

NORTH CAROLINA MARINE FISHERIES COMMISSION

# NOVEMBER 2023

*Business Meeting Briefing Materials*



November 15-17, 2023  
The Islander Hotel & Resort  
Emerald Isle, NC

## **Table of Contents**

November 2023 Business Meeting

# Contents

---

Preliminary Matters (Agenda)

Chairman's Report

Committee Reports

Director's Report

Fishery Management Plans

Rulemaking Update

**Preliminary Matters**

November 2023 Business Meeting

Document	Page
August Meeting Agenda	02
Draft August Meeting Minutes	04

# Marine Fisheries Commission Business Meeting

## AGENDA

Hilton North Hills Raleigh, NC  
August 23 - 25, 2023

*N.C.G.S. 138A-15(e) mandates at the beginning of any meeting of a board, the chair shall remind all members of their duty to avoid conflicts of interest under Chapter 138. The chair also shall inquire as to whether there is any known conflict of interest with respect to any matters coming before the board at that time.*

*N.C.G.S. 143B-289.54.(g)(2) states a member of the Marine Fisheries Commission shall not vote on any issue before the Commission that would have a "significant and predictable effect" on the member's financial interest. For purposes of this subdivision, "significant and predictable effect" means there is or may be a close causal link between the decision of the Commission and an expected disproportionate financial benefit to the member that is shared only by a minority of persons within the same industry sector or gear group. A member of the Commission shall also abstain from voting on any petition submitted by an advocacy group of which the member is an officer or sits as a member of the advocacy group's board of directors. A member of the Commission shall not use the member's official position as a member of the Commission to secure any special privilege or exemption of substantial value for any person. No member of the Commission shall, by the member's conduct, create an appearance that any person could improperly influence the member in the performance of the member's official duties.*

*Commissioners having questions about a conflict of interest or appearance of conflict should consult with counsel to the Marine Fisheries Commission or the secretary's ethics liaison. Upon discovering a conflict, the commissioner should inform the chair of the commission in accordance with N.C.G.S. 138A-15(e).*

### Wednesday, August 23<sup>rd</sup>

4:00 p.m. Commissioner Orientation – Lara Klibansky

6:00 p.m. Public Comment Period

### Thursday, August 24<sup>th</sup>

9:00 a.m. Public Comment Period

9:30 a.m. Preliminary Matters

- Swearing in of New Commissioners
- Commission Call to Order\* – Rob Bizzell, Chairman
- Moment of Silence and Pledge of Allegiance
- Review Ethics Evaluations of New Commissioners
- Conflict of Interest Reminder
- Roll Call
- Remarks by Department of Environmental Quality Secretary Biser
- **Approval of Agenda \*\***
- **Approval of Meeting Minutes\*\***

9:50 a.m. Chairman's Report

- Letters and Online Comments
- Ethics Training and Statement of Economic Interest Reminder
- 2023 Meeting Schedule
- 2024 Proposed Meeting Schedule
- **Elect Vice Chair\*\***
- Advisory Committee Workshop Update – Lara Klibansky

*\* Times indicated are merely for guidance. The commission will proceed through the agenda until completed.*

*\*\*Probable Action Items*



## Marine Fisheries Commission Business Meeting Agenda

- 10:30 a.m. Director's Report – Director Kathy Rawls  
*Reports and updates on recent Division of Marine Fisheries activities*
- Division of Marine Fisheries Quarterly Update
    - Atlantic States Marine Fisheries Commission Update – Chris Batsavage
    - Mid-Atlantic Fishery Management Council Update – Chris Batsavage
    - South Atlantic Fishery Management Council Update – Trish Murphey
    - License and Statistics Section Update – Brandi Salmon
    - Shellfish Sanitation and Recreational Water Quality Update – Shannon Jenkins
    - Habitat and Enhancement Section Update – Jacob Boyd
      - Shellfish Lease Program Update – Owen Mulvey-McFerron
      - Coastal Habitat Protection Plan Updates – Anne Deaton
    - OTSS Progress Report & ITP Update – Barbie Byrd
    - Marine Patrol Update – Carter Witten
  - Informational Materials:
    - Protected Resources Memo & Reports
    - Rule Suspensions
- 11: 30 a.m. Standard Commercial Fishing License Eligibility Report– Capt. Garland Yopp, Chearin Lewis
- **Vote on setting temporary cap on the number of licenses in the Eligibility Pool\*\***
- 12:00 p.m. Lunch Break**
- 1:30 p.m. Shellfish Rehabilitation Program Overview – Jason Peters
- 2:00 p.m. Annual Fisheries Management Plan Review – Brandi Salmon, Lee Paramore, Steve Poland
- 2:30 p.m. Fishery Management Plans
- Status of ongoing plans – Corrin Flora
  - Striped Mullet FMP Update – Jeff Dobbs, Willow Patten, Dan Zapf
  - Amendment 1 to the Spotted Seatrout FMP – Lucas Pensinger, Jason Rock, Laura Lee
    - Update on FMP Development
- 4:00 p.m. Recess
- Friday, August 25<sup>th</sup>**
- 9:00 a.m. Fishery Management Plans Continued
- Amendment 2 to the Estuarine Striped Bass FMP Update – Nathaniel Hancock, Charlton Godwin
- 10:00 a.m. 2022-2023 Annual Rulemaking Cycle – Phillip Reynolds
- **Mutilated Finfish Rule\*\***
- 11:00 a.m. Rulemaking Update – Catherine Blum
- 2023-2024 Annual Rulemaking Cycle Update
  - 2024-2025 Annual Rulemaking Cycle Preview
- 11:30 a.m. Issues from Commissioners
- 12:15 p.m. Meeting Assignments and Preview of Agenda Items for Next Meeting – Lara Klibansky
- 12:30 p.m. Adjourn**

*\* Times indicated are merely for guidance. The commission will proceed through the agenda until completed.*

*\*\*Probable Action Items*

**Marine Fisheries Commission Business Meeting Minutes**  
**DRAFT**  
**Hilton North Hills**  
**Raleigh, North Carolina**  
**August 23-25, 2023**

The Marine Fisheries Commission (MFC) held a business meeting August 23-25, 2023, at the Hilton North Hills Hotel in Raleigh, North Carolina. In addition to the public comment session, members of the public submitted public comment online or via U.S. mail. To view the public comment, go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/online-public-comments/open>.

The briefing materials, presentations, and full audio from this meeting are available at: <https://www.deq.nc.gov/about/divisions/marine-fisheries/marine-fisheries-commission/mfc-meetings/past-marine-fisheries-commission-meetings#QuarterlyBusinessMeeting-August23-252023-13411>.

Actions and motions from the meeting are listed in **bolded** type.

**BUSINESS MEETING - MOTIONS AND ACTIONS**

August 23, 2023

Chairman Rob Bizzell held a public comment session that began at 6 p.m. and ended at 6:06 p.m. The following comments were received:

Public Comment Period

Marc Boettger said he grew up in eastern North Carolina and has fished inshore waters most of his life. He said his biggest concern for fisheries management in the state is waste and bycatch from inshore gill nets and inshore trawling. He said the latest numbers available are three pounds of bycatch for every pound of shrimp caught. Mr. Boettger said it is ridiculous to allow that kind of waste in our fisheries and to think continuing that level of waste is not going to have a negative impact on all fisheries. It is not just fish like spot and croaker but other fish that prey on them and depend on them as a food source; it goes up the food chain. He said we should get that destructive gear out of our inshore waters. He said a lot of people take that as an attack on commercial fishing; he said it absolutely is not, but it is an attack on destructive, wasteful gear. Mr. Boettger said there are other states on the east coast and the Gulf that do not allow these gears or have more restrictive regulations on these gears, and they produce more shrimp than North Carolina does, so it is not like it cannot be done without it. States like Louisiana, Mississippi, Alabama, and Texas have done this, as far as shrimp goes. He said Florida got rid of gill nets and they are producing more finfish than North Carolina does. North Carolina is not even in the top five yet has some of the loosest regulations in the whole country, and for sure along the eastern seaboard. He reiterated he is not

trying to get rid of commercial fishing, but the destructive, wasteful gear that impacts all our commercial fisheries and other fisheries. Spot and croaker used to be a descent commercial fishery, but it is gone now, along with the recreational fisheries for them. He said one of the biggest things we can do is start using common sense in a public trust resource and manage it for the good of the public, not just a few private interests based on money. He said this is his main point on the state of our fisheries: have a little more common sense.

David Sneed, Executive Director of the Coastal Conservation Association of North Carolina (CCANC), welcomed the new commissioner and returning commissioners and said they have accepted a very challenging position, one that requires the experience and intellect to understand the science, and the confidence and courage to do the right thing in the face of criticism. He thanked the commissioners for their willingness to take on this public service. He said it is the CCANC's understanding that an appointment to the MFC does not include any formal orientation or training on public trust law; it should. He said one of the basic job requirements, the CCANC submits, is to know and understand the fundamental law that governs the management of our fisheries, the public trust. Mr. Sneed said the Public Trust Doctrine is as old as North Carolina itself and as our court of appeals recently noted, the people of North Carolina have ratified it as a permanent part of our constitution. He said it is the basic legal foundation for managing our fisheries and wildlife. It imposes on the state and on this commission and on each commissioner a legal duty to manage our fisheries resources and trust for the benefit of all current and future North Carolinians. He said he was not suggesting that each commissioner needs to study 200 years of law before they can start work on the MFC, but he did ask that each commissioner find 30 minutes in the next week to read the most recent authoritative decision from our courts on what the state's legal responsibility is as the trustee of our fisheries resources. This was a unanimous decision from the court of appeals last year; he provided a copy for each commissioner. He said this decision was from a panel of N.C. appellate judges who hail from different political parties and often disagree with each other, but their decision was unanimous in the ruling about the duty that each commissioner must fulfill: that the Public Trust Doctrine and the N.C. Constitution require the state, and he quoted, "to manage fisheries so as to forever preserve the fish populations for the benefit of the public and to keep fisheries safe from injury, harm, or destruction for all time." He said as the MFC goes forward with its work, the CCANC hopes the commissioners will take the time to read this unanimous decision and that the commissioners will do everything in their power to live up to these legal duties as an MFC commissioner.

End 6:06 p.m.

August 24, 2023

Chairman Bizzell convened the MFC business meeting at 9 a.m. on August 24, 2023, with the public comment period. The public comment session began at 9 a.m. and ended at 9:07 a.m. and the following comments were received:

Public Comment Period

Glenn Skinner, Executive Director of the N.C. Fisheries Association, welcomed the new and returning commissioners and said he hopes they have a good, long stay. In support of something he

has been bringing up with the MFC and talking to DMF staff about for several years, he brought a small, soft, rubber and plastic fishing lure that looks like a flounder to show to the MFC, which he said is about one half-inch shy of the average size that has been applied to recreational dead discards in this state. He said this size fish is impossible and it just cannot be. This size fish was used to calculate the recreational dead discards for every year of the stock assessment, from 1989–2017, and it is currently being used to tell the MFC how North Carolina has done, and the reduction that has been achieved. He said at the February 2023 MFC meeting, the DMF said the recreational sector had about a 51,000-pound overage the previous year, which he said in reality was about a 300,000–500,000-pound overage with what the recreational sector is catching. He said DMF applies a 2.3-pound discard rate to the gig fishery. Mr. Skinner said he checked with DMF staff and that is what they say is a fish that is just sub-legal, under the minimum size limit of 15 inches, so recreational anglers are throwing away fish that are 2.3 pounds even when the season is open for one month. He said recreational anglers are throwing away fish that exceed 2.3 pounds the other 11 months of the year, so there is no way 2.3 pounds can be accurate. He said it is a get-out-of-jail-free card and his fear is it will stop North Carolina from meeting the thresholds to end overfishing. He urged the MFC to find an accurate number to fill this data gap for recreational dead discards; to convert the number of fish to pounds, the DMF staff had to find a poundage number, and this one came from a S.C. tagging study. He said he does not know what is caught in South Carolina, but he has fished recreationally in North Carolina his whole life and may have caught a couple of flounder this small but never had anything near an average this small. He reiterated the importance of DMF staff finding an accurate number using available data and if an accurate number cannot be found, he urged the MFC to strongly reconsider changing the 50/50 allocation until the stock is recovered. He said that 50/50 allocation with this kind of uncertainty in the data is dangerous and has to be addressed. He said with every iteration of this FMP there have been changes in harvest landings and methodology, which creates another high degree of uncertainty in the recreational sector. In the meantime, he urged the MFC to do the right thing; the 50/50 allocation is fine until the MFC recovers this stock or until the DMF finds an accurate number to use for calculating recreational dead discards. He encouraged the MFC to talk to the DMF staff about how to do the responsible thing in this state.

Matthew Wallin thanked the MFC for what they do, and said one of these days, he hopes to come to a commission meeting with a positive comment, but that was not the case this time. He said southern flounder, striped bass, striped mullet, and weakfish are overfished, American shad is depleted, river herring is collapsed, overfishing is occurring with spotted seatrout, and spot and Atlantic croaker are unknown because DMF will not address the millions of pounds of bycatch killed in the shrimp trawl industry each year. He said based on that report card it seems to him that North Carolina has failed in its duty to ensure sustainable marine and estuarine fisheries and habitats for the benefit and health of the people of North Carolina. He said all the commissioners have a responsibility to uphold that duty. Mr. Wallin said it is time for the MFC to make decisions to promote a sustainable, abundant fishery and vote with regards to what is best for the resource, instead of how many fish we can continue to harvest without totally collapsing the fishery. He said the good old days are long gone and we cannot continue to manage a fishery based on the 1997 Fisheries Reform Act, especially with an “F” on its report card over a 26-year period of failed fisheries management policies. He said it is 26 years past due for the state to pass new fisheries reform legislation to curb the declines in our fish stocks. For our fisheries to be truly sustainable into the future, he urged the MFC to act now, look into adaptive management and conservation

measures that allow our fisheries to grow much past our time here, leaving the next generation an improved fishery and the ability to enjoy our coastal resources like we all once had. Mr. Wallin posed a few questions that he hoped will be answered in the near future. How does the DMF plan to enforce the new WRC flounder season that starts September 1 with a four-fish bag limit? Why has there been no collaboration between the two agencies? How will this affect the southern flounder quota for next year? Will DMF incorporate the findings from NOAA about the discrepancies and the data of the new MRIP system and how will this be taken into consideration in future FMPs?

End 9:07 a.m.

### Preliminary Matters

Prior to the business meeting, two new MFC members were sworn in and MFC Liaison Lara Klibansky conducted a commissioner orientation. The two new commissioners are Ryan Bethea, who replaced Ana Shellem in a commercial seat, and Sammy Corbett, who replaced Doug Cross in the commercial industry seat. Commissioner Tom Roller in the recreational industry seat was reappointed to a second three-year term.

Chairman Bizzell called the business meeting to order. He began the meeting with a moment of silence, followed by the pledge of allegiance.

Lara Klibansky read into the record the State Ethics Commission evaluation of the statement of economic interest for actual and potential conflicts of interest pursuant to Chapter 138A of the N.C. General Statutes for each of the new commissioners, as follows:

#### For Ryan Bethea:

"We did not find an actual conflict of interest but found the potential for a conflict of interest. The potential conflict identified does not prohibit service on this entity. Mr. Bethea would fill the role of a member who is an active or recently retired commercial fisherman from the coastal region. He owns Oysters Carolina, LLC, and is a board member of the N.C. Coastal Federation. As such, Mr. Bethea has the potential for a conflict of interest and should exercise appropriate caution in the performance of his public duties, should issues involving his entities come before the commission for official action."

#### For Sammy Corbett:

"We did not find an actual conflict of interest but found the potential for a conflict of interest. The potential conflict identified does not prohibit service on this entity. Mr. Corbett would fill the role of a member who is actively engaged in or recently retired from commercial fishing as demonstrated by currently or recently deriving at least 50% of annual earned income from taking and selling fishery resources in coastal fishing waters of the state. He disclosed that he is a self-employed commercial fisherman. Because he would serve on the authority for members of his own profession, he has the potential for a conflict of interest. Accordingly, Mr. Corbett should exercise appropriate caution in the performance of his

public duties, should issues involving himself or his fishing business come before the commission for official action."

The evaluation of statement of economic interest for each appointee to the commission is kept on record at the Division of Marine Fisheries (Division).

Chairman Bizzell reminded all commissioners of N.C. General Statute § 138A-15E, which mandates at the beginning of any meeting of a board, the Chair shall remind all members of their duties to avoid conflicts of interest under Chapter 138 and the Chair shall also inquire as to whether there is any known conflict of interest with respect to any matters coming before the board at that time. There were no stated conflicts of interest from any commissioner.

The following commission members were in attendance: Rob Bizzell – Chairman, Ryan Bethea, Mike Blanton, Sammy Corbett, Sarah Gardner, Donald Huggins, Robert McNeill, Dr. Doug Rader, and Tom Roller.

Chairman Bizzell recognized Department of Environmental Quality Secretary Elizabeth Biser, who addressed the commission.

Secretary Biser acknowledged the gravity and importance of the MFC's work and the incredible marine fisheries resources of the state. She said many of our state fisheries are showing the impact of pollution, habitat loss, overfishing, climate change, and competition with invasive species and it is incumbent upon the MFC to set management policies to protect and restore these fisheries for the benefit of all North Carolinians. She challenged the MFC to consider all sides of each issue, do what is best for our marine resources and the people of North Carolina, and rely on the science. Secretary Biser recognized the Division's science-based recommendations to the MFC and said the Division is recognized as one of the nation's leading fisheries management agencies. She highlighted several of the Division's recent accomplishments. Secretary Biser thanked the commissioners for their service to the state.

Chairman Bizzell asked for any corrections or anything that needs to be commented on regarding the meeting agenda and then requested a motion to approve the agenda.

**Motion by Commissioner Roller to approve the agenda.**

**Second by Commissioner Rader.**

**Motion passed without dissention.**

Chairman Bizzell asked for any corrections, additions or deletions that need to be made to the May 2023 MFC Quarterly Business Meeting minutes. Hearing none, he called for a motion to approve the minutes.



**Motion by Commissioner Rader to approve the minutes of the May 2023 meeting.**

**Second by Commissioner Huggins.**

**Motion passed without dissention.**

Chairman's Report

Letters and Online Comments

Chairman Bizzell referred commissioners to letters and comments provided in the briefing materials.

Ethics Training and Statement of Economic Interest Reminder

Chairman Bizzell reminded commissioners to stay up to date on their ethics training and Statement of Economic Interest.

2023 Meeting Schedule

Chairman Bizzell referred commissioners to the 2023 meeting schedule provided in the briefing materials.

2024 Proposed Meeting Schedule

Chairman Bizzell referred commissioners to the 2024 proposed meeting schedule provided in the briefing materials.

Elect Vice Chair

Chairman Bizzell said the MFC elects its vice chair at its annual August meeting. He opened the floor for nominations for vice chair. Commissioner Roller nominated Commissioner Corbett. Commissioner Huggins nominated Commissioner Blanton. Chairman Bizzell closed the floor to further nominations.

**Votes for Commissioner Corbett: 6**

**Votes for Commissioner Blanton: 1**

**Abstentions: 2**

**The MFC elected Commissioner Sammy Corbett as MFC Vice Chair.**

Advisory Committee Workshop Update

Lara Klibansky provided an overview for the MFC of the July 2023 MFC Advisory Committee Workshop held July 10, 2023, at the N.C. Aquarium in Pine Knoll Shores, N.C. The workshop was a joint meeting of the MFC's two regional and three standing advisory committees. There were approximately 60 people in attendance, including Chairman Bizzell, Secretary Biser, Commissioner Gardner, and Division staff. The workshop was developed based on feedback from advisers for advisers to have the opportunity to meet with each other outside of the decision-making setting and to speak with Division staff to learn about topics relevant to fisheries management. Workshop topics included the history of fisheries management in the state, the

Fisheries Reform Act, how fishery management plans are developed and implemented and how the plans are synchronized with the Coastal Habitat Protection Plan. The workshop consisted of presentations by Division staff, followed by facilitated group discussions focused on improving communication. Input from the discussions will be compiled into a workshop report that is scheduled to be provided to the MFC at its February 2024 business meeting.

