the trips (n=11) landed more than 500 pounds of sheepshead, of these trips an average of 1,023 pounds was landed per trip (Table 10). The overall estimated harvest reduction with a 500 pound trip limit is 1.48 percent, whereas a 200 pound trip limit would yield a four percent reduction (Table 11). This is due to the small amount of sheepshead harvested from 300 to 500 pound trips and emphasizes the large amount of sheepshead commercially harvested in the 1 to 100 pound trip range, where 38,838 trips were taken from a total of 39,101 trips (Table 9).

Except for the 181 trips or 0.5 percent catching fish in the 101 to 200 pound range, there were very few other trips catching sheepshead.

Pound Nets

Approximately 87 percent of the pound net trips landed 100 pounds or less of sheepshead with an average of 19 pounds per trip (Tables 9 and 10). Trips landing 101 to 200 pounds (6 percent) harvested an average of 144 pounds of sheepshead per trip (Table 10). Trips landing more than 500 pounds per trip (2.5 percent) landed an average of 1,048 pounds of sheepshead. The overall estimated harvest reduction with a 500 pound trip limit is 20.89 percent, the smallest reduction compared to a 55.3 percent reduction with a 100 pound trip limit (Table 11).

Gig

Over 1,855 or 98 percent of gig trips harvesting sheepshead landed 100 pounds or less. Each trip caught on average, 14 pounds of sheepshead. Tables 9 and 10 show the majority of trips taken harvested between one to 200 pounds. Other than the 29 trips catching 101 to 200 pounds (average pounds; 137), only 6 trips caught between 200 and 300 pounds and only one trip each captured the 300 to >500 pound trips. Table 11 shows the largest reduction of 8.2 percent would be seen in the gig fishery when a 100 pound trip limit was implemented.

Table 9. Percent of commercial trips landing sheepshead by gear over a range of weight categories for pounds landed per trip, 2002 – 2013 in NC.

	1-100 lbs.		101-200 lbs.		201-300 lbs.		301-400 lbs.		401-500 lbs.		> 500 lbs.		Total trips
Fishery	#	%	#	%	#	%	#	%	#	%	#	%	#
Estuarine Gill Net	38,838	99.3	181	0.5	48	0.1	14	0.0	9	0.0	11	0.0	39,101
Pound Net	5,289	87.2	359	5.9	133	2.2	73	1.2	63	1.0	151	2.5	6,068
Gig	1,855	98.0	29	1.5	6	0.3	1	0.1	-	0.0	1	0.1	1,892
Long Haul	1,521	80.9	190	10.1	62	3.3	44	2.3	23	1.2	41	2.2	1,881
Ocean Gill Net	1,711	99.2	9	0.5	2	0.1	2	0.1	-	0.0	1	0.1	1,725
Ocean Trawl	122	63.5	17	8.9	13	6.8	5	2.6	3	1.6	32	16.7	192
Spear/Diving	138	61.9	57	25.6	19	8.5	6	2.7	3	1.3	-	-	223

Long Haul

The majority of reductions in the long haul fishery would occur under a 100 or 200 pound trip limit with a 47.0 and 29.4 percent reduction, respectively (Table 11). Out of a total of 1,881 trips, 1,521 trips landed on average 26 pounds of sheepshead per trip and 190 trips made up the 101 to 200 pound range where the average trip harvested 139 pounds (Tables 9 and 10). The remaining 9 percent of the trips comprised the 200 to over 500 pounds per trip level (Table 9).

Ocean Gill Net

One thousand seven hundred and eleven trips or 99.2 percent of fishermen caught 100 pounds or less of sheepshead per trip, with an average of 11 pounds per trip. Any trip limit higher than 100 pounds would result in very few reductions, because the majority of fish were landed from trips in the 1- 100 pound range. That percentage of reduction would only be 8.1 percent in the 100 pound range and a 1.3 to 4.3 percent range with a 500 to 200 pound trip limit range (Table 11).

Ocean Trawl

The ocean trawl fishery had 122 trips (63.5 percent) with 100 pounds or less of sheepshead caught per trip. Of those trips, the average amount landed per trip was 25 pounds. This fishery had 16.7 percent or 32 trips taken where over 500 pounds were caught. Surprisingly, the average catch per trip was 2,509 pounds (Tables 9 and 10). No data was provided for 2012 and 2013, but the 10 years of annual reductions show that this fishery would have the largest reductions of all gears with a range of 89.1 percent with a 100 pound trip limit decreasing to a 69.79 percent reduction with a 500 pound trip limit (Table 11).

Spears/Diving

The majority (62 percent) of the spear/diving trips landed one to 100 pounds of sheepshead (Table 9), with an average of 40 pounds per trip (Table 10). The average pounds landed for trips between 201-300 pounds was 235

Table 10. Average sheepshead landings (pounds) per commercial trip by specified weight categories, 2002 – 2013 in NC.

Fishery	1-100 lbs.	101-200 lbs.	201-300 lbs.	301-400 lbs.	401-500 lbs.	>500 lbs.
Estuarine Gill Net	9	137	244	351	455	1,023
Pound Net	19	144	248	352	449	1,048
Gig	14	137	232	322	-	>500
Long Haul	26	142	245	346	457	849
Ocean Gill Net	11	139	228	354	-	796
Ocean Trawl	25	146	254	341	438	2,509
Spear/Diving	40	145	235	350	420	-

pounds. Spear/dive trips landing between 301 and 500 pounds of sheepshead averaged 350 and 420 pounds per trip, respectively. There were no spear/dive trips landing more than 500 pounds. The largest overall estimated harvest reduction is 35 percent and would occur with a 100 pound trip limit. Only a three percent reduction with a 300 pound trip limit, less than one percent with a 400 pound trip limit and no reductions would be seen with a 500 pound trip limit (Table 11).

Table11. Percent reductions in harvest numbers for commercial gears based on a 100 through 500 pound trip limit, 2002 - 2013.

Options	Fishery	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	All years combined (2002-2013)
100 lb. Trip Limit	Estuarine Gill Net	0.4	0.7	0.3	0.9	2.1	2.4	6.7	9.6	13.8	3.9	6.7	16.1	7.8
	Pound Net	40.2	18.3	15.7	42.0	47.3	35.2	49.2	67.2	55.5	62.3	57.6	67.3	55.3
	Gig	0.0	0.0	0.0	12.2	18.7	22.9	8.0	1.5	1.1	15.1	4.9	4.3	8.2
	Long Haul	42.1	24.4	5.7	17.9	39.7	29.5	38.4	48.8	69.1	52.4	39.8	45.1	47.0
	Ocen Gill Net	6.5	1.5	26.4	0.0	2.3	0.0	8.6	0.0	0.0	0.0	0.0	26.7	8.1
	Ocean Trawl	7.0	74.8	97.2	88.9	87.3	84.6	0.0	59.8	84.7	64.8			89.1
	Spears/Diving			0.0		0.0	0.0	0.0	0.0	0.0	0.0	39.8	33.3	35.1
200 lb. Trip Limit	Estuarine Gill Net	0.0	0.0	0.0	0.0	0.3	0.2	3.0	4.6	5.6	1.4	4.1	11.1	4.0
	Pound Net	23.2	8.9	4.4	24.7	30.0	20.7	30.2	54.3	41.0	48.5	41.4	54.9	40.7
	Gig	0.0	0.0	0.0	0.0	6.2	17.5	0.3	0.0	0.0	3.7	0.1	0.9	2.3
	Long Haul	19.4	14.4	0.1	9.4	23.6	14.7	22.7	29.0	51.6	34.7	15.9	19.9	29.4
	Ocen Gill Net	0.0	0.0	14.3	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	20.0	4.3
	Ocean Trawl	0.0	57.0	95.1	81.6	79.1	75.1	0.0	32.6	79.0	37.1			82.5
	Spears/Diving			0.0		0.0	0.0	0.0	0.0	0.0	0.0	13.5	8.0	10.3
300 lb. Trip Limit	Estuarine Gill Net	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.0	2.7	0.3	3.4	8.3	2.6
	Pound Net	13.7	5.8	0.0	13.9	19.4	13.3	20.1	46.4	31.7	40.7	29.4	46.6	31.8
	Gig	0.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.4	0.0	0.0	1.0
	Long Haul	4.7	9.5	0.0	5.0	16.9	5.9	15.0	16.5	39.6	27.5	5.9	8.2	19.8
	Ocen Gill Net	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	2.7
	Ocean Trawl	0.0	45.9	93.5	75.2	72.6	67.0	0.0	17.1	74.1	14.0			77.4
	Spears/Diving			0.0		0.0	0.0	0.0	0.0	0.0	0.0	4.6	1.8	3.0
400 lb. Trip Limit	Estuarine Gill Net	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.3	1.5	0.1	2.9	6.7	1.9
	Pound Net	9.0	4.0	0.0	5.6	12.8	6.9	13.4	40.0	24.5	34.5	21.0	40.3	25.5
	Gig	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Long Haul	1.3	5.2	0.0	1.9	11.9	1.9	10.0	8.9	31.1	22.7	1.6	1.5	13.9
	Ocen Gill Net	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	1.8
	Ocean Trawl	0.0	37.3	92.0	69.4	67.8	61.1	0.0	10.8	69.2	1.3			73.4
	Spears/Diving			0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.3
500 lb. Trip Limit	Estuarine Gill Net	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.7	0.0	2.5	5.6	1.5
	Pound Net	6.8	2.2	0.0	1.7	8.1	3.3	8.6	34.9	19.7	29.4	15.4	35.2	20.9
	Gig	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3
	Long Haul	0.0	2.7	0.0	0.0	8.2	0.0	6.6	4.8	24.3	18.4	0.0	0.0	10.1
	Ocen Gill Net	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	1.3
	Ocean Trawl	0.0	28.7	90.6	64.6	63.0	55.6	0.0	4.4	64.3	0.0			69.8
	Spears/Diving			0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Summary

Table 12 depicts the overall estimated commercial harvest reduction percentages by gear type based on a 100 to 500 pound trip limit range. The greatest reductions occur in ocean trawl gear. Smaller reductions are seen throughout the commercial gears in general with exceptions in the pound net and ocean trawl gears. For all fisheries, the largest reduction (36.6 percent) would occur with a 100 pound commercial trip limit implemented.

Table 12. Summary of percent reductions with associated 100 to 500 pound trip limits by gear for 2002 through 2013.