### Director's Report

Director Kathy Rawls welcomed the new commissioners. She gave an update to the MFC about the CCA v. NC lawsuit, the Marine Recreational Information Program pilot study and NOAA Fisheries recent presentation of key findings regarding potential sources of bias in the Fishing Effort Survey questionnaire, and the N.C. DHHS fish consumption advisory from the middle and lower Cape Fear River due to contamination with "forever chemicals".

Director Rawls highlighted the Division's recent Bicentennial Jamboree, which was held on June 10 at the Morehead City Headquarters Office to celebrate 200 years of state marine fisheries management and conservation in North Carolina. She also highlighted the Division's social media outreach efforts that have the goal of making it easier for stakeholders to know what the Division does.

Director Rawls gave an overview of the upcoming recreational and commercial estuarine flounder seasons, noting the N.C. Wildlife Resources Commission's recreational season differs from the Division's and conflicts with the N.C. Southern Flounder Fishery Management Plan Amendment 3.

She said the Division has made progress in filling some of its vacancies, but retention and salaries continue to be issues across the state. The Division plans to provide an overview of the challenges and impacts of these ongoing vacancies at the November MFC business meeting. Director Rawls said her report will continue to highlight section updates, not just fishery management plan items, so the MFC will hear updates from several section chiefs.

Special Assistant for Councils Chris Batsavage gave updates from the recent meetings of the Mid-Atlantic Fishery Management Council and the Atlantic States Marine Fisheries Commission.

Executive Assistant for Councils Trish Murphey gave an update from the recent meeting of the South-Atlantic Fishery Management Council.

License and Statistics Section Chief Brandi Salmon gave an update regarding activities of the License and Statistics Section.

Shellfish Sanitation and Recreational Water Quality Section Chief Shannon Jenkins gave an update regarding activities of the Shellfish Sanitation and Recreational Water Quality Section. The commission asked about recent occurrences of *Vibrio vulnificus* illnesses and infections. Shannon said those have been from naturally occurring *Vibrio* species. Those are different than what his section samples for, which are pollution-based sources of bacteria.



Habitat and Enhancement Section Chief Jacob Boyd gave an update regarding activities of the Habitat and Enhancement Section, including on the shellfish lease program and the Coastal Habitat Protection Plan.

Protected Resources Program Supervisor Barbie Byrd gave a presentation on the Observer Trip Scheduling System (OTSS) and the state's Incidental Take Permit application.

To view the presentation go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/protected-resources-update/open>.

Colonel Carter Witten gave an update regarding Marine Patrol activities and accomplishments since the previous commission meeting.

Standard Commercial Fishing License Eligibility Report

Captain Garland Yopp presented the SCFL Eligibility Report to the commission.

To view the presentation go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/scfl-eligibility-pool/open>.

**Motion by Commissioner Blanton to set the temporary cap on the number of licenses in the Standard Commercial Fishing License Eligibility Pool for fiscal year 2023-2024 at 500.**

**Second by Commissioner Corbett.**

ROLL CALL VOTE				
Member	Aye	Nay	Abstain	Absent
Bethea	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blanton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corbett	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gardner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Huggins	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McNeill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rader	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bizzell	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Motion passed without dissent 8-0-1.**

## Shellfish Rehabilitation Program Overview

Enhancement Program Supervisor Jason Peters gave a presentation to update the MFC on the Division's Reef Enhancement Programs.

To view the presentation go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/reef-enhancement-update/open>.

## Annual Fisheries Management Plan Review

Brandi Salmon, Fisheries Management Northern District Manager Lee Parmore, and Fisheries Management Section Chief Steve Poland gave a presentation on the 2023 Fishery Management Plan Annual Monitoring.

To view the presentation go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/fmp-annual-monitoring/open>.

## Fishery Management Plans

### Status of Ongoing Plans

FMP Coordinator Corrin Flora gave a presentation on the status of ongoing fishery management plans.

To view the presentation go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/status-ongoing-plans/open>.

### Striped Mullet FMP Update

Division striped mullet leads Jeff Dobbs, Willow Patten, and Dan Zapf gave an update on the development of the Striped Mullet FMP Amendment 2 and the July 25–27, 2023, Striped Mullet FMP Advisory Committee workshop. The draft amendment is scheduled to be presented to the MFC at its November business meeting for approval to go out for public and MFC advisory committee review.

### Amendment 1 to the Spotted Seatrout FMP

Division spotted seatrout leads Melinda Lambert and Lucas Pensinger gave a presentation to provide an overview of the FMP and update the MFC on the development of Amendment 1.

To view the presentation go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/spotted-seatrout-fmp-update/open>.

Chairman Bizzell recessed the meeting at 3:20 p.m. until 9 a.m. on August 25.

### August 25

Chairman Bizzell reconvened the meeting at 9 a.m.

Fishery Management Plans, Continued

Amendment 2 to the Estuarine Striped Bass FMP Update

Division striped bass leads Nathaniel Hancock and Charlton Godwin gave a presentation to provide an overview of the stock assessment and steps moving forward for striped bass in the Albemarle Sound and Roanoke River.

To view the presentation go to: <https://www.deq.nc.gov/marine-fisheries/marine-fisheries-commission/august-2023/striped-bass-presentation/open>.

Rulemaking Issues

CRC Floating Structure Rules

MFC Counsel Phillip Reynolds briefed the MFC on the Coastal Resources Commission's floating structure rules and the authority for the rules.

**Motion by Commissioner Roller to draft a letter to the RRC regarding authority for floating structures.**

**Second by Commissioner Corbett.**

ROLL CALL VOTE				
Member	Aye	Nay	Abstain	Absent
Bethea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blanton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corbett	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gardner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Huggins	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McNeill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rader	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bizzell	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Motion passed unanimously.**

Mutilated Finfish Rule

Phillip Reynolds briefed the MFC on the MFC's mutilated finfish rule and the steps under the Administrative Procedure Act for the MFC to amend the rule or withdraw the rule following the June 2023 Rules Review Commission's objection to the rule.

**Motion by Commissioner Corbett regarding the Marine Fisheries Commission's Mutilated Finfish rule (15A NCAC 03M .0101) to keep the rule as it was originally and grant proclamation authority to the Fisheries Director as Item (4) in the rule to add exemptions for other species.**

**Second by Commissioner Roller.**

ROLL CALL VOTE				
Member	Aye	Nay	Abstain	Absent
Bethea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blanton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corbett	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gardner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Huggins	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McNeill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rader	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bizzell	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Motion passed unanimously.**

Joint Rules

Phillip Reynolds briefed the MFC on one of the MFC's joint rules with the N.C. Wildlife Resources Commission and the authority for hook and line fishing in joint fishing waters.

**Motion by Commissioner Corbett regarding the Marine Fisheries Commission's joint rule (15A NCAC 03Q .0106) to direct staff to develop rulemaking language to remove (b)(3) from the rule.**

**Second by Commissioner Huggins.**

ROLL CALL VOTE				
Member	Aye	Nay	Abstain	Absent
Bethea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blanton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corbett	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gardner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Huggins	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McNeill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rader	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bizzell	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Motion passed unanimously.**

## Rulemaking Update

### 2023-2024 Annual Rulemaking Cycle Update

The Division's Rulemaking Coordinator Catherine Blum gave an update to the MFC on the status of the 103 rules covering four subjects in the 2023-2024 rulemaking cycle: shellfish plants and inspections, data collection and harassment prevention, oyster sanctuaries, and shellfish relay. The public comment period closes at 5 p.m. October 2, 2023. The MFC is scheduled to receive a summary of the public comments and vote on final approval of the rules at its November 2023 business meeting.

### 2024-2025 Annual Rulemaking Cycle Preview

Catherine Blum gave a preview to the MFC of potential rulemaking items under development to potentially begin the rulemaking process in 2024. Subjects under development include management options for false albacore, simplifying pot marking requirements, and proposed changes to permit rules.

### Issues from Commissioners

Commissioner Corbett – range of trip tickets associated with active commercial licenses (none, 1-10, more than 10); number of charter boats that have a commercial license

Commissioner Rader – status of climate assessments by other management bodies relative to stock distribution, habitat and water quality changes, and changes in dominant species

Commissioner Roller – looks forward to the findings for his earlier request about enforcing SAFMC permits

### Review of MFC Workplan, Meeting Assignments and Preview of Agenda Items for Next Meeting

Lara Klibansky reviewed meeting assignments and provided an overview of the November meeting items.

Having no further business to conduct, Chairman Bizzell adjourned the meeting at 10:40 a.m.

# Chairman's Report

November 2023 Business Meeting

Document	Page
State Ethics Education Reminder	02
2024 Annual Meeting Calendar	03
Committee Assignments	04
MFC Work Plan	06



## EDUCATION REQUIREMENTS FOR PUBLIC SERVANTS

Public Servants must complete the Ethics and Lobbying Education program provided by the N.C. State Ethics Commission within **six months** of their election, appointment, or employment. We recommend that this be completed as soon as possible, but the training must be repeated every two years after the initial session.

Since Adobe Flash was terminated on December 31, 2020, our online program is not available. A new and shorter online program will be available in the near future. The new program will be compatible with portable devices such as phones and tablets.

Live webinar presentations are being offered monthly and registration information for the live presentations can be found [here](#). These presentations are about 90 minutes long and give you the opportunity to ask questions of the speaker.

For questions or additional information concerning the Ethics Education requirements, please contact Dottie Benz at (919) 389-1383.

# Marine Fisheries Commission 2024 Annual Calendar

*\*Dates are subject to change.\**

January						
Su	Mo	Tu	We	Th	Fr	Sa
		2	3	4	5	6
7	8	9	10	11	12	13
14		16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

March						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		30
31						

April						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26		28	29	30	31	

June						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

July						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3		5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

September						
Su	Mo	Tu	We	Th	Fr	Sa
1		3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

October						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10		12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27			30

December						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23				27	28
29	30	31				

## 2024 MFC Meeting Dates

### MFC Business Meetings

February 21-23  
 May 22-24  
 August 21-23  
 November 20-22

### Northern Regional AC

January 9  
 April 9  
 July 9  
 October 8

### Southern Regional AC

January 10  
 April 11  
 July 10  
 October 9

### Finfish Standing AC

January 11  
 April 11  
 July 11  
 October 10

### Shellfish/Crustacean Standing AC

January 16  
 April 16  
 July 16  
 October 15

### Habitat and Water Quality Standing AC

January 17  
 April 17  
 July 17  
 October 16

## Calendar Key

 MFC	 Northern Regional AC
 ASMFC	 Southern Regional AC
 SAFMC	 Finfish Standing AC
 MAFMC	 Habitat and Water Quality Standing AC
 State Holiday	 Shellfish/Crustacean Standing AC
	 Joint AC Workshop



# 2023 Committee Assignments for Marine Fisheries Commissioners

08/31/2023

---

## **FINFISH ADVISORY COMMITTEE**

*Statutorily required standing committee comprised of commissioners and advisers that considers matters related to finfish.*

**Commissioners:** Tom Roller – co-chair, Mike Blanton – vice chair

**DMF Staff Lead:** Lee Paramore - [lee.paramore@deq.nc.gov](mailto:lee.paramore@deq.nc.gov)

**Meeting Frequency:** Can meet quarterly, depending on assignments from MFC

## **HABITAT AND WATER QUALITY ADVISORY COMMITTEE**

*Statutorily required standing committee comprised of commissioners and advisers that considers matters concerning habitat and water quality that may affect coastal fisheries resources.*

**Commissioners:** Doug Rader – chair, Sarah Gardner– vice chair

**DMF Staff Lead:** Anne Deaton - [anne.deaton@deq.nc.gov](mailto:anne.deaton@deq.nc.gov)

**Meeting Frequency:** Committee can meet quarterly, depending on assignments from MFC. CHPP Steering Committee can meet a couple of times a year.

## **SHELLFISH/CRUSTACEAN ADVISORY COMMITTEE**

*Statutorily required standing committee comprised of commissioners and advisers that considers matters concerning oysters, clams, scallops and other molluscan shellfish, shrimp and crabs.*

**Commissioners:** Mike Blanton – chair, Ryan Bethea – co-chair

**DMF Staff Lead:** Tina Moore - [tina.moore@deq.nc.gov](mailto:tina.moore@deq.nc.gov)

**Meeting Frequency:** Can meet quarterly, depending on assignments from MFC

## **CONSERVATION FUND COMMITTEE**

*Committee comprised of commissioners that makes recommendations to the MFC for administering funds to be used for marine and estuarine resources management, including education about the importance of conservation.*

**Commissioners:** Doug Rader - chair, and Robert McNeill

**DMF Staff Lead:** Steve Poland – [steve.poland@deq.nc.gov](mailto:steve.poland@deq.nc.gov)

**Meeting Frequency:** Meets as needed

## **LAW ENFORCEMENT AND CIVIL PENALTY COMMITTEE**

*Statutorily required committee comprised of commissioners that makes final agency decisions on civil penalty remission requests.*

**Commissioners:** Rob Bizzell - chair, Donald Huggins – co-chair

**DMF Staff Lead:** Col. Carter Witten – [carter.witten@deq.nc.gov](mailto:carter.witten@deq.nc.gov)

**Meeting Frequency:** Meets as needed

## **COASTAL RECREATIONAL FISHING LICENSE TRUST COMMITTEE**

*Committee consisting of the three recreational seats and the science seat to provide the DMF advice on the projects and grants issued using Coastal Recreational Fishing License trust funds.*

**Commissioners:** Robert McNeill– chair, Rob Bizzell, Tom Roller, and Doug Rader

**DMF Staff Lead:** Paula Farnell – [paula.farnell@deq.nc.gov](mailto:paula.farnell@deq.nc.gov)

**Meeting Frequency:** Meets as needed

## **NOMINATING COMMITTEE**

*Committee comprised of commissioners that makes recommendations to the MFC on at-large and obligatory nominees for the Mid- and South Atlantic Fishery Management Councils.*

**Commissioners:** Robert McNeill – chair, Tom Roller – vice chair, Donald Huggins, Sammy Corbett

**DMF Staff Lead:** Chris Batsavage - [chris.batsavage@deq.nc.gov](mailto:chris.batsavage@deq.nc.gov)

**Meeting Frequency:** Typically meets once a year

## **STANDARD COMMERCIAL FISHING LICENSE ELIGIBILITY BOARD**

*Statutorily required three-person board consisting of DEQ, DMF and MFC designees who apply eligibility criteria to determine whether an applicant is eligible for a SCFL.*

**Commission Designee:** Mike Blanton

**DMF Staff Lead:** Marine Patrol Capt. Garland Yopp – [garland.yopp@deq.nc.gov](mailto:garland.yopp@deq.nc.gov)

**Meeting Frequency:** Meets two to three times a year, could need to meet more often depending on volume of applications

## **N.C. COMMERCIAL FISHING RESOURCE FUND COMMITTEE**

*Committee comprised of commissioners that the commission has given authority to make funding decisions on projects to develop and support sustainable commercial fishing in the state.*

**Commissioners:** Sammy Corbett - chair, Mike Blanton - vice chair, Ryan Bethea

**DMF Staff Lead:** William Brantley – [william.brantley@deq.nc.gov](mailto:william.brantley@deq.nc.gov)

**Meeting Frequency:** Meets two to three times a year

## **WRC/MFC JOINT COMMITTEE ON DELINEATION OF FISHING WATERS**

*Committee formed to help integrate the work of the two commissions as they fulfill their statutory responsibilities to jointly determine the boundaries that define North Carolina's Inland, Coastal and Joint Fishing Waters as the agencies go through a statutorily defined periodic review of existing rules.*

**MFC Commissioners:** Rob Bizzell, Donald Huggins, Sarah Gardner

**DMF Staff Lead:** Anne Deaton - [anne.deaton@deq.nc.gov](mailto:anne.deaton@deq.nc.gov)

**Meeting Frequency:** Meets as needed

## **SHELLFISH CULTIVATION LEASE REVIEW COMMITTEE**

*Three-member committee formed to hear appeals of decisions of the Secretary regarding shellfish cultivation leases issued under G.S. 113-202.*

**MFC Commissioners:** Rob Bizzell

**DMF Staff Lead:** Jacob Boyd – [jacob.boyd@deq.nc.gov](mailto:jacob.boyd@deq.nc.gov)

**Meeting Frequency:** Meets as needed

## **COASTAL HABITAT PROTECTION PLAN STEERING COMMITTEE**

*The CHPP Steering Committee, which consists of two commissioners from the Marine Fisheries, Coastal Management and Environmental Management commissions reviews and approves the plan, recommendations, and implementation actions.*

**MFC Commissioners:** Doug Rader, Donald Huggins

**DMF Staff Lead:** Anne Deaton – [anne.deaton@deq.nc.gov](mailto:anne.deaton@deq.nc.gov)

**Meeting Frequency:** Meets as needed

# Marine Fisheries Commission 2023-2025 WORKPLAN

## INCORPORATING ACTIVITY UNDERWAY AND UPCOMING ASSESSMENTS

General Timelines and Abbreviations	"General Timelines" worksheet for details, Colored blocks below indicate MFC Action Point							(See
Fishery Management Plans	(SA)	SAR	GO	(PD)	AC/Pub	PMO	A	
	Stock Assessment In Progress	Stock Assessment Report Presented to MFC	Vote to Approve Goal and Objectives	Initial Plan Development by DMF/FMP AC	Advisory Committee and Public Review	Select Preferred Management Options	Vote on Final Approval	
Non-FMP Rule Development	R	IP	PR	RLO	PRL			
	Request Issue Development	Information Paper In-Progress	Decision to pursue rulemaking	Issue paper with rule language options In-Progress	Select Preferred Rule Language			
Rulemaking	FA	NOT	NCR/PH/PC	A				
	Fiscal Analysis In-Progress	Approve Notice of Text	Publish in NC Register/Hold Public Hearing&Comment Period	MFC Review Public Comment & Vote on Approval				
MFC Committee Activity	APR	JUL						
	Meeting confirmed and scheduled	Meeting anticipated						

### Quarterly Business Meeting

Topic	DMF Staff Lead(s)	Nov - 23	Feb - 24	May - 24	Aug - 24	Nov - 24	Feb - 25	May - 25	Aug - 25
<b>Stock Assessments</b>									
Southern Flounder Stock Assessment Update	Schlick	(SA)	(SA)	SAR					
Blue Crab Stock Assessment Update	Schlick	(SA)	SAR						
<b>Active Management Plans</b>									
Striped Mullet FMP Amendment 2	Zapf/Dobbs	AC/Pub	PMO	A					
Spotted Seatrout FMP Amendment 1	Behringer/Pensingler	(PD)		AC/Pub	PMO	A			
Hard Clam/Oyster	Dobbs/Facendola	G/O	(PD)		AC/Pub	PMO	A		
<b>Status of Commission Requests</b>									
Update False Albacore Information Paper	Seward/Markwith	RLO	PRL						
Federal Permits - Review Feasibility of State Requirements	Murphey/Batsavage/Witten/Poland/Klibansky	IP							
<b>Rulemaking</b>									
18A Rule Readoption - Shellfish Sanitation (85 rules)	Blum/Walsh/Subject Matter Experts	A							
Data Collection and Harassment Prevention for the Conservation of Marine and Estuarine Resources (5 rules)	Blum/Walsh/Subject Matter Experts	A							
Oyster Sanctuary Rule Changes (1 rule)	Blum/Walsh/Subject Matter Experts	A							
Conforming Rule Changes for Shellfish Relay Program and Shellfish Leases and Franchises (12 rules)	Blum/Walsh/Subject Matter Experts	A							
<b>MFC Committees Meetings</b>	<b>(Meeting date(s) in cell)</b>								
Nominating Committee	Batsavage/Blum	11-Oct				11-Oct			
Shellfish Cultivation Lease Review Committee	Reynolds								
CHPP Steering Committee	Rader/Blanton/Huggins								
<b>Advisory Committees Activity Overview</b>	<b>(Meeting date(s) in cell)</b>								
Northern Regional Advisory	Godwin/Paramore	Virtual	In-Person	Virtual	In-person	Virtual	In-Person	Virtual	In-person
Southern Regional Advisory	Moore/Stewart		JAN	APR	JUL	OCT	JAN	APR	JUL
Finfish Standing Advisory	Paramore/Rock		JAN	APR	JUL	OCT	JAN	APR	JUL
Shellfish/Crustacean Standing Advisory	Moore/Deaton		JAN	APR	JUL	OCT	JAN	APR	JUL
Habitat and Water Quality Standing Advisory	Deaton/Harrison		JAN	APR	JUL	OCT	JAN	APR	JUL

## **Committee Reports**

November 2023 Business Meeting

<b>Document</b>	<b>Page</b>
Nominating Committee Memo	<b>02</b>
Nominating Committee Minutes & Nominee Biographies	<b>03</b>



ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

Oct. 20, 2023

## MEMORANDUM

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

**FROM:** Chris Batsavage, Special Assistant for Councils

**SUBJECT:** South Atlantic Fishery Management Council At-Large Seat and Mid-Atlantic Fishery Management Council At-Large Seat Nominations for North Carolina

---

### Issue

The N.C. General Statutes require the Marine Fisheries Commission to approve nominees for federal fishery management council seats for the governor's consideration, and that the statutes allow the governor to consult with the commission regarding additions to the list of candidates. The governor must nominate no fewer than three individuals for a federal fishery management council seat.

### Findings

The Marine Fisheries Commission's Nominating Committee forwarded the following individuals to the Marine Fisheries Commission for the South Atlantic Fishery Management Council At-Large Seat and the Mid-Atlantic Fishery Management Council At-Large Seat:

#### South Atlantic Fishery Management Council At-Large Seat

- Tom Roller, charter boat captain from Carteret County and the current N.C. at-large member on the South Atlantic Fishery Management Council
- Chris Kimrey, charter boat captain from Carteret County
- Mike Oppegaard, charter boat captain from Topsail Island
- Jot Owens, charter boat captain from New Hanover County

#### Mid-Atlantic Fishery Management Council At-Large Seat

- Anna Beckwith, guide service owner from Carteret County
- Stuart Creighton, recreational angler from eastern North Carolina
- Bill Gorham, fishing lure manufacturer owner from Dare County

### Action Needed

The commission needs to approve nominees for the N.C. South Atlantic Fishery Management Council At-Large Seat and the N.C. Mid-Atlantic Fishery Management Council At-Large Seat.

For more information, please refer to:

- The draft minutes from the Oct. 9, 2023 Nominating Committee Meeting
- The nominees' biographies



ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

**MEMORANDUM**

TO: N.C. Marine Fisheries Commission  
Marine Fisheries Commission Nominating Committee

FROM: Chris Batsavage and Catherine Blum  
Division of Marine Fisheries, DEQ

DATE: Oct. 25, 2023

SUBJECT: Marine Fisheries Commission Nominating Committee Meeting Minutes

The N.C. Marine Fisheries Commission Nominating Committee met on Monday, Oct. 9, 2023, at 4:00 p.m. via webinar.

The following were in attendance:

Committee members: Robert McNeill, Sammy Corbett, Donald Huggins, Tom Roller  
Staff: Chris Batsavage, Catherine Blum, Hope Wade

Chairman McNeill called the meeting to order. The agenda was approved without modification.

**Motion by Commissioner Roller to approve the October 11, 2022, meeting minutes as presented. Seconded by Commissioner Corbett.**

**Roll Call**

<b>Sammy Corbett</b>	<b>Aye</b>
<b>Donald Huggins</b>	<b>Aye</b>
<b>Tom Roller</b>	<b>Aye</b>
<b>Robert McNeill</b>	

**Motion passed 3-0.**

**Public comment**

No public comment was given at the meeting or received via email or U.S. mail.

**Review of N.C. General Statutes and federal Magnuson-Stevens Act requirements**

Batsavage briefly reviewed the N.C. General Statutes pertaining to the selection of nominees for federal fishery management council seats. He stated that the N.C. Marine Fisheries Commission must approve a slate of candidates for the governor’s consideration, and that the statutes allow the governor to consult with the commission regarding additions to the list of candidates. Batsavage also described the federal statutes and regulations pertaining to qualification of candidates and noted that the governor must submit a list of no less than three nominees for an appointment. The commission will review the list of candidates approved by the committee at its business meeting on Nov. 16-17, 2023.

**Review and selection of candidates for the South Atlantic Fishery Management Council at-large appointment and the Mid-Atlantic Fishery Management Council at-large appointment**

Batsavage reviewed the bios of the candidates for the South Atlantic Fishery Management Council at-large seat, briefly describing the background and qualifications of each: Thomas (Tom) Roller (incumbent), Christopher (Chris) Kimrey, Michael (Mike) R. Oppegaard, and E. Jot Owens. Batsavage noted that Mr. Roller is completing his first three-year term and is eligible for another three-year term.

Batsavage then reviewed the bios of the candidates for the Mid-Atlantic Fishery Management Council at-large seat, briefly describing the background and qualifications of each: Anna Barrios Beckwith, Stuart Creighton, and William (Bill) Gorham. Batsavage noted that Ms. Sara Winslow, the current N.C. At-Large Member on the Mid-Atlantic Fishery Management Council is completing her third consecutive three-year term and is not eligible for reappointment.

There was no discussion of the candidates. The committee made the following motions:

**South Atlantic Fishery Management Council At-Large Seat**

**Motion by Commissioner Corbett to forward the names of Thomas N. Roller, Christopher G. Kimrey, Michael R. Oppegaard, and E. Jot Owens to the Marine Fisheries Commission for consideration for the South Atlantic Fishery Management Council at-large seat. Seconded by Commissioner Huggins.**

**Roll Call**

<b>Sammy Corbett</b>	<b>Aye</b>
<b>Donald Huggins</b>	<b>Aye</b>
<b>Tom Roller</b>	
<b>Robert McNeill</b>	<b>Aye</b>

**Commissioner Roller recused himself from discussion of the candidates and the vote on this agenda item. Motion passed 3-0.**

**Mid-Atlantic Fishery Management Council At-Large Seat**

**Motion by Commissioner Corbett to forward the names of Anna Barrios Beckwith, Stuart Creighton, and William Gorham to the Marine Fisheries Commission for consideration for the Mid-Atlantic Fishery Management Council at-large seat. Seconded by Commissioner Roller.**

**Roll Call**

<b>Sammy Corbett</b>	<b>Aye</b>
<b>Donald Huggins</b>	<b>Aye</b>
<b>Tom Roller</b>	<b>Aye</b>
<b>Robert McNeill</b>	

**Motion passed 3-0.**

**Commissioner Roller moved to adjourn. Seconded by Commissioner Huggins.**

Meeting adjourned.

# N.C. Marine Fisheries Commission

## Nominating Committee Meeting

---

### Applicants for At-Large Seat

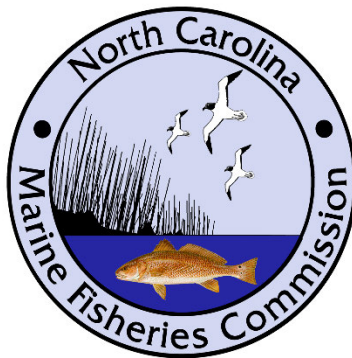
#### **South Atlantic Fishery Management Council**

Thomas N. Roller

Christopher G. Kimrey

Michael R. Oppegaard

E. Jot Owens



October 2023



Mr. Thomas N. Roller

Mr. Roller is the owner and operator of Waterdog Guide Service. For the past 20 years, he has been a full-time nearshore and inshore light tackle and fly-fishing guide operating along the Crystal Coast of North Carolina. Mr. Roller is a licensed U.S. Coast Guard captain with extensive knowledge of southeastern North Carolina's waterways, and spends over 200 days on the water annually with clients. Species managed by the South Atlantic Fishery Management Council, including Spanish and king mackerel, amberjack, and many snapper grouper complex species are important mainstays of his guiding business.

Mr. Roller is an active participant in fisheries management, attending meetings and providing input at the state, interstate, and federal levels. Prior to being appointed to the South Atlantic Fishery Management Council, he served on the Council's Cobia/Mackerel Advisory Panel, Systems Management Plan workgroup and Citizen Science Advisory Panel. As a Council member, Mr. Roller has aspired to take a leadership role in the Council process serving as chair of the SAFMC Mackerel Committee, vice chair of the Dolphin Wahoo Committee and vice chair of the Citizen Science Committee. As an active and engaged Council member, he has served as a liaison to both the Mid-Atlantic and Gulf of Mexico Fishery Management Councils and participated in the East Coast Climate Change Scenario Planning initiative. In addition, he has been a member of the Mid-Atlantic Fishery Management Council's Bluefish AP since 2015.

Mr. Roller is a strong advocate for informed involvement in the management process. In 2017 he completed the Gulf of Maine Research Institute's Marine Resource Education Program for the southeast region, participating in two in-depth workshops to advance his knowledge of fisheries science and management. He encourages students to learn about the fisheries management process and regularly serves as a guest speaker and informal mentor to graduate students in the marine science community. Mr. Roller also contributes on-the-water experience to support data collection for management and stock assessment. He volunteered as a field tester to refine the South Atlantic region's electronic for-hire logbook software, and participates in multiple ongoing fish tagging and fin clip studies for the North Carolina Division of Marine Fisheries as well as the American Saltwater Guides Association.

Mr. Roller is also a longtime participant in North Carolina's state fisheries management process. In August 2023 he was reappointed by Governor Roy Cooper to the North Carolina Marine Fisheries Commission for his third consecutive term serving in the Recreational Industry seat. Prior to serving on the Commission, he participated on the Blue Crab and Southern Flounder Fishery Management Plan Advisory Committees from 2017-2020.

Mr. Roller is a founding member of the American Saltwater Guides Association, a coastwide organization with the mission of promoting sustainable business through marine conservation. He currently serves as an executive board member representing the state of North Carolina, and serves on the organization's policy committee. He was previously a member of the Executive Board of the Coastal Conservation Association of North Carolina from 2014 to January 2020 and served on the organization's Fisheries Committee as chairman from February 2016 to 2018.

Mr. Roller received a B.A. in English and history from Duke University in 2003 and resides in Beaufort, North Carolina.

To: Commissioner Robert McNeill, Chairman, Nominating Committee  
North Carolina Marine Fisheries Commission  
From: Thomas N. Roller

[REDACTED]  
Beaufort, NC [REDACTED]  
[REDACTED]

Re: Consideration for Reappointment to the At-Large Seat of the South Atlantic Fishery Management Council

Dear Commissioner McNeill,

I am pleased to submit my name as a candidate for reappointment to the At-Large seat on the South Atlantic Fishery Management Council. My resume and bio are enclosed.

Since 2003 I have been the owner and operator of Waterdog Guide Service. As a professional guide I provide customized inshore and nearshore light tackle and fly-fishing experiences for families and experienced anglers along North Carolina's Crystal Coast. A full-time working waterman and active participant in the management process, I bring a unique and balanced perspective as well as extensive knowledge of North Carolina's diverse recreational and commercial fishing industries.

Our state is blessed with diverse fisheries that range from our inshore estuaries to the Gulf Stream. On any given day, I interact with species managed by the state of North Carolina, the Atlantic States Marine Fisheries Commission, and the South Atlantic Fishery Management Council. Like many of our state's recreational and for-hire fishermen, I value the opportunity to target a wide variety of species. I understand the importance of access to both our state and federally managed fisheries to businesses and anglers, and this understanding of the bigger picture helps me be a more effective representative for our state's interests.

In addition to my on-the-water and business experience, I bring my strong commitment to being a well-informed stakeholder and representative for the state of North Carolina as a state commissioner and a SAFMC council member. In my first term on the Council I sought opportunities to take on new responsibilities and serve in a leadership role, including as Chair of the Mackerel Committee, which guides the management of two of North Carolina's most important recreational and commercial fisheries. As a Council member I have also been involved in efforts to address emerging challenges through the Council's work on climate change, habitat, and modernizing data collection. I am also personally committed to encouraging the next generation of stakeholders to become involved in the fisheries management process.

I would be honored to continue representing the state of North Carolina on the South Atlantic Fishery Management Council and thank you for your consideration.

Sincerely,

Tom Roller

# THOMAS NATHANIEL ROLLER

Beaufort, NC

## SUMMARY OF QUALIFICATIONS

- Successful small business owner, for-hire fishing industry leader, and ecotourism professional; U.S. Coast Guard licensed captain with over 20 years of experience.
- Experienced industry leader currently serving on the South Atlantic Fishery Management Council and the North Carolina Marine Fisheries Commission; active participant with in-depth knowledge of federal, interstate, and state fisheries management processes.
- Skilled communicator able to facilitate collaboration and compromise with diverse stakeholders and communicate the interests of North Carolina's valuable recreational fishing industry.

## PROFESSIONAL EXPERIENCE

### **Waterdog Guide Service • Beaufort, NC**

Founder, owner, and operator • 2003–present

Professional full-time guide providing customized inshore and nearshore light tackle and fly-fishing experiences for families and experienced anglers along North Carolina's Crystal Coast. Expert waterman and ecotourism industry professional averaging 200+ days on the water annually.

### **South Atlantic Fishery Management Council**

North Carolina At Large Seat • August 2021—present.

Currently serving as chairman of the Mackerel Cobia Committee, vice chair of the Dolphin/Wahoo Committee, and vice chair of the Citizen Science Committee. Served as a Council liaison to the Gulf of Mexico and Mid-Atlantic Fishery Management Councils. Active participant in the East Coast Climate Change Scenario Planning initiative.

### **North Carolina Marine Fisheries Commission**

Recreational Industry Seat • Jan. 2020—present. Reappointed August 2023 to third term.

Appointed by Governor Roy Cooper to the North Carolina Marine Fisheries Commission, the rulemaking commission charged with managing the state's estuarine and marine living resources. Currently serving as chairman of the Finfish Advisory Committee, and member of the Coastal Recreational Fishing License Advisory Committee and the Nominating Committee.

### **American Saltwater Guides Association (ASGA)**

North Carolina Representative & Executive Board Member January 2019—present, Policy Committee Member March 2019—present

Founding member and current voting board member, helping to provide an organized voice for recreational fishing industry with the mission of promoting sustainable business through marine conservation. Active contributor to organizational development of policy positions on fisheries issues at the federal and interstate levels.

### **Coastal Conservation Association – North Carolina (CCANC)**

Executive Board Member January 2014—January 2020, Fisheries Committee Member April 2013—January 2020, Fisheries Committee Chairman February 2015—December 2017

Voting board member, promoting the conservation and sustainable management of inshore fisheries and coastal resources in North Carolina. Developed policy statements on recreational, commercial, and resource management issues for communication with state and federal management agencies, stakeholders, and the public.

## **OTHER EXPERIENCE**

### **Scientific Collaborator with the American Saltwater Guide Association**

Participating and helping organize multiple data collection programs organized by ASGA including false albacore tagging and genetic sampling and testing of new app-based data collection for valuable east coast fisheries. 2022-present.

### **Federal and State Fishery Advisory Panels**

North Carolina Division of Marine Fisheries

- Southern Flounder Fishery Management Plan Advisory Committee Member, September 2017—Jan. 2020
- Blue Crab Fishery Management Plan Advisory Committee Member, February 2017—Jan. 2020
- Joint Enforcement Agreement working group member, June 2016

Mid-Atlantic Fishery Management Council

- Bluefish Advisory Panel, May 2015—present

South Atlantic Fishery Management Council

- Electronic For-hire Logbook Field Tester, May 2016—2018
- Mackerel Cobia Advisory Panel, March 2017—2021
- Citizen Science Advisory Panel Communication and Outreach Action Team, June 2017—2019
- System Management Plan Workgroup March 2018—2021

### **Invited Presenter, Data and Management Strategies for Recreational Fisheries with Annual Catch Limits**

Committee meeting in support of study convened by the National Academies of Science, September 2020

### **Graduate, Gulf of Maine Research Institute Marine Resources Education Program – Southeast**

- Fisheries Science Workshop, completed May 2017
- Fisheries Management Workshop, completed November 2017

## **EDUCATION**

Bachelor of Arts, 2003 • English and History  
Duke University, Durham, North Carolina

## **INDUSTRY QUALIFICATIONS**

- U.S. Coast Guard Operator of Uninspected Passenger Vessel (OUPV) license holder
- North Carolina Division of Marine Fisheries licensed for-hire operator
- South Atlantic Fisheries Management Council permitted for-hire operator, Coastal Migratory Pelagics, Grouper Snapper Complex and Dolphin/Wahoo fisheries
- National Marine Fisheries Service permitted Highly Migratory Species (HMS) for-hire operator



## **Christopher G. Kimrey**

Mr. Kimrey was enlisted in the United States Navy for 6 years and served as an electronics technician for 5 years, before being honorable discharged due to a service-connected injury. He graduated with honors from Carteret Community College in 2003 with an associate in arts. He is a PADI Certified Rescue Diver and licensed U.S. Coast Guard Captain (OUPV).

Mr. Kimrey has owned and operated Custom Saltwater Taxidermy, creating replicas of fish for customers worldwide since 1997. For the past 16 years he has been a full-time saltwater fishing guide and owner and operator of Mount Maker Charters. Mr. Kimrey has completed the first of 2 sessions of the Marine Resource Education Program with the Gulf of Maine Research Institute and is scheduled to complete the 2nd session in the near future (delayed due to COVID-19).

Mr. Kimrey was recently reappointed to the SAFMC Snapper/Grouper advisory panel for his second term and has been an active participant in several tagging projects with N.C. State University, and N.C. Division of Marine Fisheries, which included a 3-year acoustic tagging project of Cobia and a 5-year anchor tagging project with weak fish as well as several other cooperative fisheries research programs. He was an active participant in the software pilot program for the For-Hire South Atlantic Fishery Management Council Pilot Project. He has attended various public forums at the State and Federal level pertaining to Marine Fisheries.

Mr. Kimrey has a life-long history of recreational and commercial fishing and a vast knowledge of saltwater fisheries. Many years of following State and Federal fisheries management plans, while spending 200+ days annually on the water gives him a unique and unbiased desire to pursue the conservation of our fisheries.

## **Michael R Oppegaard**

Mr. Oppegaard is a native of Topsail Beach, North Carolina, and a graduate of Topsail High School and the University of North Carolina-Chapel Hill. His family owned the Sound Pier until its sale in 2004 and has spent my entire life on the water.

In 2012, he founded Native Son Guide Service, Inc., a nearshore/inshore fishing guide service that targets red drum, black drum, flounder, speckled trout, king mackerel, Spanish mackerel, black sea bass, sheepshead, cobia, bonito, false albacore, and sharks. He is passionate about sharing his love of fishing with others and is committed to providing his clients with the best possible fishing experience.

Mr. Oppegaard is also actively involved in the management of North Carolina's fisheries. He served on the NC DMF Southern Flounder Advisory Committee and the MAFMC Management Strategy Evaluation for Summer Flounder as a Core Stakeholder. He is committed to working with other stakeholders to ensure the sustainable management of our fisheries for future generations.