	Commercial Trip Limit (LBS)				
Fishery	100	200	300	400	500
Estuarine Gill Net	7.8	4.0	2.6	1.9	1.5
Pound Nets	55.3	40.7	31.8	25.5	20.9
Gigs	8.2	2.3	1.0	0.7	0.3
Long Haul	47.0	29.4	19.8	13.9	10.1
Ocean Gill Net	8.1	4.3	2.7	1.8	1.3
Ocean Trawl	89.1	82.5	77.4	73.4	69.8
Spears/Diving	35.1	10.3	3.0	0.3	0.0
All Fisheries	36.6	26.5	21.0	17.3	14.7

VI. DISCUSSION

Management options include: status quo until a stock assessment can be done, establish a minimum size limit, establish a recreational creel limit, and a commercial trip limit:

- The least restrictive of these options would be Status quo, as North Carolina does not currently have any recreational or commercial regulations for this species.
- Establishing a minimum size limit is a common management measure used to allow a greater portion of fish the opportunity to spawn before they can be harvested. The short term effects of a minimum size limit increase would diminish the pool of younger and smaller fish immediately available for harvest, which in turn would decrease the overall catch. Protecting fish so that they can reach spawning size is a common practice in fisheries management. Currently, there are no regulations to prevent overfishing from occurring in the sheepshead fisheries; however, little is known about their population biomass.
- Establishing a maximum size limit is a management measure used to expand the age structure of a stock. Maximum size limits have successfully been used to manage red drum, which are a long lived species. Sheepshead are also long lived, but mature relatively early, unlike the red drum. When over-exploitation occurs, there is a decline in the number of age classes represented in the fishery. The absence of a diverse age structure compromises the ability of any fish stock to recover. Because adult sheepshead are large and highly fecund they are extremely valuable to the stock's reproductive potential and excessive harvest could increase the chance of recruitment failure.
- By establishing a slot limit, limited harvest of juvenile sheepshead would be permitted to continue and a reasonable level of survival and escapement is provided. Slot limits also provide for the maximum possible protection of the adult spawning stock.
- Another management measure used to reduce the current harvest rate of a stock is to establish a recreational creel or bag limit that limits the number of fish allowed to be kept during a trip by an individual or boat. Commercial trip limits can also be established to reduce harvest rates. Both bag limits and trip limits reduce fishing mortality, further allowing a stock to recover. However, restricting trip limits could result in increased discards in both the gill net and pound net fisheries on days when large catches occur. Creel limits tend to work better in the recreational fishery because catches are often less variable than the commercial fishery.

A combination of recreational and commercial size limits, a slot limit, creel limits, and trips limits can be used to reduce the harvest of sheepshead in North Carolina if needed.

Determining the need to constrain harvest and devise an effective management strategy is never a simple task, but is confounded when the status of the stock is unknown. According to the N.C. Fisheries Reform Act, stock status is determined by the stock's ability to achieve sustainable harvest. Such an approach reflects stock biomass, and is typically used to determine whether a stock is overfished. A stock is also evaluated based on the rate of removals, e.g. the F rate, which determines whether overfishing is occurring. These parameters (benchmarks) for the N.C. sheepshead stock have not been determined and for this reason sheepshead are listed as unknown in the NCDMF's 2014 stock status report. While the rule granting the Fisheries Director proclamation authority has been adopted, it is still uncertain what foundation the NCDMF has to base the need/level for management actions. As noted in the comments from the regional advisory committees during the 2013 rule development, they did not support more regulations without additional data to support such restrictions.

While critical data are lacking and the NCDMF is not able to provide quantitative evaluations of reductions in F or increases to spawning stock biomass from possible management options, this does not eliminate the need to evaluate if there is a management approach that provides for a reasonable level of protection, guarding against expansion of fisheries that may negatively impact the stock. When managed under the SAFMC, possession limited to the aggregate 20-fish creel limit was the sole management action. Discussion on future actions will need to balance uncertainty about the need for further protection with the magnitude of the socioeconomic consequences.

Another consideration is operating within the intent of N.C. General Statute 113-182.1 that requires adoption of fishery management plans for all commercially or recreationally significant species or fisheries that comprise state marine or estuarine resources. The NCDMF is developing a policy to address what constitutes a significant species or fishery, necessitating development and approval of a fishery management plan for management. Guidance is also needed about when management measures are appropriate to implement if a species or fishery falls outside of the determination of "significant." There is overwhelming agreement that there is a need for consistency in how the NCDMF and NCMFC manage all species, not just sheepshead. With that said, further discussion of management options is presented.

The implementation of a recreational 10-inch FL minimum size limit and a 10-fish creel limit would reduce harvest by 28.2 percent in the recreational sector. A 12-inch minimum size limit would reduce the commercial sheepshead fisheries by as much as 8 to 56 percent throughout various gears. A variety of combinations of options are possible. An out-of-the-box option of mixing a smaller size limit with a specific creel limit and a larger size limit with a smaller creel limit may be a possibility.

Establishing a minimum size limit or a slot limit in conjunction with a recreational creel limit and commercial trip limit should allow limited recreational and commercial harvest of juvenile sheepshead to continue and provide protection to the adult spawning stock. However, these management measures have the potential to increase discards. To minimize potential discards, larger creel and trip limits could be implemented. The magnitude of discards as a result of the management measures presented in this paper should be further examined prior to establishing minimum size, slot, creel, and trip limits.

One option from the 2013 sheepshead issue paper was to manage harvest of sheepshead with a 10-inch (FL) size limit, 10-fish bag limit, and 500-pound trip limit. The size limit is based on the length at which 50 percent of sheepshead reach sexual maturity. This size would reduce the recreational harvest by approximately 18 percent based on landings from 2002 to 2013, but could be as high as 40 percent. The 10-fish bag limit for recreational fishermen would, on average, result in a 5 percent reduction. The 500-pound commercial trip limit would, on average, result in a 25 percent reduction in harvest. There would be some reduction in the impact of the bag limit and trip limit due to the size limit. These management measures will have a negative economic impact in the short term. If the stock is overfished and management measures are sufficient to enable the stock to rebuild, then the future harvest levels will increase and economic losses could be recouped.

Other State Regulations for Sheepshead

Sheepshead are currently managed on a state-by-state basis. The minimum size requirements in effect range from 10 inches FL (or 11 inches TL) in Georgia to 14 inches TL in South Carolina with some states currently not having any size limits (Table 13). Creel limits range from 10 to 20 per person/day. In South Carolina anglers additionally are limited to 30 fish per boat. Commercial trip limits range from 50 pounds as bycatch in a shrimp trawl in Florida to 500 pounds per trip in Virginia. Currently, in North Carolina there are no regulations specific to sheepshead. North Carolina is the only state from New Jersey through Florida with no commercial or recreational regulations for this species.

Table 13. Current state regulations for sheepshead.

State	Size Limit	Recreational Limit	Commercial Limit
New Jersey	None	15 fish Aggregate	None
Delaware	None	None	None
Maryland	None	20 fish Aggregate*	None
Virginia	None	4/person	500 lb.
North Carolina	None	None	None
South Carolina	13inch FL	10/person; 30/boat	None
Georgia	10inch FL**	15/person	None
Florida	11inch FL	15/person	50 lb.***

* SAFMC 20 fish Aggregate Bag Limit for Snapper Grouper Complex
** 10 inch FL converts to 10.7 inch TL
*** Shrimp trawls only

VII. PROPOSED RULE(S)

None

VIII. PROPOSED MANAGEMENT OPTIONS

A. Status Quo – have no management measures in place at present time – Director was given proclamation authority via Marine Fisheries Commission Rule 15A NCAC 03M .0521. Continue to sample and monitor the species and landings
   + No rule changes for management of sheepshead
   - Potential for overfishing stock since no regulations are protecting sheepshead

B. Establish a 10 inch FL minimum size limit with a 10 fish/day bag limit (recreational) and a 500 pound/day/commercial trip limit (28 percent reduction; recreational, 0-70 percent reduction; commercial)
   + Can protect ~50 percent of juvenile fish from harvest
   + Establishes management measures for partial protection of spawning stock
   + Process in place to change regulations for management of sheepshead; Director now has proclamation authority
   - Economic impact on recreational and commercial fisheries

C. Establish a 12 inch FL minimum size limit with a 10 fish/day bag limit (44.9 percent reduction)
   + Can protect ~80 percent of juvenile fish from harvest
   + Establishes management measures for protection of the majority of spawning stock
   + Process in place to change regulations for management of sheepshead
   - Economic impact on recreational and commercial fisheries

D. Establish a 14 inch FL minimum size limit with a 10 fish/day bag recreational limit (61.1 percent reduction –largest reduction)
   + Can protect ~100 percent of juvenile fish from harvest
   + Establishes management measures for protection of the spawning stock
   + Process in place to change regulations for management of sheepshead
   - Economic impact on recreational and commercial fisheries

E. Establish a 12 inch to 20 inch FL recreational slot limit with a 500 pound commercial trip limit (~40 to 60 percent reduction)
   + Can protect ~80 percent of juvenile fish from harvest
   + Protects larger and older sheepshead outside of slot limit for spawning
   + Establishes management measures for protection of the spawning stock
   + Process in place to change regulations for management of sheepshead
   - Economic impact on recreational and commercial fisheries
   - State could implement regulations that may not be optimal for fishermen
   - Discards of fish over the maximum size limit

F. Recommend Division develop a fishery management plan for sheepshead.
   + Stock assessment could be completed
   + More time to collect and review data on NC sheepshead
   + Migration study could be done to see if stock is localized
   - Data would not be collected from all states where harvest occurs
   – Localized depletions could still occur
   – State could implement regulations that may not be optimal for fishermen

Any of the above options can add a trip limit for the commercial sector.
Any other suggested management options may follow.

IX. RECOMMENDATION

N.C. Division of Marine Fisheries-The Division recommends that the commission refer this issue to its pertinent standing and regional advisory committees for public input during the spring 2015 scheduled meetings.

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Jan. 20, 2015

Revised: Jan. 30, 2015

X. REFERENCES CITED

Ballenger, J.C. 2011. Population dynamics of sheepshead (*archosargus probatocephalus* Walbaum 1792) in the Chesapeake Bay region: a comparison to other areas and an assessment of their current status. Dissertation for Doctor of Philosophy in Oceanography, Old Dominion University

IGFA, 2014. INTERNATIONAL GAME FISH ASSOCIATION website: http://wrec.igfa.org/

Manooch, C.S. 1984. Fisherman's guide, fishes of the Southwestern United States. North Carolina State Museum of Natural History. Raleigh, North Carolina. 372 pp.