## **E. Jot Owens**

Capt. Jot Owens has been in the Southeast North Carolina Fishing industry for over twenty-eight years. Capt. Jot began his fishing career when he was just fourteen years old working at a local fish market and commercial fishing. Commercial fishing included Clamming, Shrimping, Tuna (Blackfin, Bluefin and Yellowfin), Grouper and King Mackerel fishing (Outer Banks to Cape Fear, NC). Jot fished many inshore and offshore tournaments over the years from the Outer Banks to the Florida Keys. In 1995, Jot started as a mate on local charter fishing boats out of Wrightsville Beach, NC. Today, Capt. Jot has managed to translate his lifetime passion for fishing and guiding into his own charter business which he began in 1999 with a USGC Captains License 100-ton six-pack. Guiding for Cobia, King & Spanish Mackerel, Flounder, False Albacore, Grouper, Red drum, Sharks, Speckled trout, and Tarpon. Capt. Jot is one of the very few local native guides of Southeast North Carolina. He is also a Federal and State of North Carolina Finfish Tagger, April 2003 – present Tagging for conservation and scientific research of Cobia, Flounder, Redfish, Speckled Trout, Striped Bass and Sharks.

Capt. Jot is a member of the PENN fishing tackle, Berkley Fishing and Spiderwire's Elite Pro Staff as well as on the research, development, and test team for these companies. He is also honored to be partnered with these great outdoor companies as well MirrOlure, YETI coolers, Power-Pole, Plano, Frabill, Betts Cast-nets, Garmin Marine, SiriusXM Marine, Eagle Claw/Trokar hooks and Smith Optics.

Capt. Jot has been featured on TV shows; Flats Class TV with C.A. Richardson, The World of Saltwater with George Poveromo, Bob Redfern's Outdoor Magazine, National Geographic Wild's (NATGEO) and ESPN's Saltwater Connection. Capt. Jot has been featured in hundreds of fishing magazine articles in Sport Fishing magazine, NC Sportsman magazine and SC Sportsman magazine just to name a few. Capt. Jot is a regular speaker on the Saltwater Sportsman National Seminar series with George Poveromo, as well hosting his own inshore fishing school.

Fisheries organizations and boards:

-Cape Fear River Striped Bass Foundation-To re-establish and maintain the Cape Fear River Fishery, 2008-present

-Tournament Director/Guide Chair for the Cape Fear River Watch Striped Bass Tournament to raise money and awareness in the fish restoration of the Cape Fear River system, 2008-present

-Saltwater Angler & Sportsman (E-magazine) - Board of Directors 2014-present

-Cape Fear River Watch Board of Directors, 2008-2021

-NCDMF Striped Bass FMP Advisor 2021

-WQ4F (Water Quality for Fisheries) Industry Working Group-Water Quality for Fisheries  
2021-2022

-North Carolina Sea Grant Advisory Board-Representing Recreational anglers and Charter  
(Guides) interest, 2009-2019

-StriperFest Director-Directed all committees for highest grossing fundraiser for Cape Fear River  
Watch, 2015.

Jot has recently been appointed to the South Atlantic Fishery Management Council's System  
Management Plan Workgroup.



# N.C. Marine Fisheries Commission

## Nominating Committee Meeting

---

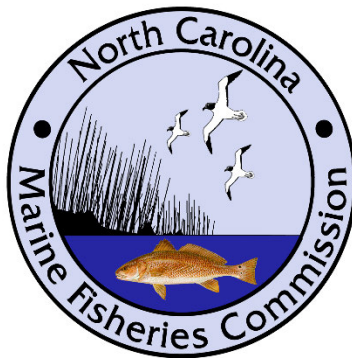
Applicants for At-Large Seat

### **Mid-Atlantic Fishery Management Council**

Anna Barrios Beckwith

Stuart Creighton

William Gorham



October 2023

## **Anna Beckwith**

Mrs. Beckwith holds a B.S. degree in Environmental Science and Policy from Florida International University in Miami, FL and a M.S. degree in Biological Oceanography with a Minor in Geographic Information Science from N.C. State University in Raleigh, NC.

Mrs. Beckwith served three consecutive terms on the South Atlantic Fishery Management Council. Her last term ended August 2021. On the SAFMC she serves as an at-large seat and was chair of the Dolphin/Wahoo, and Highly Migratory Species (HMS) Committees. As Chair of the HMS Committee she also serves on the HMS Advisory Panel for the National Marine Fisheries Service and the ICCAT Advisory Committee. She attended the International Commission for the Conservation of Atlantic Tunas (ICCAT) 2014, 2015 and 2016 annual meeting as part of the U.S. delegation. Mrs. Beckwith has also served as liaison to the Gulf of Mexico Fishery Management Council and the Mid Atlantic Fishery Management Council on numerous occasions. Mrs. Beckwith has also served as a Council representative on King Mackerel, Cobia, Blueline Tilefish and Red Snapper stock assessments

Mrs. Beckwith served on the N.C. Marine Fisheries Commission from 2009 to 2015, serving as Vice-Chair from 2011 to 2015.

Mrs. Beckwith and her husband own Down East Guide Service, a North Carolina recreational fishing guide service and international travel agency for sport fisherman specializing in Costa Rica and Argentina. They are the managing partners of Dragin Fly Sportfishing based out of Los Suenos Marina Costa Rica.

Prior to 2007 Mrs. Beckwith taught Environmental Science and Biology at the high school level and sixth, seventh and eighth grade science in eastern North Carolina. She was a research consultant (post-graduate work) from 2004 through 2006 monitoring red drum spawning habitat using passive acoustics, water quality, and egg/larval monitoring in the Neuse River Estuary, Pamlico River, Pamlico Sound and Ocracoke Inlet.

Previous to pursuing her graduate degree Mrs. Beckwith was employed as Program Manager (1999-2001) for the American Farmland Trust in Washington, DC and was a marine fellow for The Nature Conservancy (1999).

# Anna Barrios Beckwith

## Experience

---

- 8/2007 – current                      Down East Guide Service/Drain Fly Sport fishing  
**Title: Manager**  
Assure smooth operation of NC and Costa Rican operations. Manage schedules, budgets, website, customer service etc.
- 8/2012 – 8/2021                      South Atlantic Fishery Management Council  
**Title: At Large Voting Member**  
Chair of Dolphin/Wahoo, and HMS Committees. As Chair of the HMS Committee, I also served on the HMS advisory panel for NMFS and on the ICCAT Advisory Committee (*Currently still serving as an advisor*). I attended the ICCAT 2014, 2015 and 2016 annual meeting as part of the US delegation. I also served as a Council representative on King Mackerel, Cobia, Blueline Tilefish and Red Snapper stock assessments. As council liaison to the Gulf of Mexico and Mid-Atlantic Fishery Management Councils I typically attended their meetings one per year per council.
- 7/2009 – 7/2015 NC Marine Fisheries Commission                      Morehead City, NC  
**Title: At Large Voting Member (Vice Chair)**  
Served on the Habitat and Water Quality, Coastal Habitat Protection Plan, joint MFC/WRC Coastal Recreational Fishing License and the Finfish and Shellfish/Crustacean committees.
- 8/2006 – 8/2007                      Christ the King H.S.    New Bern, NC  
**Title: Science Teacher**  
Taught Environmental Science and Biology.
- 8/2005 – 8/2006                      Tiller Middle School    Morehead City, NC  
**Title: Science Teacher**  
Taught sixth, seventh and eight grade science.
- 5/2004 – 8/2006                      Consultant/Self-employed    Morehead City, NC  
**Title: Research Consultant**  
Monitor red drum spawning habitat in the Neuse River Estuary, Pamlico River, Pamlico Sound and Ocracoke Inlet of North Carolina using passive acoustics, water quality and egg/larval sampling techniques.
- 5/2002 – 5/2004                      North Carolina State University    Raleigh, NC  
**Title: Research Assistant**  
Identified red drum spawning habitat in the Neuse River Estuary of North Carolina using passive acoustics, water quality, and egg/larval monitoring
- 8/2001 – 5/2003                      North Carolina State University    Raleigh, NC  
**Title: Teaching Assistant**  
Instructed laboratory-based classes in Oceanography, Earth System Science, and Biology.
- 9/1999 – 7/2001                      American Farmland Trust    Washington, DC  
**Title: Program Manager**  
Responsibilities included managing multiple policy initiatives, advocating for increased federal funding of conservation programs, organizing a grass roots policy network, assisting

regional offices with state campaigns, and coordinating initiatives with partner organizations including “Keep America Growing”, a network of interagency and non-governmental organizations focused on urban and suburban land use issues, and a partnership with the U.S. Conference of Mayors leading to “Town Meets Country: Farm-City Forum on Land and Community”. These forums brought urban, suburban, and rural leaders into discussions on smart growth issues throughout the country.

5/1999 – 8/1999                      The Nature Conservancy    Key West, FL

**Title: Lattner Marine Fellow/Coastal Initiative Program**

Responsibilities focused on identifying appropriate wastewater treatment options and possible funding sources for upgrades of failing systems in the Florida Keys and dissemination to local community and assisted in advocacy efforts for funding in Washington, DC.

## **Education**

---

8/2001 – 8/2004                      North Carolina State University    Raleigh, NC

- Masters of Science in Biological Oceanography.
- Minor in Geographic Information Science.
- Graduated Summa Cum Laude.
- Honors included: NCSU Sea Grant Fellowship, PADI Foundation Grant, NCSU Marine Department “Excellence in Teaching” award.
- Activities included: Treasurer of the Marine, Earth and Atmospheric Graduate Association.

8/1995 – 5/1999                      Florida International University    Miami, FL

- Bachelors of Science in Environmental Science and Policy.
- Minor in Biology.
- Graduated Cum Laude.
- Honors included: Lattner Fellowship to work with The Nature Conservancy, FIU Departmental “Excellence in Academic Achievement” award, FIU Departmental “Excellence in Service to the Environment” award, Florida Undergraduate Scholarship, University Scholarship, Dean’s list 7 (of 8) semesters.
- Activities included: Marine Mammal Rescue Unit (officer), Marine Animal Rescue Society (volunteer and organizer), Golden Key National Honor Society (Director of Environmental Activities), and Phi Eta Sigma National Honor Society.

## **Languages and Certifications**

---

- Spanish: Spoken (Excellent), Written (Well). First generation Cuban America.
- N.C. SPI Teaching License Middle Grades Science (6-9)

## **Stuart Creighton**

Mr. Creighton graduated from NC State University with a BS in Meteorology and received his secondary education certification from Campbell University before completing a 25-year career as a high school science educator in North Carolina. During his career, he had experience teaching the full spectrum of science classes from fundamental Earth Science to AP Physics. In semi-retirement, he currently serves as a property manager in Oriental, a town with which he has had a lifelong connection. Mr. Creighton has been a passionate recreational fisherman on the Neuse River throughout his life, and, because of that passion, he has become very active in current fishery management issues.

His activity began in 2015 when he became a regular attendee and public speaker at the quarterly Marine Fisheries Commission meetings. Since then, he has served on the most recent Striped Bass Advisory Committee, as well as being engaged with other standing and regional advisory committees. Mr. Creighton has served as the CCA NC Fisheries Committee Chairman since 2020 and is also a Vice President of the CCA State Board. His responsibilities in this role include keeping current on state and federal issues, examining data to determine pending management problems, and writing content on what management measures are necessary to correct them.

Over the past decade, Mr. Creighton has fished up and down the North Carolina coast, exploring the different fisheries available from Weldon to Wrightsville Beach. He is very well studied on the challenges that are present at both the state and national level and will work hard to make sure that our marine resources are not only conserved, but rebuilt, so that everyone may continue to use them responsibly.

## **William Gorham**

Mr. Gorham is the owner of Bowed Up Lures, a fishing lure manufacturer located in Dare County. Given Mr. Gorham's market area for his lure company, it gives him great insight into fisheries in both the Atlantic and Gulf states.

Mr. Gorham has been involved in the state and federal fisheries management for a number of years. He served as a proxy for North Carolina's Legislative Appointee on the Atlantic States Marine Fisheries Commission. Mr. Gorham also served on the South Atlantic Council's Cobia sub-panel and Citizen Science Advisory Committee.

Mr. Gorham was also appointed to participate in each step of SEDAR 58 cobia stock assessment.

Mr. Gorham has also assisted in stakeholder outreach and education on a variety of regulatory proposals.

Mr. Gorham has also assisted with multiple grant proposals and helped with data collection on several research studies for NC State and the Virginia Institute of Marine Science (VIMS).

## **Director's Report**

November 2023 Business Meeting

<u>Document</u>	<u>Page</u>
Atlantic States Marine Fisheries Commission Meeting Report	02
Mid-Atlantic Fishery Mgmt. Council Meeting Summary Report	34
South Atlantic Fishery Mgmt. Council Meeting Report	49
Marine Patrol Quarterly Update Memo	57
Protected Resource Program Update Documents	58
Rule Suspensions Memo	75



# Atlantic States Marine Fisheries Commission

## 2023 Annual Meeting Summary

*Sustainable and Cooperative Management of Atlantic Coastal Fisheries*

2023 Annual Meeting  
October 16-19, 2023

For more information, please  
contact Toni Kerns, ISFMP,  
Tina Berger, Communications  
or the identified individual at  
703.842.0740

### Meeting Summaries, Press Releases and Motions

#### TABLE OF CONTENTS

<b>ATLANTIC HERRING MANAGEMENT BOARD (OCTOBER 16, 2023)</b> .....	<b>4</b>
<i>Meeting Summary</i> .....	4
<i>Motions</i> .....	4
<b>AMERICAN LOBSTER MANAGEMENT BOARD (OCTOBER 16, 2023)</b> .....	<b>5</b>
<i>Press Releases</i> .....	5
<i>Meeting Summary</i> .....	8
<i>Motions</i> .....	8
<b>TAUTOG MANAGEMENT BOARD (OCTOBER 16, 2023)</b> .....	<b>9</b>
<i>Meeting Summary</i> .....	9
<i>Motions</i> .....	10
<b>ATLANTIC COASTAL FISH HABITAT PARTNERSHIP STEERING COMMITTEE (OCTOBER 16 &amp; 17, 2023)</b> .....	<b>10</b>
<i>Meeting Summary</i> .....	10
<b>HORSESHOE CRAB MANAGEMENT BOARD (OCTOBER 16, 2023)</b> .....	<b>11</b>
<i>Press Release</i> .....	11
<i>Meeting Summary</i> .....	11
<i>Motions</i> .....	12
<b>SHAD &amp; RIVER HERRING MANAGEMENT BOARD (OCTOBER 16, 2023)</b> .....	<b>13</b>
<i>Meeting Summary</i> .....	13
<b>ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM COORDINATING COUNCIL (OCTOBER 17, 2023)</b> .....	<b>14</b>
<i>Meeting Summary</i> .....	14



<i>Motions</i> .....	14
<b>LAW ENFORCEMENT COMMITTEE (OCTOBER 17 &amp; 18, 2023)</b> .....	<b>15</b>
<i>Meeting Summary</i> .....	15
<b>ATLANTIC MENHADEN MANAGEMENT BOARD (OCTOBER 17, 2023)</b> .....	<b>17</b>
<i>Meeting Summary</i> .....	17
<i>Motions</i> .....	18
<b>COASTAL PELAGICS MANAGEMENT BOARD (OCTOBER 17, 2023)</b> .....	<b>18</b>
<i>Meeting Summary</i> .....	18
<i>Motions</i> .....	19
<b>COASTAL SHARKS MANAGEMENT BOARD (OCTOBER 17, 2023)</b> .....	<b>19</b>
<i>Meeting Summary</i> .....	19
<i>Motions</i> .....	20
<b>EXECUTIVE COMMITTEE (OCTOBER 18, 2023)</b> .....	<b>20</b>
<i>Meeting Summary</i> .....	20
<i>Motions</i> .....	21
<b>BUSINESS SESSION OF THE COMMISSION (OCTOBER 18, 2023)</b> .....	<b>21</b>
<i>Press Release</i> .....	21
<i>Meeting Summary</i> .....	23
<i>Motions</i> .....	23
<b>CAPTAIN DAVID H. HART AWARD (OCTOBER 18, 2023)</b> .....	<b>23</b>
<i>Press Release</i> .....	23
<b>SPINY DOGFISH MANAGEMENT BOARD (OCTOBER 18, 2023)</b> .....	<b>24</b>
<i>Meeting Summary</i> .....	24
<i>Motions</i> .....	25
<b>HABITAT COMMITTEE (OCTOBER 18 &amp; 19, 2023)</b> .....	<b>25</b>
<i>Meeting Summary</i> .....	25
<b>ATLANTIC STRIPED BASS MANAGEMENT BOARD (OCTOBER 18, 2023)</b> .....	<b>25</b>
<i>Press Release</i> .....	25
<i>Meeting Summary</i> .....	26
<i>Motions</i> .....	27
<b>AMERICAN EEL MANAGEMENT BOARD (OCTOBER 19, 2023)</b> .....	<b>28</b>
<i>Meeting Summary</i> .....	28
<i>Motions</i> .....	28
<b>INTERSTATE FISHERIES MANAGEMENT PROGRAM POLICY BOARD (OCTOBER 19, 2023)</b> .....	<b>28</b>
<i>Meeting Summary</i> .....	28
<i>Motions</i> .....	30

**SCIAENIDS MANAGEMENT BOARD (OCTOBER 19, 2023) ..... 31**  
*Meeting Summary* ..... 31  
*Motions* ..... 32

## **ATLANTIC HERRING MANAGEMENT BOARD (OCTOBER 16, 2023)**

### ***Meeting Summary***

The Atlantic Herring Management Board met to set the quota periods for the 2024 Area 1A (inshore Gulf of Maine) fishery, receive an update from the New England Fishery Management Council, and elect a Vice-Chair.

The Board considered quota periods for the 2024 Area 1A fishery. Per Amendment 3 to the Interstate Fishery Management Plan for Atlantic Herring, quota periods shall be determined annually for Area 1A. The Board can consider distributing the Area 1A sub-ACL using bi-monthly, trimester, or seasonal quota periods. The Board can also decide whether quota from January through May will be allocated later in the fishing season, and underages may be rolled from one period to the next within the same year.

For the 2024 Area 1A fishery, the Board adopted a seasonal quota approach with 72.8% available June-September and 27.2% available October-December with underages from June through September rolled into the October through December period, if applicable. These 2024 quota periods are the same as the quota periods implemented for the last four fishing years. The Area 1A fishery to close when 92% of the sub-ACL is projected to be reached, as required by Amendment 3.

The Board received an update from the New England Fishery Management Council (Council) on [development of Amendment 10](#) to the federal Atlantic Herring Fishery Management Fishery Management Plan. The Council had already been working on an action “revisiting the Inshore Midwater Trawl Restricted Area that was developed under Amendment 8.” At its September 2023 meeting, the Council renamed the action to “minimize user conflicts related to the Atlantic herring fishery.” The Council also designated the action as an amendment intended to “address spatial and temporal allocation and management of Atlantic herring at the management unit level to minimize user conflicts, contribute to optimum yield, and support rebuilding of the resource.” The Council plans to conduct scoping meetings to inform the range of issues to be considered in Amendment 10. The Council’s Herring Committee and Plan Development Team will develop a scoping document and meeting schedule to be reviewed by the Council at their January 2024 meeting.

Finally, the Board approved Doug Grout, the New Hampshire Governor’s Appointee, as the new Vice-Chair.

For more information, please contact Emilie Franke, Fishery Management Plan Coordinator, at [EFranke@asmfc.org](mailto:EFranke@asmfc.org).

### ***Motions***

**Move that the Board implement seasonal quota for the 2024 Area 1A sub-ACL seasonally with 72.8% available from June through September and 27.2% allocated from October through December, with no landings prior to June 1, and for underages to be rolled over into the next quota period for 2024.**

Motion made by Mr. Kaelin and seconded by Mr. Train. Motion passes by unanimous consent.

**Move to nominate Doug Grout as Vice-Chair of the Atlantic Herring Board.**

Motion made by Ms. Griffin and seconded by Dr. Davis. Motion passes by unanimous consent.

***Press Releases***

**Jonah Crab Benchmark Stock Assessment and Peer Review Finds Population Abundance Remains Above Historic Lows but Needs to be Closely Monitored**

Beaufort, NC – The 2023 Jonah Crab Benchmark Stock Assessment and Peer Review Report indicates the range-wide population of Jonah crab remains above historic lows of the 1980s and 1990s. However, evidence of declining catch per unit effort (CPUE) in the fishery presents substantial concern and uncertainty for the status of the stock.

Based on life history and fishery characteristics, the assessment divided the population into four stocks: offshore Gulf of Maine (OGOM), inshore GOM (IGOM); offshore Southern New England (OSNE) and inshore SNE (ISNE). According to the stock indicators, IGOM, OGOM, and OSNE recruit, exploitable, and spawning abundance conditions from 2019-2021 were neutral or positive relative to historical periods. Indicators generally agree across these stocks that abundance has not been depleted compared to the historic low abundance observed in the 1980s and 1990s. There are no reliable abundance indicators for the ISNE stock so no determination about the condition of this stock's abundance could be made at this time. Young-of-the-year settlement indicators generally show neutral conditions and do not indicate that recruitment in the GOM stocks will decline to historical lows in the near future. Settlement conditions are unknown for SNE stocks.

“As the first range-wide assessment of Jonah crab along the Atlantic coast, this assessment represents a significant advancement in our understanding of the species, its life history characteristics, and distinct fisheries by stock unit,” stated Board Chair Jason McNamee of Rhode Island. “I commend the members of the Stock Assessment Subcommittee and Technical Committee for their successful completion of a challenging, data poor assessment.”

According to the Peer Review Panel, “Despite the limited availability of current data, there is considerable urgency for the assessment due to a very steep, three-year, decline in landings. Commercial landings have declined 51% in three years, after an unprecedented 30-fold rise in landings. Although the recent decline is not well-detected in fishery-independent stock indicators, there is some evidence of declining CPUE in the fishery, creating substantial concern and uncertainty for the status of the stock. Given the mixed signals, the status of the Jonah crab stock is highly uncertain.

Current conditions closely resemble early stages of the collapse of the Canada Jonah crab fishery in the early 2000s. In the first three years of the crash, Canada landings dropped 58%. Within five years, landings fell 97%, and stock biomass could no longer support a fishery. Fishery-independent trawl indicators had not fully captured the signals of a rapidly declining stock. However, declining fishery CPUE was observable preceding and during the landings crash.

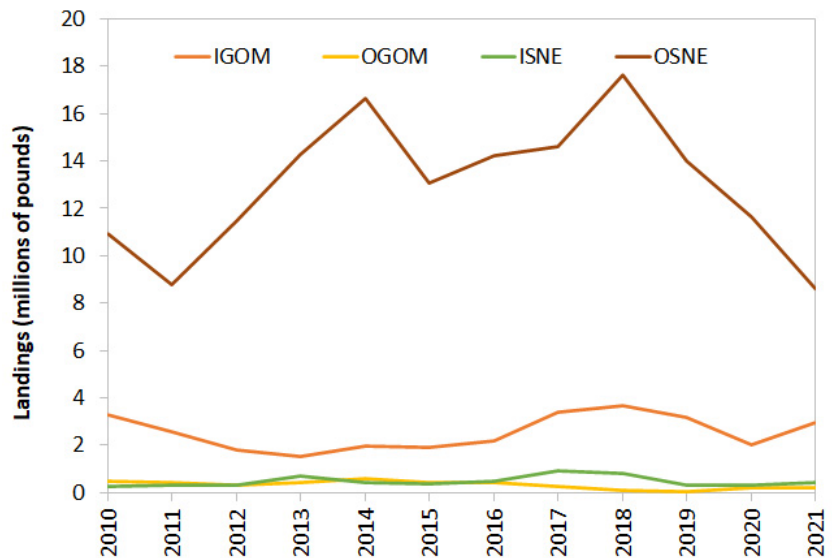
Given the high level of uncertainty in the status of the Jonah crab stock, the Panel strongly recommends close monitoring of annual stock indicators in the next few years. Annual indicators can determine whether sharply declining recent landings are signaling the start of a ‘bust’ phase of a

boom-and-bust arc, or are due to fishery and market-related factors uncoupled with Jonah crab abundance.”

There are notable differences between the fisheries that operate in each of the stock areas. The vast majority of coastwide landings have come from the OSNE stock, accounting for 70-85% of annual coastwide landings from 2010-2021. The IGOM stock has supported the second largest fishery, accounting for 9-24% of annual coastwide landings from 2010-2021. Both the ISNE and OGOM have supported smaller fisheries, never accounting for more than 5% of annual coastwide landings from 2010-2021.

The high proportion of participants contributing to Jonah crab landings indicates a directed fishery in the OSNE stock that targets Jonah crab, yet only a small number of participants account for the large magnitude of landings from this stock. The other three stocks have fisheries that are characteristic of bycatch fisheries that are targeting American lobster. These fisheries have low proportions of participants that land Jonah crabs from pot/trap gears. In the case of the IGOM stock, there is a relatively high number of participants targeting lobsters and not landing Jonah crabs. This represents considerable capacity for growth in a Jonah crab fishery if these participants were to switch to targeting Jonah crab.

**Jonah Crab Commercial Landings by Stock Area**



Landings have shown different trends across stocks, but the landings from OSNE declined steadily from the time series high in 2018 (17.6 million pounds) in the last three years of the time series (2019-2021). This trend is believed to be influenced by factors other than available abundance but should continue to be monitored closely. There was insufficient information to describe fishing mortality or exploitation with confidence and these population parameters remain major uncertainties.

In response to the assessment findings and peer review panel recommendations, the American Lobster Management Board accepted the Benchmark Stock Assessment and Peer Review Report for management use and tasked the Technical Committee with recommending possible measures or actions to address the concerns about stock status and recent fishery trends.

A stock assessment overview, which provides a more detailed description of assessment results, as well as the stock assessment and peer review report will be available on the Commission’s website at <https://asmfc.org/species/jonah-crab> under Stock Assessment Reports. For more information on the stock assessment, please contact Jeff Kipp, Senior Stock Assessment Scientist, at [jkipp@asmfc.org](mailto:jkipp@asmfc.org); and for more information on Jonah crab management, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at [cstarks@asmfc.org](mailto:cstarks@asmfc.org).

PR23-23

## American Lobster Board Extends Addendum XXVII Implementation Date to January 1, 2025

Beaufort, NC – The Commission’s American Lobster Management Board modified the implementation date for measures under Addendum XXVII to Amendment 3 to the Interstate Fishery Management Plan for American Lobster to January 1, 2025 (see table for specific dates). Addendum XXVII was adopted in May 2023, and established a trigger mechanism to automatically implement management measures to provide additional protection of the Gulf of Maine/Georges Bank (GOM/GBK) spawning stock biomass.

Under Addendum XXVII, changes to gauge and escape vent sizes in Lobster Conservation Management Areas (LCMAs) 1 (Gulf of Maine), 3 (offshore federal waters) and Outer Cape Cod (OCC) would be initiated based on an observed decline in recruit abundance indices of 35% from the reference level (equal to the three-year average from 2016-2018). With the inclusion of recently released 2022 data in the time series, the trigger index has declined by 39%, surpassing the trigger point of a 35% decline. The measures triggered include two increases to the minimum gauge size in LCMA 1, a corresponding change in the LCMA 1 escape vent size, and a single decrease to the maximum gauge size in LCMA 3 and OCC.

“Because the trigger was tripped much more quickly than we anticipated, the delay in implementing the gauge size increase will provide the Gulf of Maine states the opportunity to coordinate with Canada regarding possible trade implications, and give the industry and gauge makers additional time to prepare for these changes,” stated Pat Keliher from Maine.

Addendum XXVII also implements a standard v-notch definition of 1/8” with or without setal hairs in LCMA 3 and OCC, and a standard maximum gauge size of 6 ¾” for state and federal permit holders in LCMA 3 and OCC. Additionally, for LCMA 1 and 3 permit holders, states must limit the issuance of trap tags to equal the harvester trap tag allocations unless trap losses are documented. The implementation date for these measures is now January 1, 2025.

The following table specifies the timing of management changes for each of the three LCMAs addressed under Addendum XXVII as modified.

When change(s) will be implemented	What change will be implemented		
	LCMA 1	LCMA 3	Outer Cape Cod
January 1, 2025	Trap tags issuance limited to harvester allocation		v-notch definition: 1/8” with or without setal hairs; Maximum gauge size: 6 ¾”
January 1, 2025	Minimum gauge size: 3 5/16”		
January 1, 2027	Minimum gauge size: 3 3/8”		
January 1, 2028	Escape vent size: 2 x 5 3/4” rectangular; 2 5/8” circular		
January 1, 2029		Maximum gauge size: 6 1/2”	Maximum gauge size: 6 1/2”

For more information, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at [cstarks@asmfc.org](mailto:cstarks@asmfc.org) or 703.842.0740.

PR23-24

### ***Meeting Summary***

In addition to accepting the Jonah Crab Benchmark Stock Assessment and Peer Review Report for management use, and modifying the implementation date for Addendum XXVII, the Board also reviewed the 2024 annual data update for American lobster, and approved Terms of Reference for the next Lobster Benchmark Stock Assessment.

An annual data update process between American lobster stock assessments was recommended during the 2020 stock assessment to more closely monitor changes in stock abundance. Data sets updated during this process indicate exploitable lobster stock abundance conditions expected in subsequent years and include young-of-year settlement indicators, trawl survey indicators, and ventless trap survey sex-specific abundance indices. This is the third data update including data through 2022. In general, Gulf of Maine indicators show declines from time series highs observed during the stock assessment, and Georges Bank indicators show slight improvement since the stock assessment. Southern New England indicators show continued unfavorable conditions with some further signs of decline since the stock assessment.

Staff presented draft Terms of Reference (TORs) and timeline for the next benchmark stock assessment for American lobster, which is scheduled for completion in 2025. Given the evidence that environmental conditions impact the lobster population, the Board requested that the assessment also identify, describe, and, if possible, quantify the effect of environmental and climatic drivers on stock abundance at various time scales.

Additionally, the Board discussed a potential action at the New England Fishery Management Council that is considering scallop fishery access on the Northern Edge on Georges Bank. The Board tasked the Lobster Technical Committee to compile information on the lobster resource and fishery in and around the Northern Edge that could help characterize potential impacts on the lobster population and fishery in the area.

For more information, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at [cstarks@asmfc.org](mailto:cstarks@asmfc.org).

### ***Motions***

**Move to accept the Jonah Crab Benchmark Stock Assessment and Peer Review Report for management use.**

Motion made by Mr. McKiernan and seconded by Mr. Train. Motion passes by (11 in favor).

**Motion to task the Technical Committee to recommend possible management measures or other options to correct what appear to be deficiencies in the stock.**

Motion made by Mr. Train and seconded by Mr. Grout. Motion passes by unanimous consent.

**Motion to amend the approval of Addendum XXVII to change the implementation date. The implementation date for all management measures shall be January 1, 2025, including those measures triggered under Section 3.2. Year 2 and year 3 measures would be implemented by January 1 of the following calendar years for which they are required.**

Motion made by Mr. Keliher and seconded by Mr. Borden. Motion passes (10 in favor, 1 opposed).

**Move to modify terms of reference 4 to identify, describe, and, if possible, quantify the effect of environmental/climatic drivers on stock abundance considering annual to decadal scales**

Motion made Mr. Keliher and seconded by Mr. Grout. Motion approved by unanimous consent.

**Move to task the Lobster Technical Committee (TC) to compile information on the lobster resource and fishery in and around the Northern Edge on Georges Bank. This is in relation to a potential action at the New England Fishery Management Council (NEFMC) which is considering scallop fishery access on the Northern Edge. A starting place for this tasking could be reviewing information that the Lobster TC compiled when ASMFC commented on the NEFMC's Omnibus Habitat Amendment 2. Areas of interest include:**

- **Information on the presence and abundance of lobsters, including ovigerous lobsters, in and around the Northern Edge by month/season**
- **Lobster fishery effort in and around the Northern Edge by month/season**
- **Potential impacts of mobile gear on the lobster population in the area**
- **Information on the habitat type and depth preference of lobsters which could inform our understanding of lobsters on the northern edge if there are limitations in the data**
- **Whether current reporting by Area 3 vessels is representative, or an underestimate, of lobster effort in the Northern Edge area and how future requirements (i.e., federal eVTR requirement, vessel tracking) will impact the data available**

Motion made by Mr. Keliher and seconded by Mr. Grout. Motion passes by unanimous consent.

## **TAUTOG MANAGEMENT BOARD (OCTOBER 16, 2023)**

### ***Meeting Summary***

The Tautog Management Board met to consider a Technical Committee (TC) report on the commercial tagging program and discuss potential changes to the program.

In response to a Board task at the August meeting to identify and evaluate alternative tag types, the TC met and identified the T-bar, Petersen disc, and dart tags as potential alternatives to test along with the smaller NBT tag. However, the TC noted that with the timeframe between the August and October meetings, only the smaller NBT tag could be evaluated and the study would be limited to two weeks. In order to conduct a more robust study that would include all potential tag types over 30 days, results will not be available until summer 2024.

The Board also discussed proposals to suspend the commercial tagging program while alternative tags are evaluated. In response to public comments and the results of the TC surveys reviewed in August 2023, New York requested that the Board consider either pausing the program through emergency action or a fast-tracked addendum until the Board could consider alternative tags, or potentially suspending the program indefinitely if a new tag could not be identified. The Board agreed that alternative tags need to be studied with the goal of finding a tag that could meet the objectives of the program and alleviate the concerns of live market harvesters and dealers. However, based on feedback from the Law Enforcement Committee that the program appears to be achieving its goal of reducing the number of illegal fish in the market, there were concerns about the effects on compliance if there was a pause in the program. In addition, there were states that have seen an increase in the value of their fish since the tagging program has been implemented. Ultimately the Board decided to maintain the program in its current form for the 2024 fishing year, during which time the alternative tags can be researched. For more information, please contact James Boyle, Fishery Management Plan Coordinator at [jboyle@asmfc.org](mailto:jboyle@asmfc.org).



## ***Motions***

### **Main Motion**

**Move that the Tautog Management Board, by emergency action, as defined in the ISFMP Charter, suspend the Coastwide Commercial Tautog Tagging Program for 180 days to prevent additional negative impacts to the live market fishery and initiate an Addendum that will implement the suspension for the remainder of the 2024 fishing year and consider a longer term suspension if a suitable tag, satisfying Objective 4 in section 4.4.1 of Amendment 1, cannot be identified in time for implementation for 2025.**

Motion made by Mr. Maniscalco and seconded by Dr. Davis

### **Motion to Substitute**

**Motion to substitute to initiate a fast-track addendum that will address negative impacts to the live market fishery, satisfying Objective 4 in section 4.4.1 of Amendment 1.**

Motion made by Mr. Hasbrouck and seconded by Dr. Davis. Motion fails (1 in favor, 8 opposed).

### **Main Motion**

**Move that the Tautog Management Board, by emergency action, as defined in the ISFMP Charter, suspend the Coastwide Commercial Tautog Tagging Program for 180 days to prevent additional negative impacts to the live market fishery and initiate an Addendum that will implement the suspension for the remainder of the 2024 fishing year and consider a longer term suspension if a suitable tag, satisfying Objective 4 in section 4.4.1 of Amendment 1, cannot be identified in time for implementation for 2025.**

Motion made by Mr. Maniscalco and seconded by Dr. Davis. Motion fails (1 in favor, 8 opposed).

## **ATLANTIC COASTAL FISH HABITAT PARTNERSHIP STEERING COMMITTEE (OCTOBER 16 & 17, 2023)**

### ***Meeting Summary***

The Atlantic Coastal Fish Habitat Partnership (ACFHP) Steering Committee met to review the 2023-2024 Action Plan; discuss accomplishments and next steps; updated subcommittees and working groups; and delved into fundraising strategies, including the ACFHP Business Plan and BIL/IRA funding opportunities. The Committee also finalized its FY25 ACFHP funding application and heard from guest speakers, including Todd Miller from the North Carolina Coastal Federation and Jason Olive and Ryan Roberts from the National Fish Habitat Partnership. Despite an unsuccessful attempt at securing \$24,582,681 for the NOAA Climate Resilience Regional Challenge for eight oyster reef restoration projects spanning from Florida to New Hampshire, the Committee remained optimistic about the NOAA Transformational Habitat Restoration opportunity, targeting \$15 million for multi-habitat restoration projects in focused watersheds in Georgia, Delaware, and New Hampshire. The ACFHP FY25 Funding Application, open from October 31, 2023 to January 31, 2024, supports fish habitat conservation projects, with no specified upper funding limit but a mandatory 1:1 non-federal match requirement (Tribes exempted). The application process places more emphasis on diversity, equity, inclusion, and public access. For more information, please contact Simen Kaalstad, ACFHP Director, at [skaalstad@asmfc.org](mailto:skaalstad@asmfc.org).

## **HORSESHOE CRAB MANAGEMENT BOARD (OCTOBER 16, 2023)**

### ***Press Release***

## **Horseshoe Crab Board Sets 2024 Specifications for Delaware Bay-Origin Horseshoe Crabs**

Beaufort, NC – The Commission’s Horseshoe Crab Management Board approved harvest specifications for Delaware Bay-origin horseshoe crabs. Taking into consideration the output of the Adaptive Resource Management (ARM) Framework Revision, the Board set a harvest limit of 500,000 male and zero female Delaware Bay-origin horseshoe crabs for the 2024 season.

“The Board stands behind the ARM Framework Revision as the best available tool to set harvest limits for horseshoe crabs of Delaware Bay-origin. As a result of its use, the Delaware Bay horseshoe crab population has been increasing, with abundance of both female and male horseshoe crabs in the Delaware region at an all-time high since 2003. Despite this positive finding, the Board elected to implement zero female horseshoe crab harvest for the 2024 season as a conservative measure, considering continued public concern about the status of the red knot population in the Delaware Bay,” stated Board Chair John Clark of Delaware.

To make up for the lost harvest of larger female crabs, the Board agreed to increase Maryland and Virginia’s male harvest quotas with an offset ratio of 2:1 males to females. Using the allocation methodology established in Addendum VIII, the following quotas were set for New Jersey, Delaware, Maryland, and Virginia:

	<b>Delaware Bay-Origin Horseshoe Crab Quota (no. of crabs)</b>	<b>Total Quota**</b>
<b>State</b>	<b>Male Only</b>	<b>Male Only</b>
Delaware	173,014	173,014
New Jersey	173,014	173,014
Maryland	132,865	255,980
Virginia*	21,107	81,331

\*Virginia harvest refers to harvest east of the COLREGS line only

\*\*Total harvest quotas for Maryland and Virginia include crabs which are not of Delaware Bay origin.

As part of its ongoing discussions regarding how best to manage Delaware Bay-origin horseshoe crabs and in response to the Stakeholder Survey, the Board will move forward with a Horseshoe Crab Management Objectives Workshop. The Workshop will include a small group of managers, scientists, and stakeholders to explore different management objectives for the Delaware Bay-origin horseshoe crab, with a focus on multi-year specification setting and modeling approaches when selecting no female harvest. The intent would be to provide a report to the Board in time for the 2025 specification setting process next fall. For more information, please contact Caitlin Starks, Senior Fishery Management Coordinator, at [cstarks@asmfc.org](mailto:cstarks@asmfc.org) or 703.842.0740.

PR23-25

### ***Meeting Summary***

In addition to setting Delaware Bay-origin harvest specifications for 2024, the Board considered the results of stakeholder survey on Delaware Bay management objectives, received a report on synthetic endotoxin testing reagents, approved the Fishery Management Plan (FMP) Review for the 2022 fishing year, and appointed a new Advisory Panel member.