McDonough, C.J., C. A. Wenner & W. A. Roumillat (2011): Age, Growth, and Reproduction of Sheepsheads in South Carolina, Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science, 3:1, 366-382

Render, J.H. and C.A. Wilson. 1992. Reproductive biology of Sheepshead in the Northern Gulf of Mexico. Trans. Am. Fish. Soc. 121:757-764.

Schwartz, F. J. 1990. Length-weight, age and growth, and landings observations for sheepshead, *Archosargus probatocephalus* from North Carolina. U.S. National Marine Fisheries Service Fishery Bulletin 88:829–832.

Tremain, D. M., C.W. Harnden, and D.H. Adams. 2004. Multidirectional movements of sportfish species between an estuarine no-take zone and surrounding waters of the Indian River Lagoon, Florida, Fishery Bulletin 102(3):533-544.

Woodward, A., J.L. Fortuna and P. Medders. 2000. Preliminary assessment of Sheepshead (*Archosargus probatocephalus*) age, growth and movement in Georgia's waters. 2000 Southern Division meeting of the American Fisheries Society. Accessed through the World Wide Web on May 31, 2005.

INFORMATION WILL BE PROVIDED AT THE MEETING.

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Louis Daniel III, Director
Division of Marine Fisheries, NCDENR

DATE: Feb. 4, 2015

SUBJECT: Fiscal Year 2015-2016 Initiative Development

As discussed at your Nov. 2014 business meeting, attached are overviews providing information on all of the proposed ideas that commissioners put forward for consideration for initiatives for the upcoming fiscal year.

Just to recap, at its October meeting, the commission decided to develop initiatives on a fiscal year basis (July 1 – June 30) to complement the division's Strategic and Annual Operations Plan and the development of the annual fishery management plan schedule. Below is the timeline for development:

- By Dec. 31, 2014, commissioners put forward two proposals each for consideration as initiatives;
- For the Feb. 18-20, 2015 business meeting, division staff will prepare a paper on each proposal outlining the background, previous actions, summarizing pertinent points and what it would take to implement that proposal (see attached);
- For the May 20-22, 2015 business meeting, the commission selects three or four of the proposals as its Fiscal Year 2015/2016 initiatives; and
- Beginning July 1, 2015, division staff begins implementation of the agreed upon initiatives.

Marine Fisheries Commission
Fiscal Year 2015-2016 Preliminary Initiatives List

Initiatives put forward by three commissioners:

Initiatives put forward by two commissioners:

Initiatives put forward by one commissioner only:

Proposed Initiative: Reduce regulatory discards in both the recreational and commercial fisheries

Background

- Regulatory discards are those fish harvested in a fishery that fishermen are required by regulation (i.e. size limit, bag limit, trip limit) to discard.
- Reauthorization of Magnuson-Stevens Fishery Conservation and Management Act contains a National Standard (#9) requiring bycatch minimization. National Standard 9 states: "Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch."
- Discards are addressed in all state fishery management plans.

Previous Actions or Considerations

- In 1998, the division required the use of escape panels in flounder pound nets, effectively reducing regulatory discards of undersized flounder.
- In 2011, the division implemented regulatory changes to address discards of striped bass in the commercial trawl fishery. A 2,000 pound per day trip limit replaced a 50 fish per day limit.
- In 2011, the division formed a Recreational Discards Workgroup that produced a guide to ethical angling.
    - Ethical angling information was printed in four publications for public distribution:
        - Ethical Angling: A Guide to Responsible Fishing
        - North Carolina Guide to Recreational Saltwater Fishing
        - North Carolina Coastal Recreational Fishing Digest
        - North Carolina Coastal Recreational Angler's Guide
    - Ethical angling information also found on the division's website (http://portal.ncdenr.org/web/mf/edu/ethical-angling)
- Culling panels are required in long haul seines and swipe nets in the Pamlico Sound west of Bluff Shoal.
- **Southern Flounder FMP (2005)**
    - Minimum large mesh gill net mesh size increased to 5.5 inches and prohibited the use of gill nets from 5 inches to less than 5.5 inches in internal waters from April 15 through Dec. 15 to reduce undersized southern flounder discards.
    - Minimum mesh sizes implemented for crab trawls in the Pamlico Sound to reduce undersized southern flounder discards.
- **Shrimp FMP (2006)**
    - Shrimp trawling was prohibited in most of the Neuse, Pamlico, and Pungo rivers to reduce shrimp trawl bycatch of undersized southern flounder.
- **Red Drum FMP (2001) and Amendment 1(2008)**
    - Steps were taken to reduce the mortality associated with regulatory discards including requiring circle hooks (i.e. Owen Lupton Rig) in some of the adult red drum recreational fisheries.
    - Small mesh gill net attendance rules established from the Pamlico Sound to the S.C. border from late spring to fall to reduce undersized red drum discards (attendance requirements for small mesh gill nets expanded in 2008 through Amendment 1).
    - Required large mesh gill nets be set greater than 10 feet from shore from June to October to reduce red drum discards.
- **Estuarine Striped Bass FMP (2004) and Amendment (2013)**
    - Maintained gill net restrictions in the Albemarle Sound Management Area (ex. allowable mesh sizes, yardage limits attendance requirements, season/area closures) to reduce discards of undersized striped bass and striped bass during closed seasons.

- Required the use of a 3-foot tie down in large mesh (5-inch stretch mesh and greater) gill nets and the maintenance of a minimum distance from shore of 50 yards for these nets, except Recreational Commercial Gear License large mesh nets may be set within 50 yards of shore if attended at all times for internal fishing waters west of the 76° 28.0000'W longitude line.
- Open harvest seasons for commercial and recreational fisheries during cooler months (fall, winter, and spring) to reduce discard mortality of striped bass.

Summary

- The division and the commission have implemented management measures to reduce regulatory discards in several commercial and recreational fisheries and continue to address discards in other fisheries.
- Regulatory discards can be minimized by converting discarded bycatch to landed catch through the development of new markets, processing techniques, and changing regulatory limits and requirements to land all catch.
- Regulations designed to reduce vessel efficiency including gear restrictions and trip limits may encourage bycatch (i.e. regulatory discards).
- Selective fishing gear is an essential element to bycatch reduction. The development of more selective gear can be a long process. The use of more selective gear is less effective when implemented through regulations only. Incentives to continually improve selectivity and disincentives for high levels of bycatch are more effective.
- Management programs designed to reduce regulatory discards need to be adaptive, making continuous improvements rather than fixed regulations.
- When gear modifications are made, efforts should be taken to ensure that they are effective.

Proposed Initiative: Eliminate Sponge Crab Harvest

Background

- There was a N.C. law prohibiting sponge crab harvest from the early 1920s through 1964.
- The underlying hypothesis of a sponge crab law is that protection of the spawning stock will lead to more recruits, which assumes a direct relationship between the size of the spawning stock and number of recruits.
- In 1964, the sponge crab prohibition law was repealed and Crab Spawning Sanctuaries were established.
- Landings of hard crabs showed some fluctuations before and after the sponge crab law was repealed.
- The blue crab spawning stock is composed of all mature females, not just sponge crabs.
- The sponge only present for approximately14 days.

Previous Actions or Considerations

1989 Position Paper:

- Several questions would have to be answered if the sale or possession of sponge crabs is prohibited
    - Will there be a tolerance?
    - At what point will culling have to take place?
    - What are the effects of stress on the viability of the eggs?
    - Should the ban include all mature females?
- Studies in South Carolina showed over 98 percent of all mature females are fertile, which means they are carrying sperm plug.
- Two viable options to protect the spawning stock of blue crabs were discussed:
    - Prohibit the sale or possession of all mature females, or
    - Keep the current sanctuary system in place.
- It was felt removing the spawning sanctuaries and replacing them with a prohibition on sponge crabs would result in less protection to the spawning stock.

1993 Briefing Paper:

- The reproductive potential of fertile mature female blue crabs is the same whether or not there is a visible egg mass (sponge).
- To provide complete protection it was recommended there should be no harvest of mature females.

1998 Blue Crab Fishery Management Plan:

- An issue paper examined spawning stock protections.
- The use of spawning sanctuaries and prohibiting harvest of sponge crabs was discussed.
- The commission decided to keep current rules in place, conduct a survey to examine other potential sanctuary areas, and prohibited all commercial gear (except attended gill nets) from March 1 – August 31 in existing spawning sanctuaries.

2004 Blue Crab Fishery Management Plan Amendment 1:

- The sanctuary rule was modified to include commercial gear prohibitions from 1998 fishery management plan.
- No additional sanctuaries were identified, as recommended in 1998 fishery management plan.
- An issue paper reexamined spawning stock protections.
- Research showed sponge crabs will destroy the egg mass once captured in pots (Rittschof 2004).
- Trawl-caught sponge crabs were observed with damaged egg masses.
- Eggleston (2003) found no significant difference in mature female catch rates within the sanctuaries and an area 5 km outside the sanctuaries.

- The commission decided to use the division's Program 195 (Pamlico Sound Survey) as an indicator of spawning stock health, implement a seasonal maximum size of 6.75 inches for mature females and 5.25 inches for female peeler blue crabs (implemented when trigger from Program 195 is reached), and to modify the current sanctuary boundaries.

2013 Blue Crab Fishery Management Plan Amendment 2:

- Seasonal size limit for mature females and female peeler blue crabs were implemented in January 2006 and remained in effect through April 2014.
- Sanctuary boundaries were not modified as recommended in Amendment 1.
- The commission decided to repeal management triggers established in Amendment 1 and adopt adaptive management framework using the Traffic Light method as an indicator of the stock condition.
- Under the moderate management level (production characteristic 50 percent red for three consecutive years) the following measures go into effect: sponge crab harvest may be restricted, minimum and/or maximum size for mature females would be implemented, and spawning sanctuaries may be closed and further restrictions imposed.
- Under elevated management level (production characteristic 75 percent red for three consecutive years) a prohibition on sponge crab harvest and/or require use of sponge crab excluders would be implemented and may expand or designate new crab spawning sanctuaries.

Summary

- The current fishery management plan will implement limits on sponge crab and mature female harvest and allow additional management of the spawning sanctuaries if management triggers are activated under the adaptive management framework.
- North Carolina replaced the sponge law with spawning sanctuaries in 1964.
- The egg mass, or sponge, is only present for approximately 14 days.
- Over 98 percent of all mature females are fertile, which means they are carrying a sperm plug.
- Since the sponge is only present for a short period, any prohibition on sale or possession should include all mature females, not just sponge crabs.
- Studies indicate that after capture the sponge is damaged and/or shed.
- The current sanctuary system protects all spawners in the area, not just sponge crabs.
- There are some questions about boundaries of Crab Spawning Sanctuaries and their effectiveness in protecting the female spawning stock.
- Limiting sponge crab harvest would protect the crabs outside of the sanctuaries.