In May 2023 the Board formed a work group to develop a survey to be distributed to stakeholders to guide the Board in evaluating management objectives for the Delaware Bay horseshoe crab bait fishery, and whether to consider future changes to management. The survey was distributed to stakeholders from the Delaware Bay states (New Jersey, Delaware, Maryland, and Virginia) including bait harvesters and dealers, fishermen who use horseshoe crab as bait, biomedical fishery and industry participants, and environmental groups. The results of the survey suggest the harvest of female horseshoe crabs does hold value for commercial fishery, and there is interest across stakeholder groups in modifying the management program for the Delaware Bay region.

Staff provided information on the synthetic alternatives to LAL, the endotoxin testing reagent derived from horseshoe crab blood, as requested by the Board. Recently, an expert committee of the US Pharmacopeia (USP) proposed a new standard including additional techniques for bacterial endotoxin testing using non-animal derived reagents, including recombinant Factor C (rFC) and recombinant cascade reagents (rCR). It also would provide information for manufacturers of new and existing biopharmaceuticals on how to incorporate them into their quality testing. The Board requested that a subject matter expert from the USP or the Food and Drug Administration attend a future meeting to provide additional detail on the efficacy of rFC and rCR compared to LAL.

The Board approved the FMP Review and state compliance reports for horseshoe crab for the 2022 fishing year, as well as *de minimis* status for South Carolina, Georgia, and Florida. Additionally, it approved the nomination of Sam Martin, a commercial fisherman for Maryland.

For more information, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at [cstarks@asmfc.org](mailto:cstarks@asmfc.org) or 703.842.0740.

### ***Motions***

**Move to accept the 2024 Adaptive Resource Management harvest specifications with 500,000 males and no female harvest on Delaware Bay-origin crabs. In addition, the 2:1 offset will be added to MD's and VA's allocations due to no female harvest.**

Motion made by Ms. Madsen and seconded by Mr. Pugh. Motion passes by unanimous consent.

**Move to use the Stakeholder Survey Report as a basis for a Horseshoe Crab Management Objectives workshop, which would include a small group of managers, scientists, and stakeholders to explore different management objectives for the Delaware Bay-origin horseshoe crabs. This workshop should focus on multi-year specification setting and modeling approaches when selecting no female harvest. The intent would be to provide a report to the full Board in time for the 2025 specification setting process.**

Motion made by Ms. Madsen and seconded by Mr. Cimino. Motion passes by unanimous consent.

**Move to approve the FMP Review, state compliance reports, and *de minimis* requests for South Carolina, Georgia, and Florida for the 2022 fishing year.**

Motion made by Mr. Luisi and seconded by Mr. Hasbrouck. Motion passes by unanimous consent.

**Move to approve Advisory Panel nomination for Sam Martin from Maryland.**

Motion made by Mr. Luisi and seconded by Ms. Madsen. Motion passes by unanimous consent.

**Move to task the Adaptive Resource Management Subcommittee with preparing a response to the September 2023 review of the ARM Framework by Dr. Kevin Shoemaker.**

Motion made by Mr. Hyatt and seconded by Mr. Luisi. Motion passes by unanimous consent.

**SHAD & RIVER HERRING MANAGEMENT BOARD (OCTOBER 16, 2023)**

***Meeting Summary***

The Shad and River Herring Management Board met to receive a progress update on the River Herring Benchmark Stock Assessment and consider the Fishery Management Plan (FMP) Review for the 2022 fishing year.

The Board received an update on the River Herring Benchmark Stock Assessment. The Assessment Workshop was held from August 21-25, 2023. The Stock Assessment Subcommittee determined that the current timeline was not feasible, given the remaining workload, and recommended shifting the completion of the assessment forward one meeting week cycle. Instead of being peer-reviewed in Winter 2023 for presentation to the Board in February 2024, the assessment will now be peer-reviewed in early spring 2024 and presented to the Board at the Spring Meeting in May 2024.

The Board also reviewed the FMP Review and state compliance reports for the 2022 fishing year. In 2022, river herring landings were approximately 2.82 million pounds, which was a 34% increase from 2021, including approximately 2,600 pounds in bycatch landings. However, the Plan Review Team (PRT) noted that inconsistent sources of bycatch data between states make it difficult to evaluate bycatch annually. Non-confidential American shad landings totaled an estimated 110,027 pounds, a 44% decrease from 2021. Bycatch landings decreased by 75% to represent 7.5% of the total commercial landings. Hickory shad landings amounted to an estimated 98,962 pounds, a 0.5% decrease from 2021, although bycatch landings increased by 40% to represent 3% of commercial landings. The PRT noted that a number of states could not complete the monitoring requirements of Amendments 2 and 3 due to persistent funding and staffing issues, among some other minor issues with the compliance format. However, the PRT did not consider any of the issues significant. Therefore, the Board approved the 2022 FMP Review, state compliance reports, and *de minimis* requests.

For more information contact James Boyle, Fishery Management Plan Coordinator at [jboyle@asmfc.org](mailto:jboyle@asmfc.org).

***Motions***

**Move to approve the Shad and River Herring Fishery Management Plan Review and state compliance reports, and *de minimis* requests for ME, NH, MA, and FL for American shad and NH, GA, and FL for river herring for the 2022 fishing year.**

Motion made by Mr. Grout and seconded by Mr. Woodward. Motion passes by unanimous consent.

## **ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM COORDINATING COUNCIL (OCTOBER 17, 2023)**

### ***Meeting Summary***

The Atlantic Coastal Cooperative Statistics Program (ACCSP) Coordinating Council met to consider the FY2024 Partner and Administrative proposals and the Citizen Science SciFish Policies.

The Council voted to fund the ACCSP Administrative grant as base plus option 2 for required software platform development. The Council voted to support six maintenance proposals for FY2024 ranked and recommended by the Advisory and Operations Committees. The Council voted to fully support three new proposals and two proposals (from MAMFC and RI) at reduced scope to make the most progress with limited resources. The Council noted appreciation to the Operations and Advisors Committees for their work to rank proposals and provide thoughtful recommendations to utilize both the annual funding as well as \$250K unallocated funds from previous years.

The Council also approved the ACCSP Citizen science policies document for SciFish, allowing for creation of the SciFish Advisory panel and preparing for implementation of the SciFish application and project builder in the first half of 2024.

The Council was presented an update of ACCSP program activities, including software development timelines, updated on the Biological and Bycatch data collection program inventories now searchable in the ACCSP Data Warehouse, and the need for more Advisors to be appointed by Council members. For more information, please contact Geoff White, ACCSP Director, at [Geoff.White@accsp.org](mailto:Geoff.White@accsp.org).

### ***Motions***

**Move to approve the FY2024 ACCSP Administrative grant as the base budget inclusive of Option 2 (\$50K) for a total of \$2,310,327.**

Motion made by Mr. Carmichael and seconded by Ms. Burgess. Motion passes (19 in favor).

**Move to approve the top six (6) FY2024 ACCSP Maintenance projects as recommended by the Operations Committee and Advisors, including \$65,819 of the \$250K carry-over funds.**

Motion made by Ms. Salmon and seconded by Ms. Braun. Motion passes (20 in favor).

### ***Main Motion***

**Move to accept the recommendations of the operations committee with the modification of funding both the MAFMC proposal “Improving Catch and Effort Data Collection from Recreational Tilefish Anglers” and the RIDEM proposal “The Economic Impact of Rhode Island’s Fishing Industry” per the agreement these two entities reached to alter their funding request to not exceed the new proposal allocation.**

Motion made by Mr. McKiernan and seconded by Ms. Zobel. Motion amended.

### **Motion to Amend**

**Motion to amend to add “if Rhode Island Department of Environmental Management (RIDEM) and the Mid-Atlantic Fishery Management Council (MAFMC) are unable to reach an agreement on how to split the funds the final arbitrator would be the ACCSP Leadership Committee.”**

Motion made by Ms. Burgess and seconded by Ms. Ware. Motion passes (20 in favor).

### **Main Motion as Amended**

**Move to accept the recommendations of the operations committee with the modification of funding both the MAFMC proposal “Improving Catch and Effort Data Collection from Recreational Tilefish Anglers” and the RIDEM proposal “The Economic Impact of Rhode Island’s Fishing Industry” per the agreement these two entities reached to alter their funding request to not exceed the new proposal allocation. If RIDEM and MAFMC are unable to reach an agreement on how to split the funds the final arbitrator would be the ACCSP Leadership Committee**

Motion passes by unanimous consent.

**Move to approve early funding option (November 2023) be used for Option 2 of the Administrative Grant (\$50,000) and for the new SC DNR project to add HMS fields to VESL (\$112,900).**

Motion made by Ms. Burgess and seconded by Mr. Carmichael. Motion passes by unanimous consent.

**Motion to approve the SciFish Policies and launching of the SciFish Project Builder and application.**

Motion made by Mr. Carmichael and seconded by Mr. Clark. Motion passes by unanimous consent.

## **LAW ENFORCEMENT COMMITTEE (OCTOBER 17 & 18, 2023)**

### ***Meeting Summary***

The Law Enforcement Committee (LEC) conducted a hybrid meeting during the Commission’s 81<sup>st</sup> Annual Meeting in Beaufort, NC. The committee welcomed LTC. Jeff Sabo as the new representative from the Pennsylvania Fish and Boat Commission.

### ***Species Issues***

**American Lobster** – The LEC discussed the status of the trigger indices under Addendum XXVII of Amendment 3 of the American Lobster Fishery Management Plan. Every October the American Lobster Management Board reviews trawl and ventless trap survey results to see if the 35% decline in the recruit abundance has occurred. If the 35% decline in the recruit abundance is reached, then the following management consideration will take effect.

- **1<sup>st</sup> Gauge Increase** – The first 1/16<sup>th</sup> of an inch gauge increase will take effect June 1<sup>st</sup> of the year after a determination by the Board that a 35% decline in recruitment abundance has occurred.
- **2<sup>nd</sup> Gauge Increase** – On June 1<sup>st</sup>, three years after the Board’s determination, the second 1/16<sup>th</sup> of an inch gauge increase for LMA1 harvesters will take effect.
- **Escape Vent Increase** – On June 1<sup>st</sup>, four years after the Board’s determination, lobster trap escape vent size increases will take effect.

The Committee was updated on the actions of the American Lobster Management Board in extending Addendum XXVII Implementation date to January 1, 2025.

**Atlantic Striped Bass** – Toni Kerns updated the LEC on the status of Draft Addendum II to Amendment 7 of the Atlantic Striped Bass ISFMP. Specific discussion was on the proposed compliance measures found in Section 3.0 of the Draft Addendum. The LEC looks forward to providing comments at the appropriate time on the specific management options.

**Tautog Tagging Study** – The LEC was briefed by staff on the status of the Tautog Tagging Study being conducted by the Technical Committee and the State of New York. The study will assess the varied types of tags in different environments. This study is to be completed in late 2023 with recommendations to the Tautog Management Board in 2024. The goal behind this study is to identify a tag for use that will not damage a fish in the live market and hold the appropriate information necessary for tracking within the fishery.

**Spiny Dogfish** – Staff provided information on actions taken by the Mid-Atlantic and New England Fishery Management Councils to reduce sturgeon bycatch in the several federal large mesh gillnet fisheries. The LEC discussed the following topics:

- In response to the 2021 Biological Opinion and 2022 Action Plan to Reduce Atlantic Sturgeon Bycatch in Federal Large Mesh Gillnet Fisheries, a joint FMAT/PDT of the New England and Mid-Atlantic Fisheries Management Councils formed to develop a range of alternatives to reduce sturgeon bycatch in the monkfish and spiny dogfish fisheries.
- Review Progress and Timeline Updates on the Mid-Atlantic and New England Fishery Management Councils' Joint Action on the Spiny Dogfish Fishery to Reduce Atlantic Sturgeon Bycatch.

### **Other issues**

Members reviewed the current ASMFC document *Guidelines for Resource Managers on the Enforceability of Fishery Management Measures* (August 2015). This document has not been updated since 2015. With the always evolving strategies to address the development of fishery management plans, the LEC wished to keep this document relevant for the fishery managers of today. The LEC assigned a subcommittee in the Spring 2023. This subcommittee conducted three meetings over the summer months and has prepared a draft document for review and consideration by the full LEC. The next step will be to score and prioritize the management measures contained in the document. This will occur in late 2023, with a goal of this Boards approval in early 2024.

A presentation of the second phase of the NACLELA/ICCA Wildlife Officer Exchange Program was offered. In this phase the US agency representative travelled to the foreign nation to learn about their respective program. This program is of interest as the Chair of the LEC, Deputy Chief Jason Snellbaker (NJ) was invited by the organizers to participate in this program in his role as a state officer and a NACLELA graduate. This exchange was with an ICCA graduate from the Fisheries Compliance and Enforcement agency of Belize. Deputy Chief Jason Snellbaker shared his experience of traveling to Belize and learning about their fishery enforcement program. This shared experience helped to increase international collaboration and individual capacity to address wildlife crime globally.

The Committee also discussed how best to utilize the [Interstate Wildlife Violators Compact](#). Specifically, how best to share license sanctions among participating jurisdictions. For example, if the



State of Maine were to issue a license sanction for a violation of their regulations; the State of New Hampshire or Massachusetts or any compact partnered state with like regulation, can also revoke the privilege of this same fisher in their state. This would be based on the Maine suspension. For our member state agencies, this is an unused resource that could help protect our marine fisheries and offer a deterrent.

A closed session of our meeting was afforded to openly discuss new and emerging law enforcement issues. Respective agencies were provided time to highlight their agencies and offer current enforcement efforts. For more information, please contact Kurt Blanchard, LEC Coordinator, at [kurt.blanchard@verizon.net](mailto:kurt.blanchard@verizon.net).

## **ATLANTIC MENHADEN MANAGEMENT BOARD (OCTOBER 17, 2023)**

### ***Meeting Summary***

The Atlantic Menhaden Management Board met to receive an update on the ecological reference point (ERP) benchmark stock assessment, review the Virginia Chesapeake Bay Menhaden Study Design Report, and consider approval of the 2022 Fishery Management Plan (FMP) Review.

The Board received an update on the ERP Benchmark Stock Assessment. The ERP Workgroup met in October to conduct a Data and Methods Workshop to review new data sources; discuss high priority updates to the ecosystem models, including identifying potential new predators to add to the model; and discuss ongoing ecosystem indicator work in Maryland and Virginia. The ERP Benchmark Stock Assessment is scheduled to be presented to the Board at the 2025 Annual Meeting.

The Board reviewed the Virginia Chesapeake Bay Menhaden Study Design Report from the Virginia Institute of Marine Science (VIMS). In response to public concerns about the impacts of Atlantic menhaden commercial fishing in Chesapeake Bay, the Virginia General Assembly passed legislation that directed VIMS to develop a plan for studying Atlantic menhaden in Virginia waters. The Report outlines priority research recommendations, including methodologies, appropriate research agencies, collaborative stakeholders, timelines, and costs associated with those recommendations.

The Board approved the FMP Review for the 2022 fishing year, as well *de minimis* requests from Pennsylvania, South Carolina, Georgia, and Florida. The coastwide total allowable catch (TAC) for the 2022 fishing year was 194,400 mt. According to state compliance reports, total catch in 2022 including directed, incidental/small-scale fishery (IC/SSF), and episodic event set aside (EESA) landings was approximately 195,387 mt. IC/SSF landings, which did not count towards the coastwide TAC, amounted to an estimated 8,156 mt representing a 46% increase from 2021. Therefore, non-incidentals landings in 2022 totaled 187,231 mt, which is approximately 96% of the coastwide TAC and a 1% decrease from 2021. While bait landings increased from 2021, reduction landings decreased by 2%.

The Plan Review Team questioned whether the current 10-fish biological sampling requirement is sufficient to categorize the impact of the commercial gear types on the menhaden population and whether it is appropriate for states to substitute fishery-independent data. Staff reported that



these issues will be evaluated as part of the 2025 Atlantic Menhaden Single-Species Stock Assessment Update. For more information contact James Boyle, Fishery Management Plan Coordinator at [jboyle@asmfc.org](mailto:jboyle@asmfc.org).

### **Motions**

**Move to approve the Fishery Management Plan Review, state compliance reports, and *de minimis* requests for PA, SC, GA, and FL for Atlantic menhaden for the 2022 fishing year.**

Motion made by Mr. Hasbrouck and seconded by Mr. Miller. Motion passes by unanimous consent.

## **COASTAL PELAGICS MANAGEMENT BOARD (OCTOBER 17, 2023)**

### ***Meeting Summary***

The Coastal Pelagics Management Board met to receive an update on the 2025 SouthEast Data, Assessment, and Review (SEDAR) stock assessment for Atlantic cobia; set state waters recreational management measures for Atlantic cobia for the 2024 fishing year; receive a Cobia Technical Committee (TC) report regarding reallocation of recreational quota; and receive an update from the South Atlantic Fishery Management Council (SAFMC) regarding Framework Amendment 13 to the Coastal Migratory Pelagics (CMP) Fishery Management Plan (FMP) and upcoming mackerel port meetings.

The Board received a presentation on the status of the upcoming stock assessment for Atlantic cobia, which is scheduled to be peer reviewed in 2025 through the SEDAR process. The 2025 cobia assessment will function differently from SEDAR 58, the previous assessment for the species. Significant participation from the Commission and state staff will require the Board to establish an Atlantic Cobia Stock Assessment Subcommittee (SAS). The assessment will face a number of challenges including, but not limited to, the loss of the sole abundance index for the species and the need to consider new data sources and modeling frameworks. Additionally, as part of the stock assessment, the Cobia TC has expressed interest in reexamining the management boundary for Atlantic cobia which currently sits at the Florida Georgia state line. The 2025 stock assessment for Atlantic cobia is expected to be presented to the Board in early 2026.

Next, the Board received a TC report and recommendation for setting state waters recreational management measures in 2024. Typically, the TC would determine state management measure changes through comparing each state's recent harvest to state harvest targets. However, this year, in addition to harvest target evaluations, the Board also tasked the TC with reviewing the impacts of status quo recreational management measures. Ultimately, the Board agreed with the TC recommendation, and chose to maintain status quo state waters recreational management measures for the 2024 fishing season.

The second TC report to the Board focused on recent trends in state and regional cobia landings compared to harvest targets. The TC noted current recreational allocations are calculated based on states' percentages of coastwide landings through 2015. However, harvest patterns since 2015 appear to have changed such that a majority of cobia harvest now occurs outside of the Southeast region. The TC recommended the Board consider taking action to address recreational quota reallocation of Atlantic cobia, but noted the timing of Board action should consider upcoming

changes to the Marine Recreational Information Program Fishing Effort Survey and the potential for a stock boundary reexamination alongside the next stock assessment. After receiving the TC report and recommendation, the Board initiated an addendum to address recreational Atlantic cobia quota reallocation. The Board recommended the Plan Development Team (PDT) explore options to consider the seasonality of the species in various regions, reevaluate what a soft target is, and if state-by-state soft targets are appropriate for managing pulse fisheries like Atlantic cobia. The Board will form a PDT following the Commission's Annual Meeting, and will receive an update from the PDT and better define addendum alternatives at the Commission's next meeting in January.

Lastly, the Board received an update from SAFMC regarding upcoming mackerel port meetings and CMP Framework Amendment 13. CMP Framework Amendment 13 will adopt the new acceptable biological catch (ABC) level for Spanish mackerel and is expected to be approved in June 2024. Mackerel port meetings are expected to start in Spring 2024, and will serve as pre-scoping for an upcoming SAFMC plan amendment addressing management of Atlantic Spanish mackerel.

For more information, please contact Chelsea Tuohy, Fishery Management Plan Coordinator, at [ctuohy@asmfc.org](mailto:ctuohy@asmfc.org).

### ***Motions***

#### **Move to maintain status quo state waters recreational management measures for Atlantic cobia for the 2024 fishing season.**

Motion made by Ms. Madsen and seconded by Mr. Woodward. Motion passes by unanimous consent (Roll call: In favor – RI, NY, DE, MD, PRFC, VA, NC, SAFMC; Abstentions – FL, NOAA Fisheries; Null – GA, SC).

#### **Move to initiate an addendum addressing recreational Atlantic cobia quota reallocation. The Board recommends that the Plan Development Team explore options outside of the current state-by-state quota allocation system, specifically a coastwide soft target with regional management measures designed to meet the coastwide soft target while considering the need for fishing opportunity based on the seasonality of the species in various regions.**

Motion made by Ms. Madsen and seconded by Mr. Batsavage. Motion passes (9 in favor, 2 null, 2 abstentions).

#### **Move to elect Mr. Spud Woodward from Georgia as the Vice Chair of the Coastal Pelagics Management Board.**

Motion made by Mr. Batsavage and seconded by Dr. Rhodes. Motion passes by unanimous consent.

### **COASTAL SHARKS MANAGEMENT BOARD (OCTOBER 17, 2023)**

#### ***Meeting Summary***

The Coastal Sharks Management Board met to consider a process to set 2024 specifications. NOAA Fisheries Highly Migratory Species Division published the proposed 2024 Atlantic shark specifications in August. The proposed rule includes a start date of January 1 for all shark management groups, with quota levels and possession limits remaining unchanged from 2023. The proposed initial 2024 possession limit for the aggregate large coastal sharks (LCS) other than sandbar is 55 sharks per vessel trip, and the initial possession limit for blacknose sharks is eight

sharks per vessel trip. NOAA Fisheries may reduce the retention limits as needed to ensure the quotas are not exceeded. The proposed rule also considers options for the 2024 and future fishing years to automatically open the commercial fishing year on January 1 of each year under the base quotas and default retention limits, and to increase the default commercial retention limit for the LCS fisheries. Upon the release of NOAA's final rule later this year, the Board will set the 2024 coastal shark specifications via an email vote.

Additionally, the Board elected Mike Luisi as Vice-Chair. For more information, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator at [cstarks@asmfc.org](mailto:cstarks@asmfc.org).

### ***Motions***

**Move to approve the 2024 coastal sharks specifications via an email vote after NOAA Fisheries publishes the final rule for the 2024 Atlantic Shark Commercial Fishing season.**

Motion made by Mr. Clark and seconded by Mr. Luisi. Motion approved by unanimous consent.

**Move to nominate Mike Luisi as Vice Chair of the Coastal Sharks Board.**

Motion made by Mr. Clark and seconded by Ms. Meserve. Motion approved by unanimous consent.

## **EXECUTIVE COMMITTEE (OCTOBER 18, 2023)**

### ***Meeting Summary***

The Executive Committee (EC) met to discuss several issues, including the FY23 Audit, an increase to the per diem allowance; an update on Consolidated Appropriations Act (CAA) and a Legislative Committee update. The following action items resulted from the Committee's discussions:

- The FY23 Audit was reviewed by the Administrative Oversight Committee (AOC) and forwarded to the Executive Committee with a recommendation for approval. The motion to approved unanimously.
- Staff presented a report on the potential for an increase in Per Diem rates for Commission meetings. The increase would be from Commission General and Administrative (G&A) funds, not federal funds. Staff presented an analysis of the impact this increase would have on the Commission budget and it was determined to be less than \$15,000 annually. A motion was made to implement this change and it passed.
- Staff presented the Executive Committee with multiple legislative updates per the recommendation of the Legislative Committee. Topics included: the speakership battle and its potential impacts on the budget, the Recovering America's Wildlife Act, the FISHES Act, unconfirmed upcoming priorities for Congress, and updates on internal Commission planning documents.
- Staff gave an update on the Consolidated Appropriations Act (CAA) funds. CAA has approximately \$7 million remaining and the states are expected to disburse it all by July 31, 2024.
- Mr. Keliher presented an overview of the American Unagi aquaculture facility in Hancock County, Maine. The facility is highly effective in growing out glass eels to supply the domestic unagi market.

For more information, please contact Laura Leach, Director of Finance & Administration, at [lleach@asmfc.org](mailto:lleach@asmfc.org).

### **Motions**

**On behalf of the Administrative Oversight Committee, move acceptance of the FY23 Audit.**

Motion made by Joe Cimino. Motion passes unanimously.

**Move the Commission approve a 30% increase to the per diem allowance which will come from G&A, not federal funds.**

Motion made by Mr. Abbott and seconded by Mr. Miller. Motion passes (14 in favor, 1 opposed, 1 abstention).

### **BUSINESS SESSION OF THE COMMISSION (OCTOBER 18, 2023)**

#### **Press Release**

### **Joseph Cimino Elected ASMFC Chair**

Beaufort, NC – Yesterday, member states of the Atlantic States Marine Fisheries Commission (Commission) thanked Spud Woodward of Georgia for an effective two-year term as Chair and elected Joseph Cimino of New Jersey to succeed him.

“I’m honored to be chosen by my fellow Commissioners to lead our efforts for the next two years. One of my priorities will be to work with my colleagues in the states and federal agencies to seek resources to fund fundamental fisheries data collection and science activities to support our management programs. Other topics that will be the focus over the next two years will be our ability to adapt to climate-induced changes in fisheries and how best to respond to the possible recalibration of recreational fishing effort and harvest data from the Marine Recreational Information Program Fishing Effort Survey,” said Mr. Cimino.

Mr. Cimino continued, “I want to thank outgoing Chair, Spud Woodward for his commitment to updating our foundational guidance documents on our Appeals Process, *De Minimis* Policy, and Conservation Equivalency Guidelines. These clearly articulated guidelines and processes are fundamentally important to ensuring that we treat each other fairly and without undue burden in the management process. Newly elected Vice-chair Dan McKiernan and I will strive to emulate his success by working with our stakeholders, state, federal, and academic partners, Congress, and especially Bob Beal and the outstanding staff to ensure *Cooperative and Sustainable Management of Atlantic Coastal Fisheries* is not just a vision statement but a reality.”

Under Mr. Woodward’s leadership, the Commission made important strides in furthering its strategic goals. Management accomplishments over the past two years include decisive action to initiate rebuilding of Atlantic striped bass; the adoption of a new amendment for summer flounder, scup and black sea bass to address the reallocation of the resource between commercial and recreational



sectors; approved changes to the management of recreational fisheries for bluefish, summer flounder, scup and black sea bass through adoption of recreational measures setting process; and the approval of new addenda for American lobster, Atlantic menhaden, and horseshoe crab – all with the shared goal of providing the states and their stakeholders fair access to these resources while ensuring the species' health and long-term sustainability. An outstanding number of benchmark stock assessments and assessment updates were completed, including American eel, Atlantic menhaden, Atlantic striped bass, black drum, bluefish, Jonah crab, winter flounder, and revision to the Adaptive Resource Management Framework.

Working with the three East Coast Regional Fishery Management Councils and NOAA Fisheries, significant progress was also made on how fisheries managers can best address changing fish stock availability or distribution caused by climate change with the development of potential governance and management actions that could help prepare fishery management organizations for future challenges related to climate change.

Further, advances in habitat conservation were made by the Atlantic Coastal Fish Habitat Partnership (ACFHP) through its funding of seven on-the-ground projects, which will open over 40 river miles and conserve over 300 acres of fish habitat. These include dam removal and fishway projects in New Jersey and Massachusetts, as well as saltmarsh and seagrass restoration projects in North Carolina and Florida. ACFHP also partnered with the Southeast Aquatic Resources Partnership and The Nature Conservancy to spatially prioritize fish habitat conservation sites through GIS mapping and analyses for the Atlantic region of the U.S. from Maine to Florida.

From a data collection and management perspective, the Atlantic Coastal Cooperative Statistics Program (ACCSP) also made progress under Mr. Woodward's leadership. ACCSP supported 27 partner agency data collection projects, and expanded the scope and security of the ACCSP Data Warehouse. ACCSP established citizen science policies and data collection systems including SciFish; supported implementation of the SouthEast For-Hire Integrated Electronic Reporting system; completed the Atlantic Regional Recreational Data Needs Implementation plan; and made progress on a methodology to more fully use for-hire logbooks in Marine Recreational Information Program's catch statistics.

Mr. Cimino directs the New Jersey Department of Environmental Protection's (NJDEP) Marine Resources Administration, which includes the bureaus of marine fisheries and marine habitat and shellfisheries. He represents the NJDEP at various inter- and intra-state meetings, including the New Jersey Marine Fisheries Council and the Delaware Bay and Atlantic Shellfisheries Councils, the Mid-Atlantic Fishery Management Council, and the Atlantic States Marine Fisheries Commission, where he has represented the State of New Jersey since 2019 and prior to that the Commonwealth of Virginia from 2015-2018. Mr. Cimino directs the research and monitoring programs of the Administration to ensure they provide the information necessary for sound management of marine and shellfish resources. He started his marine fisheries career as a seasonal technician for New York State Department of Environmental Conservation's Hudson River Fisheries Unit, he then spent two years with North Carolina's Division of Marine Fisheries. During his 14 years with the Virginia Marine Resources Commission, he held various roles, ultimately finishing his time there as the Deputy Chief of Fisheries. Mr. Cimino has degrees from SUNY Cobleskill and Plattsburgh in Fisheries and Wildlife Technology and Environmental Science, respectively.

The Commission also elected Dan McKiernan, Director of Massachusetts Division of Marine Fisheries, as its Vice-Chair.

###

PR23-27

### ***Meeting Summary***

In addition to electing new leadership, the Commission reviewed and approved the 2024 Action Plan, which guides the Commission's activities over the next year. It also received a brief overview of the Draft 2024-2028 Strategic Plan, which will be considered for final action in January at the Commission's Winter Meeting. For more information, please contact Robert Beal, Executive Director, at [rbeal@asmfc.org](mailto:rbeal@asmfc.org).

### ***Motions***

#### **Motion to approve the 2024 Action Plan.**

Motion made by Mr. Keliher and seconded by Mr. Clark. Motion carries without objection.

#### **On behalf of the nomination committee, move to elect Joe Cimino as ASMFC Chair.**

Motion made by Mr. Keliher. Motion unanimously approved.

#### **On behalf of the nomination committee, move to elect Dan McKiernan as ASMFC Vice-Chair.**

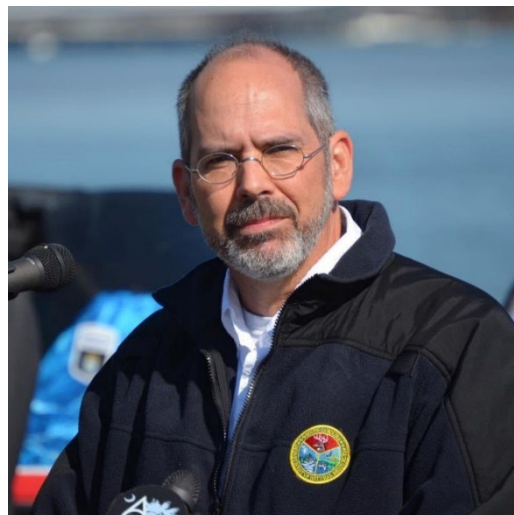
Motion made by Mr. Keliher. Motion unanimously approved.

### **CAPTAIN DAVID H. HART AWARD (OCTOBER 18, 2023)**

#### ***Press Release***

#### **Robert H. Boyles, Jr. Named 2023 Captain David H. Hart Award Recipient**

Beaufort, NC – At its 81<sup>st</sup> Annual Meeting in Beaufort, North Carolina, the Atlantic States Marine Fisheries Commission presented Robert H. Boyles, Jr., Director of the South Carolina Department of Natural Resources, the Captain David H. Hart Award for 2023 for his longstanding contributions to and exceptional leadership towards the sustainable management of marine resources along the Eastern seaboard. The Commission instituted the Hart Award in 1991 to recognize individuals who have made outstanding efforts to improve Atlantic coast marine fisheries. The Hart Award is named for one of the Commission's longest serving members, who dedicated himself to the advancement and protection of marine fishery resources, Captain David H. Hart, from the State of New Jersey.



For nearly three decades, Mr. Boyles has dedicated his career to the conservation and management of marine resources within his home state of South Carolina, within the South Atlantic region through his longstanding participation on the South Atlantic Fishery Management Council, and along the entire



Atlantic coast as Commissioner and past Chair and Vice-chair of the Atlantic States Marine Fisheries Commission (ASMFC). Robert was an ASMFC Commissioner from 2004 – 2020. Over that time, he was a thoughtful contributor to our process; chairing management boards for Atlantic menhaden, horseshoe crab, and South Atlantic species, as well as the Atlantic Coastal Cooperative Statistics Program Coordinating Council.

Over the five years that he served as Commission Chair and Vice-chair, he exemplified leadership through his innate ability to understand and facilitate the cooperative nature of the Commission’s Compact. He quickly became and will always be considered the senior statesman of the Commission, with a knack for poignantly quoting one of the nation’s founding members to refocus commissioners on addressing the fundamental question at hand. Mr. Boyles was an advocate for transparent decision making; a great supporter of the Commission, respecting the opinions of both senior veterans and new commissioners alike; and a promoter of unity among states, especially during difficult and contentious deliberations.

Mr. Boyles’ notable accomplishments include greater protection of shad and river herring, with the closure of state waters in the absence of approved sustainability management plans. He also advanced the Commission’s first multispecies approaches to management through the development of the horseshoe crab Adaptive Resource Management Framework and the inclusion of data on predator demands in the Atlantic menhaden stock assessment, setting us on the course for the current management of Atlantic menhaden through the use of ecological reference points.

Although his appointment as Director of the South Carolina Department of Natural Resources precluded his continued service to the Commission, Mr. Boyles continues to advocate for the protection of South Carolina’s Marine Resources through his directorship of the Department as well as serving on multiple national boards, including Chair of the Southeastern Association of Fish and Wildlife Agencies, Vice-Chair of the South Carolina Sea Grant Consortium, and Chair of the National Fish Habitat Board.

###

PR23-26

### **SPINY DOGFISH MANAGEMENT BOARD (OCTOBER 18, 2023)**

#### ***Meeting Summary***

The Spiny Dogfish Management Board met to review an update on the joint action of the Mid-Atlantic and New England Fishery Management Councils (Councils) to reduce sturgeon bycatch and to consider the Fishery Management Plan (FMP) Review for the 2022/2023 fishing year.

The Board received an update on the Councils’ joint action to reduce sturgeon bycatch in the monkfish and spiny dogfish fisheries. The Board reviewed the range of alternatives that were recently approved by both Councils. Final action on the alternatives is planned for April 2024. Accordingly, the Board will plan to review the final action and consider complementary action for state waters at the Spring Meeting in May 2024.

The Board was presented the FMP Review for the 2022/2023 fishing year. Commercial landings increased by 28% from 2021-2022 and were approximately 43% of the coastwide quota. Recreational harvest decreased by 41%, but dead discards increased by 8%, from the previous fishing year. The Board approved the FMP Review, state compliance, and *de minimis* requests from New York and Delaware. For more information, please contact James Boyle, FMP Coordinator, at [jboyle@asmfc.org](mailto:jboyle@asmfc.org).

### **Motions**

**Move to approve the Fishery Management Plan Review, state compliance reports, and *de minimis* requests for DE and NY for the 2022-2023 fishing year.**

Motion made by Mr. Kane and seconded by Mr. Clark. Motion approved by unanimous consent.

### **HABITAT COMMITTEE (OCTOBER 18 & 19, 2023)**

#### ***Meeting Summary***

The Commission's Habitat Committee met on October 18 & 19, following a field trip to the North River Wetlands Preserve that was hosted by Todd Miller from the North Carolina Coastal Federation. During the meeting, the Committee addressed the *Habitat Hotline Atlantic*; status of the current Acoustics Impacts Habitat Management Series document; and welcomed guest speakers, Bill Crowell and Judd Kenworthy from the Albemarle-Pamlico National Estuary Partnership. The discussion surrounding the next issue of the *Habitat Hotline Atlantic* focused on format, topics, and the necessity for following up with Commissioners and the broader audience in order to include the most relevant content. Notably, the Committee made progress in designating Fish Habitats of Concern (FHOC) for all Commission-only managed species. These designations were based on the ecological importance of the habitats, sensitivity to human-induced environmental degradation, potential stress from development activities, and habitat rarity. The FHOC document was approved by the ISFMP Policy Board. For more information, please contact Simen Kaalstad, ACFHP Director, at [skaalstad@asmfc.org](mailto:skaalstad@asmfc.org).

### **ATLANTIC STRIPED BASS MANAGEMENT BOARD (OCTOBER 18, 2023)**

#### ***Press Release***

#### **Atlantic Striped Bass Board Approves Draft Addendum II for Public Comment to Consider Measures to Reduce Fishing Mortality in 2024**

Beaufort, NC – The Commission's Atlantic Striped Bass Management Board approved for public comment Draft Addendum II to Amendment 7 to the Interstate Fishery Management Plan (FMP) for Atlantic Striped Bass. The Draft Addendum considers management measures designed to support stock rebuilding by reducing fishing mortality to the target in 2024.

The Board initiated the Draft Addendum in response to the low probability of meeting the 2029 stock rebuilding deadline if the unexpectedly high 2022 fishing mortality rate continues. The Draft Addendum builds upon the 2023 emergency action by considering management measures intended to reduce fishing mortality to the target level in 2024. Projections indicate that a 14.5% reduction in total removals relative to 2022 is needed to have a 50% chance of being at or below the fishing



mortality target in 2024. For the recreational fishery, the Draft Addendum proposes recreational bag and size limit options for the ocean and Chesapeake Bay regions, including options with different limits for the for-hire modes. To address concerns about recreational filleting allowances and compliance with recreational size limits, the Draft Addendum includes an option that would establish minimum requirements for states that authorize at-sea/shore-side filleting of striped bass (e.g., racks must be retained). For the commercial fishery, the Draft Addendum proposes a quota reduction option that would reduce commercial quotas by up to 14.5%, with the final percent reduction to be determined by the Board.

For measures beyond 2024, the Board will consider the results of the upcoming 2024 stock assessment update to inform subsequent management action. To enable an expedited management response to the 2024 stock assessment update, the Draft Addendum proposes an option that would enable the Board to respond to the results of the stock assessment updates more quickly, via Board action, if the stock is not projected to rebuild by 2029.

The Draft Addendum will be posted to the website no later than October 31<sup>st</sup> at <https://asmfc.org/about-us/public-input>. A subsequent press release will provide the details on the public hearing schedule and how to submit written comments. The Board will meet to review submitted comments and consider final action on the addendum in January 2024 at the Commission's Winter Meeting in Arlington, VA. For more information, please contact Emilie Franke, Fishery Management Plan Coordinator, at [efranke@asmfc.org](mailto:efranke@asmfc.org) or 703.842.0740.

###

PR23-27

### ***Meeting Summary***

In addition to approving Draft Addendum II for public comment, the Atlantic Striped Bass Management Board received an update on management of the Albemarle Sound-Roanoke River striped bass stock.

The Albemarle Sound-Roanoke River (A/R) striped bass stock is assessed and managed by North Carolina (NC) under the auspices of the Commission. NC provides regular updates to the Board regarding A/R stock assessments and management changes. The 2020 and 2022 A/R striped bass stock assessments determined the stock was overfished and experiencing overfishing, and abundance indices indicate continued stock decline. In particular, juvenile recruitment has been very low for several consecutive years. The resulting total allowable landings (TAL) level needed to reduce fishing mortality to its target is effectively too low to manage. For this reason and due to continued concern about stock decline and low recruitment, NC is implementing a harvest moratorium in the [Albemarle Sound Management Area](#) starting in 2024 via the adaptive management framework under Amendment 2 of the NC Estuarine Striped Bass FMP. In addition, the 2023 fall recreational and commercial seasons in the Albemarle Sound will not open because there is little quota remaining and because of stock status concerns. It is currently unknown if a harvest moratorium will be implemented in the Roanoke River Management Area.