Proposed Initiative: Continue to investigate whether trawling in waterbodies where sedimentation has occurred could have a positive impact on reducing the sedimentation and improving water quality

Background

- In August 2013, the Marine Fisheries Commission passed motion for the Division of Marine Fisheries to design a study comparing closed trawling areas, specifically Newport River, to open trawling areas to determine the effect of trawling on sedimentation in primary and secondary nursery areas.
- Since the 1980s fishermen have stated that waterbodies closed to trawling are silting in and declining in productivity.
- The intent of the motion was to test if trawling could be a tool to flush out sediment and improve fishery productivity.
- Other waterbodies that have been mentioned by other entities as having sedimentation problems include Futch Creek, White Oak River, Bradley Creek and Lockwood Folly River.
- Upper portions of many tidal creeks were closed to trawling and dredging by Marine Fisheries Commission nursery area rules in 1977 to protect shallow nursery habitat.
- Division staff decided to compile an information paper on the subject to provide direction regarding future studies on sedimentation and trawling.

Previous Actions or Considerations

1999 Trawling Report:

- At the request of the Marine Fisheries Commission, division staff compiled a report, Shrimp and Crab Trawling in North Carolina's Estuarine Waters (N.C. Division of Marine Fisheries 1999) to determine the effects of trawling on habitat and bycatch.
- The report concluded that research in North Carolina was needed to determine this, and due to the high variability of N.C.'s estuaries, would cost $1million to $2 million a year to fund. No funding was allocated.
- Several short term research projects developed out of this effort specific to the effect of trawling on turbidity, sedimentation, and some aspect of productivity and are summarized in the 2014 information paper.

2005/2010 Coastal Habitat Protection Plan:

- Summarized the effects of trawling on bottom habitat.
- Summarized the effects of sedimentation and turbidity on fish habitat and known sources of sedimentation.
- Sources were reported to be from land disturbance, particularly non-point runoff from agriculture, forestry, and development, as well as wastewater discharges, navigational dredging, and bottom disturbing fishing activities.
- Includes several recommendations to reduce point and non-point source pollution, including sediment, as well as recommendations to protect fish habitat functions from damage associated with dredging and to restore shallow nursery habitat.

2014 Information Paper:

- Summarized research done in North Carolina and elsewhere on effect of sedimentation on productivity and effectiveness of trawling as a tool to flush out excessive sediment.
- Studies have documented the rate and source of sedimentation in Newport River, Slocum Creek, and Hancock Creek. Rates were considered relatively high and related to land disturbance from development and forestry.
- Studies on the effect of trawling on sediment dynamics were done in South Creek, Texas, and Florida. Results found that turbidity increased one to three times greater than background. Under conditions of sandy sediments or low currents, resuspended sediment settled fairly quickly and

close to the point of disturbance; conversely, sediments were resuspended longer and transported further when currents were strong and sediment was muddy. Fate of resuspended sediment (whether it is flushed out of a creek, carried further upstream, or redeposited nearby) will depend on many factors, such as tide range, currents, orientation of waterbody to prevailing wind direction, fetch, and sediment type.

- Studies on the effects of trawling on primary productivity in North Carolina found no clear trend. In terms of secondary productivity, trawling had no significant effect on secondary productivity (benthic infauna) in North Carolina, Texas, and South Carolina. None of the studies found a negative effect on larger macroinvertebrates and one study in North Carolina found a positive effect.
- Limited information is available on whether juvenile fish productivity has declined over time in North Carolina.
- The information paper concluded that a conservative approach was needed since 1) the literature review did not reveal strong indication that trawling would effectively flush out sediment or improve productivity and 2) there could be implications to other habitat protection rules if trawling was allowed in Primary Nursery Areas.
- The paper recommended that prior to conducting trawling experiments, further research is needed to:
  - Determine magnitude and change in sedimentation rates and sources over time at sufficiently representative waterbodies and regions.
  - Determine the effect of sedimentation in the upper estuaries on primary and secondary productivity and juvenile nursery function.
- The paper recommended that any resulting trawling study:
  - Design the study with academia and have process to include peer development/review.
  - Develop a clear testable hypothesis.
  - Develop a statistically valid sampling design that represents North Carolina's variable waterbody characteristics and accounts for temporal and spatial variability.
  - Assess effects of trawling at effort levels similar to typical fishery conditions.
  - Track the transport of sediment over multiple tide cycles.
  - Monitor transport of bacteria and toxins due to sediment resuspension.
  - Locate study areas in Secondary Nursery Areas or Special Secondary Nursery Areas that have not been open for multiple years.

Summary

- Division staff agrees that sedimentation is an issue to assess and address and will take steps this year to address information gaps.
- The division plans to work with university researchers to develop a phased Coastal Recreational Fishing License grant proposal that will address information gaps, and pending those results, a trawling experiment study.
- Division staff plans to further analyze juvenile fish data to assess trends in juvenile fish abundance.
- The Coastal Habitat Protection Plan Steering Committee selected sedimentation as a priority issue to address in the 2015 Coastal Habitat Protection Plan.
- This issue will be added to the division's Biological Review Team's Research Priority List.

Proposed Initiative: Reduce the culling tolerance for oysters from 10 percent to 5 percent

Background

- 15 A NCAC 03K. 202 requires a 10 percent tolerance by volume.
- The culling tolerance has been incorporated in rule at least since 1927.
- During the early years it was set at 5 percent. Between 1931 and 1934 the culling tolerance changed to 10 percent around the same time as the change in size limit from 2 ½ inches to 3 inches.
- Between 1971 and 1975, the culling tolerance for the 2 1/2 inch coon oysters was 15 percent. Prior to 1971 there was no size limit on coon oysters and therefore no culling tolerance on coon oysters.
- Law enforcement officers inspect fishermen for exceeding the tolerance limit by using a certified metric bushel tub and a keeler which is 10 percent of the tub by volume. A bushel of oysters is dumped into the metric bushel tub. The officer culls sub-legal oysters from the bushel and places them into the 10 percent keeler. If the keeler becomes full before the metric bushel is empty the catch is over the 10 percent tolerance. The officers will dump the keeler into another container and continue grading the rest of the oyster to find the total percent of undersized product.
- If the product exceeds 10 percent the officers will judge the level of oysters in the second keeler to figure the overage.

Previous Actions or Considerations

- Was not an issue in previous Oyster Fishery Management Plans, amendments, or supplements.
- Changing from 10 percent tolerance to 5 percent tolerance will require a change in keeler size to reflect 5 percent tolerance.
- Keelers are made of galvanized steel and cost approximately $25.
- Difficult in the south to change from 10 percent to 5 percent because of the intertidal nature of the southern coastal oysters.
- Intertidal oysters are in the form of clusters. Changing from the 10 percent tolerance to the 5 percent tolerance will result in finer separation of sub-legal from legal more difficult and would result in higher mortality of sub-legal oysters because of increased damage to the shell.
- May be possible to lower culling tolerance to 5 percent north of the Highway 58 Bridge. Oysters occur more subtidal as single oysters. Therefore less difficult to separate sublegal from legal oysters

Summary

- Concerns over increased effort in the south causing damage to cultch plantings and oyster rocks.
- Bushel limit changes are also an issue under consideration under Amendment 4 of the Oyster Fishery Management Plan.
- In the southern area bushel limits are currently five bushels per person/10 bushel per vessel.
- This has lead to concerns of the implications of a $31.25 shellfish license and the availability of this license to any N.C. resident.
- Culling tolerance will be addressed in an issue paper discussing harvest and effort issues in the southern coastal area.

Proposed Initiative: Develop hook-and-line, recreational-only, artificial reefs that can be used to promote local communities and tourism (or other positive recreationally oriented initiatives)

Background

- In late winter of 2007 an interaction between a recreational fisherman and gill nets occurred on AR-425 (Yaupon Beach Reef) and AR-420 (Tom McGlammery Reef). This resulted in the introduction of House Bill 2153 entitled: An Act to Prohibit Commercial Fishing Near Artificial Reefs within Three Nautical Miles of the Shoreline of Brunswick County. In response, the Fisheries Director issued proclamation M-23-2008 prohibiting the use of gill nets or trawls in the area of AR-425. This proclamation has been issued annually since.
- In 2013, Ron Zielinski submitted a Petition for Rulemaking to the N.C. Marine Fisheries Commission. This petition entailed restricting the use of commercial fishing gear and additional gear (i.e. minnow traps, collapsible crab traps, cast nets, gigs or pointed implements, hand operated rakes, seines less than 30 feet in length, manual or mechanically propelled spears and trotlines) on and around AR-396.
- On Aug. 29, 2013, at a commission meeting, a motion to approve the Ron Zielinksi petition for rulemaking was made because of the following reasons: 1) to support beneficial economic impact to the surrounding community; 2) to improve angler access to dedicated accessible and quality fishing opportunities; and 3) to be proactive in avoidance of future conflicts. The motion carried 6-2, with 1 abstention.
- On May 22, 2014, at a commission meeting, a motion was made to accept Ron Zielinksi's request to withdraw his petition for rulemaking regarding the Oriental artificial reef and to stop further rulemaking on the issue. The motion carried 9-0.

Authority

- Sufficient authority for the commission to develop recreational, hook-and-line-only artificial reefs does not currently exist in rule, but there is sufficient statutory authority for the commission to adopt rules "to regulate the location and utilization of artificial reefs in coastal waters." [G.S. 143B-289.52(b)(10)]
- The rule making process, as set forth in G.S. 150B (Administrative Procedure Act) includes completing an economic analysis of the proposed rule change, publishing the proposed rule in the *N.C. Register*, providing a public comment period, and ensuring compliance with the rulemaking principles in G.S. 150B-19.1(a).

Considerations

- In addition to considering the requirements of the rulemaking process, other factors such as funding sources, traditional fishing areas, impacts to local economies, impacts to commercial fishermen and access should be considered.
- Artificial reefs have been funded using a variety of funds including but not limited to, state appropriated money, sport fish restoration funds and grants from both state and federal agencies.
- Declaring an artificial reef hook-and-line, recreational-only, will exclude user groups, both recreational and commercial, from access to a public trust resource.
- Recreational fishermen will not be able to use gears such as gill nets, crab pots, spears and gigs to harvest their recreational limit.
- Funding sources should be considered when planning and developing hook-and-line, recreational-only, artificial reefs since use by user groups will be limited.
- Interest could be sparked from other user groups to construct reefs for sole usage by their respective user groups.
- Partnering with the N.C. Division of Marine Fisheries is a requirement since Coastal Area Management Act, United States Army Corps of Engineers and Coast Guard (Private Aids to Navigation) permits for artificial reefs are issued to the N.C. Division of Marine Fisheries.

- The process to site, permit, obtain materials, construct and monitor an artificial reef site is costly and time consuming.
- From previous experience, total inshore artificial reef construction cost ranges from $31,000 and $50,000 per acre depending on complexity, reef structures and location.

Summary

- Developing hook-and-line, recreational only, artificial reefs will require the commission to develop rules through the rulemaking process.
- There is the possibility of other user groups requesting to build artificial reefs for their exclusive use, which would exclude other user groups from a public trust resource.

Proposed Initiative: Develop a dedicated recreational position within the Division of Marine Fisheries

Develop a dedicated recreational position within the Division of Marine Fisheries (funded through Coastal Recreational Fishing License grant program) to serve as a recreational liaison that would:

- Be the contact person for recreational fishermen;
- Liaison for the for hire industry;
- Work with tourism boards;
- Promote recreational fishing; and
- Help council/Atlantic States Marine Fisheries Commission/Highly Migratory Species folks acquire recreational input on amendments and other actions.

Background

- Coastal Recreational Fishing License Grant submitted in FY2011 (not selected for funding); internal pre-proposal submitted in FY2012 (not selected for full proposal).
- Previous proposals focused on several areas: providing technical/policy guidance regarding recreational fisheries; development and coordination of data collection programs for recreational fisheries; promote conservation-based fishing practices; and development of positive relationships with the recreational fishing community.
- National Oceanic and Atmospheric Administration (NOAA) Fisheries has a similar national policy position that is responsible for coordination of regional recreational fisheries policy staff and oversight of NOAA Fisheries Recreational Initiative (launched 2009).

Previous Considerations/Actions

- Division currently has a five-year federal aid grant (Marine Fisheries Education and Outreach) that provides support for classroom education programs, development and printing of educational brochures/materials (e.g., ethical angling, Angler's Guide, etc.), exhibits at festivals, expanding/improving educational web pages.
- Governor's Cup Billfishing Series and N.C. Saltwater Fishing Tournament (Citation Program) provide informal outreach to private anglers and for-hire sector.
- Coastal Angling Program (recreational harvest data collection program) staff provide informal (dockside sampling) and formal (for-hire constituent outreach and logbook public meetings) outreach to private anglers and for-hire sector , as well as weekly regional fishing reports throughout the season.

Potential Activities

Policy

- Coordinate development of a comprehensive strategic plan for N.C. recreational fisheries across all division sections with the goal of proactively identifying recreational fishery issues of importance and initiating guidance/policy to address these issues (outreach, communication, education, technology).
- Provide guidance/input on recreational fishery characterization for all state fishery management plans in conjunction with fishery management plans and species leads.
- Serve as the division point-of-contact for:
    - Recreational fishing information for anglers, recreational fishing organizations, for-hire industry, tournaments, tourism, etc.
    - Federal efforts related to NOAA Fisheries National Recreational Fishing Policy (http://www.nmfs.noaa.gov/sfa/management/recreational/documents/recfish_policy_public_comment_draft.pdf), and provide NC perspective regarding implementation of the Southeast Regional Recreational Fisheries Action Agenda (http://www.nmfs.noaa.gov/sfa/management/recreational/documents/noaa_rfaa_ser.pdf).

- Provide policy level guidance on interstate and federal fishery management issues in coordination with federal council and interstate commission liaisons.

Communication

- Coordinate public input from recreational constituents (anglers, organizations, for-hire) on state, interstate and federal fishery management decisions.
- Improve communication with all recreational constituencies through organized workshops, seminars, and invited speaking engagements on management issues, conservation-based fishing practices, habitat enhancement/protection, etc.
- Develop a regular "on the docks" schedule of informal interaction with private anglers, for-hire captains, tackle shop owners, tourism operators, etc.
- Coordinate with other agencies, local governments and recreational fishermen to identify, enhance, conserve and develop recreational fishing access.

Outreach

- Assess the use and effectiveness of the current recreational compliance guides and recreational outreach materials in conjunction with public affairs staff.
- Develop a distribution system of recreational compliance guides and recreational outreach materials with input from anglers, the for-hire industry, and tourism.
- Coordinate with other state partners (N.C. Sea Grant, academic researchers, and other state agencies) to disseminate results of the Coastal Recreational Fishing License grant program and provide a conduit for input into the program's strategic plan.

Education

- Enhance education of fishermen and the public concerning fish habitats, how they function, and what people can do to protect them.
- Assist in cross-section initiatives to develop and disseminate gear and methodology for reducing release mortality and to reduce protected species interactions.
- Work with stock assessment scientists to develop outreach materials (similar to Marine Resource Education Program in southeast) to ensure a clear understanding of the stock assessment process for state-managed fisheries.
- Enhance education of fishermen and advise them of the public health and safety concerns surrounding naturally occurring bacteria with consumption of raw shellfish and swimming or water contact activities.

Summary

- Ultimate goal is that recreational constituents who understand the fishery management process, data collection, habitat function, conservation techniques and practices will be more informed and feel a sense of inclusion in the management process.
- Previous attempts to fund such a position have not met with success (ultimate approval of new positions typically occurs at department level)
- Division currently has a variety of recreationally-oriented education/outreach initiatives and should evaluate effectiveness of funded activities; re-program existing staff and resources towards more effective efforts based on review and constituent input.
- Potential benefits: Coordination with federal initiatives, other agencies, local governments and recreational fishermen to identify, enhance, conserve and develop recreational fishing opportunities; comprehensive plan for all division efforts related to recreational fisheries; increased understanding and improved communication between commission, division and recreational sectors.
- Potential challenges: Representing the diverse opinions of the recreational fishery; commercial sector opposition to creating a recreational liaison without creating a commercial liaison; stock management goals may differ between recreational sectors; communication with the widely dispersed and diverse recreational fishery.

Proposed Initiative: Reduce bycatch in the shrimp fishery by 30-40 percent and revisit annually to ensure compliance with these reduction levels and continuously look for ways to further reduce bycatch.

Background

- Reauthorization of Magnuson-Stevens Fishery Conservation and Management Act contains a National Standard (#9) requiring bycatch minimization (USDOC 1996). National Standard 9 states: "Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch." The act was amended in 1990 to include bycatch research.
- In 1990, Congress mandated that the U.S. Secretary of Commerce conduct a three year research program to assess the impact of the incidental harvest by the shrimp trawl fishery on fishery resources in the South Atlantic and the Gulf of Mexico areas.
- The National Marine Fisheries Service, along with the Gulf and South Atlantic Fisheries Development Foundation, began a cooperative bycatch research program to: (1) update and expand bycatch estimates temporally and spatially; (2) identify, develop and evaluate gear options for reducing bycatch; (3) develop an information transfer and education program on bycatch; and (4) develop and operate a standardized data management system for centralized dissemination and access.
- Starting in 1992, observers were placed aboard cooperating vessels to characterize bycatch and to test bycatch reduction devices during normal commercial shrimp trawling through a NOAA program.

Previous Actions or Considerations

- During the 1960s and early 1970s, there was a primary bycatch concern was from directed ocean finfish trawling for bait and pet food.
- During the 1970s through the 1990s, rules were established to prohibit directed scrap fishing. Nursery area designation also began during this time.
- During the late 1980s, the division initiated gear testing to reduce bycatch in the shrimp trawl fishery.
- In cooperation with personnel from the North Carolina Sea Grant, an industry advisory committee was established in 1989 to act as consultants throughout the design and testing phase of a gear development project to reduce bycatch in N.C. trawl fisheries. The committee suggested two finfish excluding techniques: skylight panels and large mesh tailbags.
- Since 1972, the commission regulates the minimum mesh size for a shrimp trawl, including the tailbag at 1.5 inches (15A NCAC 03L.0103(1)).
- The division conducted preliminary tests on diamond tailbag mesh sizes in 1991, square mesh tailbags in 2000, and conducted follow up work in 2010.
- The commission required all shrimp trawlers working in state waters to equip their nets with functional fish excluders in October 1992, becoming the first state to do so.
- From 1992-1996 the division worked with fishermen to develop and test several bycatch reduction devices to reduce finfish bycatch. These tests led to the commission approving four bycatch reduction devices for use in state waters in 1996 (Proclamation SH-9-97).
- Currently the division allows five bycatch reduction devices for use in state waters (Proclamation SH-3-2012).
- Several gear evaluation studies have also been conducted in N.C. waters to document bycatch in shrimp trawls (McKenna and Monaghan 1993; Coale et al. 1994; Murray et al. 1995; McKenna et al. 1996, Brown 2010).
- In 2009, the division tested various bycatch reduction devices aboard the R/V Carolina Coast (Brown 2010).

- In 2012, the commission directed the division to amend the Shrimp Fishery Management Plan, but to limit the scope of the amendment to bycatch issues. Twenty-nine different management options were brought forward to the Shrimp Fishery Management Plan Advisory Committee to address eight different issues. The commission's preferred management strategies to reduce bycatch included:
    - Allowing any federally certified bycatch reduction devices in all N.C. internal and offshore waters;
    - Update the scientific testing protocol for the state Bycatch Reduction Device Certification Program;
    - Convene a stakeholder group to initiate industry testing of various bycatch reduction devices to reduce bycatch to the extent practicable with a 40 percent target reduction;
    - Require either a T-90/square mesh tailbag or other applications of square mesh panels, reduced bar spacing in a turtle excluder device, or another federal or state certified bycatch reduction device in addition to existing turtle excluder device and bycatch reduction device requirements; and
    - Cap fleet capacity by establishing a maximum combined headrope of 220 feet in all internal coastal waters where there are no existing maximum combined headrope requirements with a two-year phase in period.

Summary

- Policies at both the state and federal level have been adopted as conservation and management measures to minimize bycatch and bycatch mortality and incorporate that goal into management considerations.
- The control of net selectivity is a preferred management tool in lieu of other more stringent regulations such as temporal or spatial closures, quotas, or limited entry.
- The division has tested various bycatch reduction device designs since the 1980s. Testing has been sporadic based on funding.
- Development of bycatch reduction devices must be tested in many areas and over several seasons, since there is considerable variation in conditions both spatially and temporally.
- It is important to understand that the development of bycatch reduction devices is a long process, and is dependent on a number of factors.
- There is no one gear design or modification that will work in every situation. What works during the summer brown shrimp fishery may not be effective in the fall white shrimp fishery. The goal of gear researchers is to give the industry additional tools and techniques to use under various real life field situations.
- Funding is often a limiting factor for gear development programs. The division has very limited resources to conduct bycatch reduction device development testing.
- The division has and will continue to seek outside funding to conduct this type of research.
- The division has and will continue to seek outside funding to conduct characterization studies which can be used to ensure compliance with reduction levels.

Proposed Initiative: Increase Habitat

Background

There are six categories of coastal fish habitat in North Carolina – wetlands, shell bottom (oyster reef), submerged aquatic vegetation, ocean hard bottom, soft bottom, and the water column. Much of the work the division does deals with restoring and enhancing shell bottom habitat. The type, magnitude and location of created shell bottom habitat varies annually based on available funding. The division's restoration and enhancement work helps to fulfill recommendations of the Coastal Habitat Protection Plan, which was mandated by the 1997 Fisheries Reform Act. The Act contains the directive to protect and enhance habitats supporting coastal fisheries through the development and implementation of the Coastal Habitat Protection Plan. The law requires cooperation among three rule-making commissions: Environmental Management Commission, Coastal Resources Commission, and Marine Fisheries Commission. The commissions work together to develop, adopt, and implement the plan to protect and restore fish habitats through efforts of an interagency staff team and a steering committee consisting of a subset of the associated commissioners. While restoration of shell bottom habitat is addressed primarily by the Division of Marine Fisheries, restoration of other habitats is addressed by others or through mitigation or projects by conservation groups or universities. For example, the Division of Water Resources and the Ecosystem Enhancement Program are the primary groups that address wetland restoration. Through the Coastal Habitat Protection Plan process, encouragement of greater restoration of certain habitats can be discussed and recommended.

Previous Actions or Considerations

Specific Coastal Habitat Protection Plan recommendations that address increasing habitat and reducing sediment from entering coastal waters (sediment can enter through point and non-point sources), include:

- Expand habitat restoration in accordance with ecosystem restoration plans, including:
    a. Creation of subtidal oyster reef no-take sanctuaries.
    b. Re-establishment of riparian wetlands and stream hydrology.
    c. Restoration of submerged aquatic vegetation habitat and shallow soft bottom nurseries.
    d. Developing compensatory mitigation process to restore lost fish habitat functions.
- Prevent additional shellfish and swimming closures through targeted water quality restoration and prohibit new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters (Environmental Management Commission's surface water classifications SA and SB) except during times of emergency (as defined by the Division of Water Quality's Stormwater Flooding Relief Discharge Policy) when public safety and health are threatened, and continue to phase-out existing outfalls by implementing alternative stormwater management strategies.
- Enhance coordination with, and financial/technical support for, local government actions to better manage stormwater and wastewater.
- Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitats through voluntary actions, assistance, and incentives, including:
    a. Improved methods to reduce pollution from construction sites, agriculture, and forestry.
    b. Increased on-site infiltration of stormwater.
    c. Documentation and monitoring of small but cumulative impacts to fish habitats from approved, un-mitigated activities.
    d. Encouraging and providing incentives for low impact development.
    e. Increased inspections of onsite wastewater treatment facilities.
    f. Increased water re-use and recycling.
- Improve strategies throughout the river basins to reduce non-point pollution and minimize cumulative losses of fish habitats through rule making, including:
    a. Increased use of effective vegetated buffers,
    b. Implementing and assessing coastal stormwater rules and modify if justified.
    c. Modified water quality standards that are adequate to support submerged aquatic vegetation habitat.

Summary

- The initial Coastal Habitat Protection Plan was completed and approved in 2005 and updated in 2010. As the next five-year update is scheduled for completion in 2015, there is an opportunity to modify plan recommendations and implementation actions related to creating additional coastal fish habitat.

Proposed Initiative: Defining Full-Time and Part-Time Commercial Fishermen and the Purpose of the Standard Commercial Fishing License (SCFL)

Background

- In 2010 and 2012, two ad hoc Marine Fisheries Commission committee meetings were held to discuss the issue of defining a professional commercial fishermen and make changes to the Standard Commercial Fishing License (SCFL)
- The general consensus among attendees was that there are no significant problems with the current definition that requires fixing. The current definition and license system as devised by the Moratorium Steering Committee in 1999 is adequate. [see G.S. 113-168.2 (h) Identification as a Commercial Fisherman - The receipt of a current and valid SCFL or shellfish license issued by the division shall serve as proper identification of the licensee as a commercial fisherman].
- Although neither committee made any significant changes to the current system, there were some recommendations to investigate license transfers, license assignments, how to handle latent licenses (use it or lose it), establishing some form of apprenticeship program, and to consider eliminating the Shellfish License for N.C. residents.

Previous Actions

- **July/August 2010 Taskforce Meetings** – chaired by Joe Smith
  - Making changes to the definition of a commercial fisherman is always a contentious issue.
  - The industry feels that:
    - The definition is fine as is.
    - There is no reason to establish landing limits or frequency of use to exclude part-timers as there are many reasons why people hold commercial licenses: investment for retirement, for later use, to pass down to future generations, or as a side-line business to their land-based employment.
    - Further limiting available licenses and limited entry fisheries are not popular concepts.
    - License transfers should be limited to family only.
    - License assignments are necessary.
    - The revenue from latent licenses is necessary to the division.

- **January 2012 Taskforce Meeting** – chaired by Rob Bizzell
  - Industry members in attendance reiterated that the problem has not been defined and if it isn't broken, then don't try to fix it.
  - Much discussion ensued about impact of less knowledgeable commercial fishermen on the industry using the striped bass trawler episode as an example.
  - Three [non-binding] motions were made and passed by the committee:
    - Require all individuals who held a SCFL during the 2010 license year that had no recorded sales transactions be required to have at least 12 days of documented fishing activity within a three-year time period in order to renew their licenses.
    - The commission shall explore the concept of developing an apprentice program/license for persons who have no history in commercial fishing, and allowing an individual with an apprentice license to qualify for a SCFL issued through the eligibility pool once the apprenticeship is completed.
    - The commission should consider eliminating the Shellfish License for N.C. residents.

Constraints and Considerations

- The current commercial license system has been in place since 1999 and is based on recommendations by the Moratorium Steering Committee and resultant actions by the General Assembly.
- The system as implemented has many good points and is in general favor by the commercial fishing industry.

- The following is a list of the main points of discussion and constraints upon any actions:
    - The current definition of a commercial fisherman simply says one who holds a license. Most people feel this is adequate but also see problems with adolescents holding licenses, recreational fishermen holding licenses, and the large number of unused licenses. The discussion should be focused on what constitutes a "professional" commercial fishermen and could include such criteria as: relying on proceeds from commercial fishing for the bulk of their annual salary, reporting income to the IRS from commercial fishing, an individual fully licensed and permitted to operate in one or more fisheries, and an individual with the knowledge, education or experience to profit from commercial fishing. How each of these criteria is determined is currently unknown. In addition, any definition must include criteria for professional crew members who may or may not have any licenses or recorded landings.
        - Can the commission eliminate or reduce the number of available licenses? Yes, the commission has the authority to adjust the number of SCFL's in the pool based on the amount of effort it considers appropriate in the fishery. The difference between the number of SCFLs in the pool and the number of active licenses is around 1,500. The commission cannot refuse to renew a license.
        - Can license transfers be restricted to family and transfers to non-qualified individuals prevented? This is addressed in GS 113-168.2 (g) which describes the allowable reasons for license transfers (family, upon death, or sale of vessel upon retirement). Seventy-two percent of license transfers are categorized as "Other." This allowance was a legal interpretation due to discrepancies in the interpretation of "retirement" and because not all license holders had an accompanying vessel to sell with the license. This could be revisited.
        - Part time commercial fishermen play an important role and should not be discouraged. Traditionally, commercial fishermen in North Carolina have always held other money making jobs in order to support their families. Part time fishermen provide valuable product to dealers and to the market when conditions allow.
        - There should be no "use-it or lose-it" clause as fishermen hold licenses for a variety of reasons - investment, holding for retirement years, to assign to others, etc. Unused licenses have no impact on the resource yet contribute to the division's operating revenue. Forcing license holders to use their license will put more pressure on the resource and more gear in the water. SCFL holders have made the decision to spend the money to renew the license each year and therefore have an investment in that license. The revenue derived from commercial licenses is critical to the division to fund the license, trip ticket and marine patrol activities. Commercial license revenue has been on the decline in recent years and there is concern that recent increases in license fees will create further reduced revenue for the division. [follow-up: the division conducted a survey of license holders in January 2015 asking about product retained for personal use and not reported on trip tickets]
        - Establishing income levels for license qualification is unpopular and unfeasible. This is similar to establishing "days used" or a "use-it or lose-it" policy. Using income levels requires holders to substantiate their claims with tax records which in turn require someone to determine the validity of the tax records. The division does not wish to get involved in personal tax filing issues. Establishing a minimal threshold of days the license is required to be used could not only increase pressure on the resources but lead to falsified recording of catch on trip tickets in order to meet the minimal criteria.
        - Establishing an Apprenticeship Program in order to get new entrants into the fishery received general support. However, the division feels as though the current Shellfish License and proper use of assignments provides most of the benefits of an apprentice program. Neither of these licenses requires any

previous qualifications. A true apprenticeship program will require someone to function as the mentor, a role best fulfilled by commercial fishermen, not the division. The industry could still support this concept by hiring individuals as crew or by assigning licenses and eliminate the division from the program. The experience gained by working as crew or working under an assignment would qualify the individual for a SCFL through the Eligibility Board.

- The issue of recreational fishermen obtaining SCFL's on the open market and using them to sell fish to cover their fuel costs and save on taxes on tackle and equipment was also discussed extensively. This issue probably is of less importance today as the South Atlantic Fisheries Management Council has almost entirely eliminated bag limit sales of most federally managed species. Purchasing a commercial license in order to save on fuel and tackle costs is a federal and state taxing authority issue, not a division management issue.
- Should the Shellfish License be eliminated? This low cost license available only to N.C. residents was meant by the General Assembly to appease the older, traditional, clammers and oystermen who may not have qualified for a SCFL but still wanted a low cost license to gather some shellfish. It was also intended to be a license available to high school and college students to use to make some money during the summer months clamming. Eliminating this license will negatively impact applicants to the Eligibility Board and the apprenticeship program concept of entering into commercial fishing by obtaining a Shellfish License. It will have the positive benefits of reducing harvest pressure on diminishing oyster resources in the southern part of the state and reducing illegal oyster sales.

Summary

- There have been previous attempts at defining a commercial fisherman and making changes to the current license system. It is a heated topic and any changes should not be considered lightly.
- Given the commission's authorities, the most logical and achievable options to look at to address certain issues are:
  - Reduce the number of available SCFLs in the Eligibility Pool
  - Limit license transfers
  - Limit license assignments
  - Address inequities in licensing costs between residents and nonresidents (especially with Land or Sell license privileges)
- Changes to the following authorities will require legislative changes to existing statutes:
  - Limiting renewals of existing SCFLs
  - Further increases in license fees
  - Adjustments to nonresident fees
- Fee increases beginning in fiscal year 2016 will impact the number of licenses issued, especially those SCFLs that are not used. Any reductions in commercial license sales will further negatively impact division revenue and its ability to adequately implement and enforce fisheries regulations.

Proposed Initiative: Remove Spotted Seatrout from the Fishery Management Plan

Clarify intent of initiative

Intent of the initiative is to change management strategy for spotted seatrout outlined in the 2012 N.C. Spotted Seatrout Fishery Management Plan, which is based on the threshold biological reference point of a spawning potential ratio of 20 percent to managing spotted seatrout based on environmental factors.

Background

- The Atlantic States Marine Fisheries Commission Fishery Management Plan for Spotted Seatrout was adopted in 1984 and was updated with Amendment 1in 1991 and Amendment 2 in 2011.
- Amendment 1 developed a list of goals for spotted seatrout management, but allowed interested states to manage their stocks independently.
- Amendment 2 required states to comply with the Atlantic Coastal Fisheries Cooperative Management Act and the Atlantic States Marine Fisheries Commission Interstate Fishery Management Program Charter, adopt a 12-inch total length minimum size limit for both recreational and commercial sectors and recommended states establish management measures to reach a 20 percent spawning potential ratio.
- Spotted seatrout was included in both the 2002 and 2008 N.C. Interjurisdictional Fishery Management Plan.
- The N.C. Marine Fisheries Commission adopted the fishery management plan schedule that provided for the development of a state spotted seatrout plan as a means to evaluate if regulations were sufficient to provide a sustainable harvest. Initial plan development began in 2007.
- The N.C. Spotted Seatrout Stock Assessment was completed in January 2009. The stock was considered overfished and overfishing had been occurring all but one year during the entire time series of the assessment (1991 – 2008) using a threshold biological reference point of 20 percent spawning potential ratio.
- The N.C. Marine Fisheries Commission adopted the N.C. Spotted Seatrout Fishery Management Plan in February 2012.
- The N.C. Marine Fisheries Commission adopted Supplement A to the 2012 Spotted Seatrout Fishery Management Plan in March 2014.

Previous Actions or Considerations

- Supplement A to the 2012 N.C. Spotted Seatrout Fishery Management Plan implemented the following measures:
    - Maintain short-term management measures in the spotted seatrout fishery (Proclamation FF-13-2012: 14-inch minimum size, 75-fish commercial trip limit with weekend closures in joint waters except in Albemarle and Currituck sounds; Proclamation FF-12-2012: 14-inch minimum size, four-fish recreational bag limit).
    - If cold stun occurs: close spotted seatrout harvest through June 15 and retain four fish recreational bag limit and 75 fish commercial trip limit. Also more extensive research on cold stun events by the division, universities, etc…
    - Revisit the Spotted Seatrout Fishery Management Plan in three years to determine if sustainable harvest measures are working.
    - Development of a mutual aid agreement between Marine Patrol and Wildlife Enforcement Officers for Inland Fishing Waters.
- December 2014 an updated 2014 N.C. Spotted Seatrout Stock Assessment was sent for external peer review.
- The commission's fishery management plan review schedule, adopted in August 2014, has the next spotted seatrout review scheduled to begin in July 2015.
- The N.C. Fisheries Reform Act states "The Department shall prepare proposed Fishery Management Plans for adoption by the Marine Fisheries Commission for all commercially or recreationally significant species…." [G.S. 113-182.1].

- The N.C. Fisheries Reform Act states that if overfishing is occurring the fishery management plan must "specify a time period, not to exceed two years from the date of adoption of the plan, to end overfishing." and if a fishery is considered overfished, the fishery management plan must "specify a time period, not to exceed 10 years from the date of the adoption of the plan, for achieving sustainable harvest." The statute provides that these requirements shall not apply "if the Fisheries Director determines that the biology of the fish, environmental conditions, or lack of sufficient data make implementing the requirements of this subdivision incompatible with professional standards for fisheries management." [G.S. 113-182.1].
- These provisions exempt a species from the two year period to end overfishing and the 10-year rebuilding period, not from the requirement to have a fishery management plan.
- Any adaptive management strategy designed to manage spotted seatrout based on environmental factors would likely need to be reviewed periodically. The best vehicle for this process is the species-specific state fishery management plan.

Summary

- North Carolina is currently in compliance with the minimum size limit for both recreational and commercial sectors and has adopted the 20 percent spawning potential ratio threshold recommended by the Atlantic States Marine Fisheries Commission.
- A new stock assessment covering the 1991-2013 time period will be presented to the N.C. Marine Fisheries Commission at its May 2015 business meeting.
- This initiative would require an amendment to the N.C. Spotted Seatrout Fishery Management Plan.
- Spotted seatrout would still be part of the N.C. Interjurisdictional Fishery Management Plan if the species specific state plan was retired.
- Any adaptive management strategy designed to manage spotted seatrout based on environmental factors should be part of a state fishery management plan subject to periodic review.

Proposed Initiative: Establish a two season fishing period for large mesh gill nets; one in the spring and the other in late fall to help with cost of the observer program, as well as other obvious savings to the division

Background

- Session Law 2013-360 (Senate Bill 402) provided a one-time appropriation of $1.1 million to the Observer Program in fiscal year 2014 and increased the commercial license fees by 25 percent to fund the Observer Program moving forward.
- This law also required public hearings for input on additional sources of funding for the Observer Program. The division submitted its plan for additional funding to the Marine Fisheries Commission, and the commission submitted its funding recommendations to the General Assembly.
- Session Law 2014-100 (Senate Bill 744) increased the commercial license fees by an additional 75 percent for a Commercial Fishing Resource Fund (G.S. 113-173.1). The purpose of the fund is to fund the Observer Program and to designate any surplus funds to projects that develop sustainable commercial fishing.
- The Sea Turtle and Atlantic Sturgeon Incidental Take permits require year-round monitoring of the small mesh and large mesh gill net fisheries.
- The Sea Turtle and Atlantic Sturgeon Incidental Take permits require adequate funding to ensure the permit's obligations are met, and the license fee increases for the Commercial Fishing Resource Fund are expected to meet these obligations.

Previous Actions or Considerations

Observer Program

- The Observer Program Funding report submitted to the General Assembly by the Marine Fisheries Commission suggested management options for the estuarine gill net fishery if adequate funding was not available and if no improvements were made to program efficiencies.
    - Only allow the use of unattended large and small mesh anchored gill nets in estuarine waters from Oct. 1 through April 30
        - The open season for anchored gill net fishing would occur when landings and fishing effort are high, and when sea turtle abundance is lower in estuarine waters.
        - The open season would also coincide with existing small mesh gill net attendance rules (attendance not required from late fall to spring in most estuarine waters).
    - Operate the Observer Program without any set open and closed seasons, but close the estuarine gill net fishery when annual funding runs out.
- The financial audit of the Observer Program by the State Auditor's Office conducted in 2014 identified areas where the Observer Program could be enhanced such as improved documentation of missed trips and other activities associated with observer trips, and the division has already taken these steps.
- In addition, the division's Observer Program regularly reviews its procedures to improve efficiency and save money.
    - Recent examples include improvements to the call logs, establishing target numbers of observer trips needed for each management unit (by season) for meeting the required observer coverage, and an increased proportion of positive alternative platform trips.
    - The Estuarine Gill Net Permit established in September 2014 enhanced Observer Program efficiency through improved identification of active participants and improved contact information, which has reduced the time the observers spend acquiring trips.
- The Observer Program would still be required to monitor the small mesh gill net fishery year-round as required in the Sea Turtle and Atlantic Sturgeon Incidental Take permits.

Commercial Large Mesh Gill Net Fishery (gill nets 5 inches stretched mesh and greater)

- Seasonality of large mesh gill net fishery (all data for 2007-2011)

    - Seasonal commercial landings:
        - Dec.-Feb.: 7 percent of landings
        - March-May: 27 percent of landings
        - June-Aug.: 21 percent of landings
        - Sept.-Nov.: 45 percent of landings
    - Cumulative landings for all months with 10 percent or more of total landings:
        - Albemarle Sound: 73 percent of landings occur March-April and Sept.-Nov.
        - Pamlico Sound: 74 percent of landings occur July-Oct.
        - Pamlico, Pungo, Bay, and Neuse rivers: 52 percent of landings occur March and Sept.-Oct.
        - Core and Bogue Sound, and the North, Newport, and White Oak rivers: 81 percent of landings occur May-June and Aug.-Oct.
        - South of White Oak River to the S.C. line: 62 percent of landings occur March-April and Aug.-Oct.
- Seasonality of species in large mesh gill net landings:
    - Spring: striped bass, American shad, hickory shad, bluefish, red drum
    - Summer: southern flounder
    - Fall: striped bass, red drum, southern flounder, black drum
    - Winter: striped bass

Summary

- Efforts to improve Observer Program efficiency and to save money are already underway and are a continuous process.
- Adaptive management through the incidental take permits provides management flexibility for monitoring the estuarine gill net under budgetary constraints and to avoid exceeding allowable takes of sea turtles and Atlantic sturgeon.
- Observer Program funding established by Session Law 2014-100 (Senate Bill 744) is expected to be sufficient.
- Fisheries vary seasonally and by area making one size fits all seasons difficult to implement.
- Tailoring open seasons for reasons other than stock health is precedent setting.

Proposed Initiative: Investigate implementing an automated, user friendly & mutually beneficial observer "call-in" system for the gill-net fishery. Fishermen should be required to "call-in" if they are going to "fish" each week. The automated system should issue "confirmation numbers" to commercial fishermen who "call-in." Fishermen who fail to "call in" and report intended fishing activities should lose their permit indefinitely. Violators should be punished on a more severe, graduating scale. Furthermore, fishermen who hold a gill-net permit should be required to sign an agreement with their annual license renewal paperwork, which clearly explains the call-in process including the appropriate phone numbers.

Background

- The Estuarine Gill Net Permit was established on Sept. 1, 2014 to meet the incidental take permits' requirement to identify the participants in the estuarine gill net fishery using anchored gill nets.
    - The Estuarine Gill Net Permit was also designed to improve the efficiency of the Observer Program (ex. accurate contact information for the fishermen), to improve fishermen compliance with the incidental take permits, and create a clear definition and outcome for refusing observer trips.
- During the development of the Estuarine Gill Net Permit, some industry members requested the division implement a call-in system similar to what is used in other federal observer programs.
    - Fishermen would be required to contact the division when they intended to fish estuarine anchored gill nets.
    - Some industry members believe a call-in system would be more effective than the system the division currently employs for the Estuarine Gill Net Permit.
    - Some industry members also believe the division already has the resources to implement a call-in system using various resources such as Marine Patrol Communications staff.
- Division was not prepared to implement a call-in system on such short notice but advised industry members that staff would research other call-in systems to understand the cost and infrastructure required.
- In response to industry's request, staff has begun researching other observer program call-in systems.
    - Staff can provide more information once research on this topic is complete.

Previous Actions or Considerations

Systems used by other observer programs:

- The Atlantic sea scallop fishery has an industry-funded observer program with a pre-trip notification (automated call-in) system.
    - Scallop vessel operators must call in to an automated call-in system no later than three days and no sooner than 10 days prior to sailing.
    - A confirmation number is received after calling in.
    - National Marine Fisheries Service sends an email within 24 hours to either issue a waiver (if no observers are available) or assign an observer to that trip.
    - The vessel operator must provide 48 hours notice to the observer provider prior to leaving the dock.
- The Northeast Federal Observer Program uses a web based pre-trip notification system with an optional call in system.
    - Fishermen login to the system with their permit number and personal identification number.

    - Information entered includes departure time and date, trip duration, port of departure, gear type and fishing type.
- A pre-trip notification system for the estuarine gill net fishery would require fishermen to anticipate when and where they will be fishing in order to stay in compliance.
    - This system would decrease the flexibility gill net fishermen currently have for making fishing decisions.

Considerations for a call-in system

- Number of participants
    - Atlantic sea scallop fishery has less than 400 participants (Limited Entry and Limited Entry General Category permit vessels combined).
    - Fisheries observed by the Northeast Fisheries Observer Program that are subject to the web based pre-trip notification system (ex. squid, Atlantic mackerel, butterfish fishery, Atlantic herring fishery, Northeast groundfish fishery) are also limited entry fisheries with relatively small numbers of participants.
    - Over 50 percent of the fishermen used the web based pre-trip notification making the number of phone calls even less for this fishery.
    - In contrast, over 2,300 Estuarine Gill Net Permits were issued for the estuarine anchored gill net fishery with over 80 percent of these issued to commercial fishermen.
    - Previous analysis by License and Statistics staff determined there are approximately 800 to 1,000 active commercial participants in the estuarine anchored gill net fishery.
- Fishing Effort (numbers of trips)
    - Atlantic sea scallop fishery is limited by day at-sea allocations to permitted vessels.
    - Fishing trips for Atlantic sea scallops and the fisheries subject to the web based pre-trip notification system tend to be multiple days in duration and therefore, fewer trips are made than in fisheries where “day trips” are more common (ex. N.C.’s estuarine gill net fishery).
    - In 2013, over 14,000 commercial anchored large mesh gill net trips and nearly 9,000 small mesh anchored gill net trips occurred in N.C. estuarine waters.
    - Based on 2013 N.C. gill net trips, nearly 1,600 observer trips for large and small mesh gill nets combined would be necessary to meet the target observer coverage for these gears (2 percent for small mesh and 10 percent for large mesh).
- Infrastructure
    - Marine Patrol Communications is unable to handle the volume of phone calls for a call-in system for the N.C. estuarine anchored gill net fishery, even if only a small fraction of Estuarine Gill Net Permit holders are actively fishing.
    - The Protected Resources section would need to hire staff to handle phone calls, which would draw resources (money) away from conducting at-sea observer trips.
    - A web based or automated call-in system would likely require dedicated staff to administer but would not rely on staff to answer the phone (or receive a message left by the fisherman) to collect the information.
    - However, an automated call-in system or a web-based system might be more than the division can afford and more than industry is willing to fund through license fees.
    - In addition, staff would need to consult with Information Technology support staff to ensure any system used is compatible with the existing network, computer infrastructures, and databases.
- Compliance
    - After fishermen call in to notify staff that they plan to fish, observers still need to contact the fisherman to arrange a trip, which they already do.
    - Under this system, a fisherman who fishes without notifying the division would be in violation.
    - The proposed initiative states “Fishermen who fail to "call in" and report intended fishing activities should lose their permit indefinitely,” but the rule authority for permits (15A

03O .0506) does not allow the division to revoke a permit indefinitely, rather it has graduated suspension structure of 10 days, 30 days and six months.
    - In contrast Rule15A 03O .0114 bases license suspensions and revocations on the number of convictions and the severity of the conviction with a graduated suspension structure of 30 days, 60 days, and one year.
    - Marine Patrol and Protected Resources sections would need to monitor fishing activity (ex. on-the-water checks, checking trip tickets at the fish house, etc.) for compliance, which draws staff away from other responsibilities such as ensuring proper observer coverage for the gill net fisheries to stay in compliance with the incidental take permits.

Summary

- The division is agreeable to continue investigating this option.
- System currently in place for the Estuarine Gill Net Permit since Sept. 1, 2014, so it is still relatively new and future modifications are likely.
- Pre-trip notification systems for other observer programs are for fisheries with fewer participants taking fewer trips.
- More research by staff is needed to determine if these systems are affordable and if they are compatible with existing network and computer infrastructures.
- Compliance issues would still exist and more compliance monitoring by the division would be necessary.
- A call in system will require more forethought on the part of permit holders if they have to call in a week ahead of time.
- Permit holders will lose some flexibility.

INFORMATION WILL BE PROVIDED AT THE MEETING.

"**§ 113-173.1. North Carolina Commercial Fishing Resource Fund.**

(a) Establishment. – There is hereby established the North Carolina Commercial Fishing Resources Fund (Fund) as a nonreverting special revenue fund in the office of the State Treasurer. The purpose of the Fund is to provide funding for the development of sustainable commercial fishing in the State. The principal of the Fund shall consist of all of the following:

(1) Two hundred dollars ($200.00) from each Standard Commercial Fishing License issued pursuant to G.S. 113-168.2.

(2) One hundred dollars ($100.00) from each Retired Standard Commercial Fishing License issued pursuant to G.S. 113-168.3.

(3) Twenty-five dollars ($25.00) from each shellfish license issued pursuant to G.S. 113-169.2.

(4) Fifty dollars ($50.00) from each fish dealer license issued pursuant to G.S. 113-169.3.

(5) Two hundred dollars ($200.00) from each land or sell license issued pursuant to G.S. 113-169.5.

(6) Thirty-five dollars ($35.00) from each Recreational Commercial Gear License issued pursuant to G.S. 113-173. The State Treasurer shall hold the Fund separate and apart from all other moneys, funds, and accounts. The State Treasurer shall invest the assets of the Fund in accordance with the provisions of G.S. 147-69.2, except that interest and other income received on the fund balance shall be treated as set forth in G.S. 147-69.1(d).

(b) Use of Funds. – The North Carolina Commercial Fishing Resource Fund created by this section shall be used only for the following purposes, in order of priority:

(1) First, the Fund shall fully fund the State's incidental take permits for the commercial fishing industry under the federal Endangered Species Act of 1973 (Public Law 93-205) or the federal Marine Mammal Protection Act of 1972 (Public Law 92-522).

(2) After the priority set forth in subdivision (1) of this section has been fully funded, the Fund may be used for other projects to develop and support sustainable commercial fishing in the State.

(c) Procedure for Fund Disbursements. – With respect to funds used pursuant to subdivision (b)(1) of this section, the State Treasurer shall disburse the principal of the Fund only upon the written direction of the Director of the Division. With respect to funds used pursuant to subdivision (b)(2) of this section, the State Treasurer shall disburse the principal of the Fund only upon the written direction of both the Marine Fisheries Commission and the Funding Committee established by subsection (d) of this section following the procedures set forth in the memorandum of understanding developed under subsection (f) of this section. In the event of a disagreement between the Commission and the Committee, the Secretary of the Department of Environment and Natural Resources shall decide between the directions proposed by the Commission and by the Committee.

(d) Funding Committee. – The Funding Committee for the North Carolina Commercial Fishing Resource Fund (Committee) is established and shall consist of six members who shall serve staggered terms. Each of the following commercial fishing organizations shall appoint one member for an initial term as indicated and provide notice of that appointment in the manner set forth in G.S. 143-47.6:

(1) North Carolina Fisheries Association, Inc., for a term of three years.
(2) North Carolina Watermen United, Inc., for a term of two years.
(3) Ocracoke Working Watermen's Association, for a term of one year.
(4) Brunswick County Fishermen's Association, for a term of three years.
(5) Carteret County Fishermen's Association, for a term of two years.
(6) Albemarle Fishermen's Association, for a term of one year.

Upon the expiration of the terms of the initial Committee members, each member shall be appointed by the appointing organizations designated in subdivisions (1) through (6) of this subsection for a three-year term and shall serve until a successor is appointed and qualified. Members may be reappointed, but no member may serve more than two consecutive full terms. The Committee shall elect annually a chair and other officers as it deems necessary to carry out the purposes of this section, who shall serve a term of one year corresponding to the calendar year.

(e) Vacancies, Meetings, Quorum. – Vacancies in the Committee shall be filled in the same manner as the original appointment. The Committee may meet at any time upon the call of the chair. A quorum of the group shall consist of four members.

(f) Memorandum of Understanding. – The Marine Fisheries Commission and the Committee shall develop and implement a memorandum of understanding setting forth the procedures for agreeing to and authorizing the disbursements from the Fund created in this section for the purposes described by subdivision (b)(2) of this section.

(g) Ethics. – Members of the Committee are public servants as defined in sub-subdivision i. of subdivision (30) of G.S. 138A-3."