Finally, the Board recognized outgoing Board Chair Marty Gary, New York's Administrative Commissioner and formerly with the Potomac River Fisheries Commission, for completing his two-year term as Board Chair. Vice-Chair Megan Ware, Maine's Administrative Proxy, will assume the Chair role at the January 2024 Board meeting. For more information, please contact Emilie Franke, Fishery Management Plan Coordinator, at [efranke@asmfc.org](mailto:efranke@asmfc.org).

### **Motions**

#### **Main Motion**

**Move to remove from section 3.1.2 (Chesapeake Bay Recreational Options) of Draft Addendum II, Alternative Set B (B1 - B4), Alternative Set C (C1-C4), and E4.**

Motion made by Mr. Luisi and seconded by Mr. Geer. Motion amended.

#### **Motion to Amend**

**Motion to amend to add E3 for removal.**

Motion made by Mr. Grout and seconded by Dr. Armstrong. Motion passes (10 in favor, 6 opposed).

**Move to remove from section 3.1.2 (Chesapeake Bay Recreational Options) of Draft Addendum II, Alternative Set B (B1 - B4), Alternative Set C (C1-C4), E4, and E3.**

Motion passes by unanimous consent.

**Motion to add the following options to section 3.1.1. Ocean Recreational Fishery:**

- **Option D. 1 fish at 30" to 33" with 2022 seasons (all modes) (12.8% overall reduction, 45% harvest reduction and 2% increase in release mortality)**
- **Option E. 1 fish at 30" to 33" with 2022 seasons for private vessel/shore anglers; 1 fish at 28"-33" with 2022 seasons for the for-hire mode**

Motion made by Dr. Davis and seconded by Mr. Cimino. Motion passes (15 in favor, 1 opposed).

#### **Main Motion**

**Move to specify that any for-hire mode specific limit optioned in Section 3.1, Recreational Fishery Management, applies only to patrons during a for-hire trip; captain and crew during a for-hire trip are subject to the private vessel/shore angler limits.**

Motion made by Dr. Armstrong and seconded by Mr. Clark. Motion amended.

**Motion to amend to replace "specify" with "add an option".**

Motion made by Mr. Grout and seconded by Mr. Hasbrouck. Motion passes (13 in favor, 1 opposed, 2 abstentions).

**Move to add an option that any for-hire mode specific limit optioned in Section 3.1, Recreational Fishery Management, applies only to patrons during a for-hire trip; captain and crew during a for-hire trip are subject to the private vessel/shore angler limits.**

Motion passes (12 in favor, 2 opposed, 2 abstentions).

**Motion to remove section 3.2.2 Commercial Maximum Size Limit options and 3.2.3 Gill Net Exemption options from Draft Addendum II.**

Motion made by Dr. Davis and seconded by Mr. Clark. Motion passes by unanimous consent.

**Motion to approve Draft Addendum II for public comment as modified today.**

Motion made by Mr. Hasbrouck and seconded by Dr. McNamee. Motion passes by unanimous consent.

**AMERICAN EEL MANAGEMENT BOARD (OCTOBER 19, 2023)**

***Meeting Summary***

The American Eel Management Board met to consider progress in the development of two Draft Addenda to address the coastwide commercial quota for yellow eel and Maine’s glass eel commercial quota for the 2025 fishing year and beyond, and a report from the Advisory Panel.

In August, the Board initiated two addenda. The first considers reducing the yellow eel commercial catch cap in response to the recent stock assessment finding that the coastwide stock is depleted. Specifically, the draft addendum will consider options for setting the coastwide cap using a new tool proposed in the assessment called *I<sub>TARGET</sub>*. *I<sub>TARGET</sub>* uses abundance indices and catch to recommend harvest levels aiming to achieve increases in stock abundance. The Plan Development Team (PDT) has met twice, and recommends that the addendum include an option using the configuration of *I<sub>TARGET</sub>* recommended in the assessment, and another using a more recent time series (1988-1999) as a reference period. The Board provided guidance to the PDT to add additional options, and provide clear rationales for each in the document.

The PDT working on the development of the draft addendum addressing Maine’s glass eel quota has met once to discuss potential management options, including status quo and a reduced quota. The PDT will provide recommended management options to the Board at its next meeting.

The Board also received a report from the Advisory Panel (AP). The AP met in September to review the recent benchmark stock assessment, receive an update on ongoing management actions, and provide comments on the fishery. Only three advisors were in attendance on the call, and they expressed concern about reduced participation in the AP.

For more information, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at [cstarks@asmfc.org](mailto:cstarks@asmfc.org).

***Motions***

No motions made.

**INTERSTATE FISHERIES MANAGEMENT PROGRAM POLICY BOARD (OCTOBER 19, 2023)**

***Meeting Summary***

The Interstate Fisheries Management Program (ISFMP) Policy Board met to receive an update from the Executive Committee (see Executive Committee Summary); consider changes to the Conservation Equivalency Guidance document; receive an update from NOAA Fisheries on Inflation Reduction Act funds for North Atlantic Right whales; review reports from the Assessment Science Committee, Law Enforcement Committee (see Law Enforcement meeting summary), Atlantic Coastal Fish Habitat

Partnership (see ACFHP meeting summary) and the Habitat Committee (see Habitat Committee meeting summary); and consider approval of Fish Habitats of Concern document, and other business.

### **Conservation Equivalency Guidance Document**

The Commission has been working to update the Conservation Equivalency (CE) Policy and Technical Guidance Document to reflect current use of CE and change the policy have more requirements verses recommendations. The new policy will not allow the use of CE programs if the stock is overfished or depleted unless the species board votes, via 2/3 majority, to allow for its use. The revised policy has guidance for when CE is not allowed, standards for state proposals, how the review process is conducted, and information on coordination with federal partners. The Policy Board approved the revised document, which will be available on the Commission website under [Guiding Documents](#) by the end of October.

### **North Atlantic Right Whale Funding from the Inflation Reduction Act**

The Department of Commerce and NOAA Fisheries announced next steps to conserve and recover endangered North Atlantic right whales (NARW) with [\\$82 million in funding](#). This funding will support the application of existing technologies (e.g., PAMs) and the development and implementation of technologies to enable vessels to detect and avoid NARW and other large whales. NOAA Fisheries will continue to develop and evaluate new technologies — such as those that use high-resolution satellite information — to enhance NARW monitoring and improve understanding of the whales’ distribution and habitat use. NOAA Fisheries will invest in four major areas over the next three years to include monitoring and computer modeling of whale distribution, vessel strike risk reduction, on-demand fishing gear, and enforcement efforts.

### **Assessment Science Committee Report**

The river herring assessment, originally scheduled to be presented to the Shad and River Herring Management Board in February 2024, has now been moved to May. Following the Assessment Workshop in August, the Stock Assessment Subcommittee decided that it needed more time. The spot and croaker benchmark assessments, which are usually conducted together have been uncoupled. The assessment for Atlantic croaker will be completed in 2024, while spot assessment has been moved to 2025. The shift in completion of the spot assessment was made because the stock synthesis lead moved on to a new job and there is no one to immediately replace them. Additionally, there is a project being conducted on spot at the University of Maryland that follows a concurrent timeline as the new spot assessment schedule which could prove useful. The Policy Board approved the revised Commission assessment schedule.

The Board reviewed and approved the Fish Habitats of Concern Document prepared by the Habitat Committee. The document describes the regulatory and policy context for habitat descriptions in interstate fishery management plans. It also provides descriptions of fish habitats of concern for species managed only by the Commission.

### **Other Business**

The Policy Board discussed recent actions by the New England and Mid-Atlantic Fishery Management Councils (Councils) requesting information on an industry-based survey from the Northeast Fisheries Science Center (NEFSC). The Commission supported the Councils’ concerns that the Center’s survey

may have continued difficulties in gathering the necessary data to support the activities of the Councils' and Commission. The Commission agreed to send a letter to the NEFSC requesting the Center complete a white paper by January 12, 2024 outlining an industry-based survey that is complementary to the Spring and Autumn Bottom Trawl Surveys.

Staff will solicit information from the states in order to quantify pot fisheries that use horseshoe crab as bait along the coast. This information will be presented to the Horseshoe Crab Management Board at its next meeting.

Lastly, staff updated the Board on a [webinar the MAFMC](#) will conduct on November 1, from 2-5 p.m., to solicit stakeholder input on several summer flounder regulations related to commercial minimum mesh sizes and their exemptions. For more information, please contact Toni Kerns, Fisheries Policy Director, at [tkerns@asmfc.org](mailto:tkerns@asmfc.org).

### **Motions**

**Move to delete “come from a period of high availability” from the closed period guidance of the document. The new sentence would read: Any closed period must include at least two consecutive weekend periods (Friday, Saturday and Sunday).**

Motion made by Dr. Davis and seconded by Mr. Haymans. Motion passes by unanimous consent.

### **Main Motion**

**Move to approve the 4<sup>th</sup> option for inclusion in the document for when CE is not allowed.**

Motion made by Dr. McNamee and seconded by Mr. Clark. Motion amended.

### **Motion to Amend**

**Move to amend to replace the 4<sup>th</sup> with 3<sup>rd</sup> option.**

Motion made by Mr. Batsavage and seconded by Ms. Madsen. Motion passes (12 in favor, 5 opposed).

### **Main Motion as Amended**

**Move to approve the 3<sup>rd</sup> option for inclusion in the document for when CE is not allowed.**

### **Motion to Amend**

**Motion to amend to add “depleted.”**

Motion made by Dr. Davis and seconded by Mr. Kane. Motion passes with one opposition.

### **Main Motion as Amended**

**Move to approve the 3<sup>rd</sup> option for inclusion in the document for when CE is not allowed. The new Option 3 reads: CE is not permitted if the stock is overfished or depleted, unless allowed by board via 2/3 majority vote (the rules on voting in Article II. Section 1. apply)**

Motion passes.

### **Main Motion**

**Move to approve Option 1 for non-quantifiable measures.**

Motion made by Mr. Grout and seconded by Dr. McNamee.

**Move to substitute for Option 2**

Motion made by Ms. Burgess and seconded by Mr. Dyar. Motion fails (6 in favor, 11 opposed).

**Main Motion**

**Move to approve Option 1 for non-quantifiable measures.**

Motion made by Mr. Grout and seconded by Dr. McNamee. Motion passes with one opposition.

**Move to approve the Conservation Equivalency: Policy and Technical Guidance Document as modified today.**

Motion made by Ms. Fegley and seconded by Ms. Braun. Motion carries by unanimous consent.

**Move to approve the Fish Habitats of Concern Document.**

Motion made by Mr. Clark and seconded by Dr. Rhodes. Motion carries by unanimous consent.

**Move that the Commission supports the New England and Mid-Atlantic Fisheries Management Council’s request for information on an industry-based survey and the Commission send a similar letter requesting the NEFSC completes a white paper by January 12, 2024 outlining an industry-based survey that is complementary to the Spring and Autumn bottom trawl survey for the Commission and Councils.**

Motion made by Mr. Reid and seconded by Mr. Kane. Motion passes by unanimous consent.

**SCIAENIDS MANAGEMENT BOARD (OCTOBER 19, 2023)**

***Meeting Summary***

The Sciaenids Management Board met to consider several items: update of the black drum indicators; Fishery Management Plan Reviews and state compliance reports for red drum, Atlantic croaker, and spotted seatrout; and an update on the ongoing benchmark stock assessments for red drum, spot, and Atlantic croaker.

The Board received a presentation from the Chair of the Black Drum Technical Committee (TC) on the results of an update to the black drum indicators of stock abundance and stock and fishery characteristics developed during the 2023 benchmark stock assessment, as well as recommendations from the TC based on the results of the update. This update incorporated two additional years of data (2021 and 2022). Overall, the indicators showed mixed signs of stability and declines since the assessment. However, the updated indicator values did not deviate outside the historical range of observed values. The TC did not express concern at this time and recommended no changes to the current black drum stock assessment schedule, but to continue to closely monitor the indicators. The Board agreed with the TC’s recommendations.

The Board reviewed and approved the 2022 Fishing Year FMP Reviews and state compliance reports for red drum, Atlantic croaker, and spotted seatrout. *De minimis* status was approved for New Jersey’s and Delaware’s 2024 red drum fisheries. For Atlantic croaker, *de minimis* status was approved for New Jersey (commercial and recreational), Delaware (commercial and recreational), South Carolina (commercial), and Georgia (commercial). For spotted seatrout, *de minimis* status was approved for New Jersey and Delaware.

The Board received an update on the ongoing red drum, spot, and Atlantic croaker benchmark stock assessments. The Red Drum Stock Assessment Subcommittee (SAS) has met several times since the assessment was initiated in late 2022, and has an in-person Assessment Workshop planned for November 6-9, 2023, in Charleston, SC. The red drum assessment is scheduled for completion in fall 2024. The Atlantic Croaker and Spot SAS has met several times as well, most recently for an assessment workshop in September. After losing a lead modeler of the assessments, the Atlantic Croaker and Spot SAS also met in August to discuss potential changes to the assessment timeline for both species. The Atlantic Croaker and Spot SAS recommend decoupling the spot and croaker assessments, and focusing on the Atlantic croaker assessment first, to be peer reviewed in 2024. Work on the spot benchmark stock assessment would follow, to be peer reviewed in 2025. In addition, the Board approved a nomination of Trey Mace to the Spot and Atlantic Croaker SAS.

For more information, please contact Tracey Bauer, Fishery Management Plan Coordinator, at [tbauer@asmfc.org](mailto:tbauer@asmfc.org).

### ***Motions***

**Move to approve the Red Drum FMP Review for the 2022 fishing year, state compliance reports, and *de minimis* status for New Jersey and Delaware.**

Motion made by Ms. Fegley and seconded by Ms. Burgess. Motion passes by unanimous consent.

**Move to approve the Atlantic Croaker FMP Review for the 2022 fishing year, state compliance reports, and *de minimis* status for New Jersey, Delaware, South Carolina, and Georgia commercial fisheries and New Jersey and Delaware recreational fisheries.**

Motion made by Ms. Madsen and seconded by Mr. Miller. Motion passes by unanimous consent.

**Move to approve the Spotted Seatrout FMP Review for the 2022 fishing year, state compliance reports, and *de minimis* status for New Jersey and Delaware.**

Motion made by Ms. Braun and seconded by Mr. Clark. Motion passes by unanimous consent.

**Move to approve the nomination of Trey Mace to the Spot and Atlantic Croaker Stock Assessment Subcommittee.**

Motion made by Ms. Fegley and seconded by Dr. Rhodes. Motion passes by unanimous consent.



## August 2023 Council Meeting Summary

The Mid-Atlantic Fishery Management Council met August 8-11, 2023, in Annapolis, MD. Presentations, briefing materials, motions, and webinar recordings are available at <http://www.mafmc.org/briefing/august-2023>.

### **HIGHLIGHTS**

During this meeting, the Council:

- Set 2024-2025 specifications for summer flounder, scup, and bluefish and 2024 specifications for black sea bass\*
- Reviewed an evaluation of commercial scup discards and scup GRAs and agreed to consider the issue further in 2024\*
- Reviewed progress and provided input on a framework/addenda to consider revisions to the process for setting recreational management measures for summer flounder, scup, black sea bass, and bluefish\*
- Discussed the findings of a recent pilot study that evaluated potential sources of bias in the Marine Recreational Information Program's Fishing Effort Survey questionnaire\*
- Set preliminary Atlantic mackerel specifications for 2024-2025 and requested that NOAA Fisheries take emergency action to limit directed fishing for mackerel in 2023
- Adopted a status quo river herring and shad cap for the Atlantic mackerel fishery in 2024-2025
- Reviewed the outcomes of the recently completed East Coast Climate Change Scenario Planning Initiative and provided input on next steps for near-term and potential longer-term actions
- Discussed NOAA Fisheries' Draft Climate Governance Policy and directed staff to develop a letter based on the SSC and staff comments presented at the meeting
- Agreed to continue the suspension of the Research Set-Aside program and work with regional management partners to prioritize cooperative research and identify funding opportunities to support the Council's research needs
- Developed comments in response to the NOAA Fisheries Advanced Notice of Public Rulemaking regarding potential future changes to the guidelines for National Standards 4, 8, and 9
- Presented the MAFMC Award of Excellence to Dr. Lee Anderson
- Presented the Ricks A Savage award to Dr. Mark Terceiro
- Bid farewell to departing Council member Dewey Hemilright; swore in new Council member Robert Ruhle and reappointed members Sonny Gwin, Michelle Duval, Paul Risi, and Dan Farnham
- Elected Wes Townsend as Council Chair and Mike Luisi as Council Vice-Chair
- Received a presentation on the National Fish and Wildlife Foundation's Electronic Monitoring and Reporting Grant Program
- Reviewed comments from the Highly Migratory Species (HMS) Committee on several HMS management initiatives and directed staff to submit the comments to NOAA Fisheries.

*\* Items denoted with an asterisk (\*) were undertaken during joint meetings with the Atlantic States Marine Fisheries Commission's Bluefish Management Board, Summer Flounder, Scup, Black Sea Bass Management Board, or ISFMP Policy Board.*



## Summer Flounder, Scup, Black Sea Bass, and Bluefish Specifications

The Council met jointly with the Atlantic States Marine Fisheries Commission’s (Commission) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) to set specifications and commercial measures for summer flounder, scup, and black sea bass. The Council also met jointly with the Commission’s Bluefish Management Board to set specifications and recreational measures for bluefish. The table below summarizes commercial quotas and recreational harvest limits (RHL) for all four species (2023 values are provided for comparison purposes). The Council will forward its recommendations to NOAA Fisheries for final approval, while the Commission’s actions for state waters are final. See the sections below the table for additional details about the recommendations for each species.

	Commercial Quota <i>millions of pounds</i>			Recreational Harvest Limit <i>millions of pounds</i>		
	2023	2024	2025	2023	2024	2025
<b>Summer Flounder</b>	15.27	8.79	8.79	10.62	6.35	6.35
<b>Scup</b>	14.01	21.15	18.80	9.27	13.18	11.84
<b>Black Sea Bass</b>	4.80	6.00	N/A	6.57	6.27	N/A
<b>Bluefish</b>	4.29	2.42	3.03	14.11	11.96	15.70

### ***Summer Flounder 2024-2025 Specifications***

The 2023 management track assessment indicated that the summer flounder stock was not overfished but overfishing was occurring in 2022. While the overfishing limit has not been exceeded in recent years, it appears the projections associated with the previous assessment were overly optimistic. The assessment has been slightly underestimating fishing mortality and overestimating stock biomass, the effect of which was compounded by adding three years of data to the assessment model (2020-2022). In addition, stock recruitment has been below average since 2011 and the high estimate of 2018 recruitment in the last assessment was revised downward to recent below-average levels with the new assessment results.

The Council and Board considered two approaches for setting the Acceptable Biological Catch (ABC) for summer flounder – one with varying ABCs for each year, and one with a constant ABC across 2024-2025. The Council and Board reviewed Scientific and Statistical Committee (SSC) recommendations using both approaches and ultimately selected the constant approach, resulting in an ABC of 19.32 million pounds for both years. This represents a 42% decrease compared to the 2023 ABC. Under the recently revised commercial/recreational allocations, 55% of the ABC is allocated to the commercial sector, and 45% is allocated to the recreational sector. After accounting for each sector’s expected discards, the Council and Board adopted a commercial quota of 8.79 million pounds and a RHL of 6.35 million pounds for 2024 and 2025.

The Council and Board recommended no changes to the commercial measures for 2024. These include a 14” minimum fish size, minimum mesh size (5.5” diamond or 6.0” square mesh), and mesh exemption programs. Staff and a contractor are currently working to evaluate the commercial minimum mesh size exemption programs and the commercial minimum mesh size regulations. A final report is expected in December 2023. Any potential changes adopted as a result of these evaluations would likely be effective in 2025 or later. Recreational bag, size, and season limits for upcoming years will be discussed during the December 2023 Council and Board meeting.

### ***Scup 2024-2025 Specifications***

The 2023 management track assessment found that scup was not overfished and overfishing was not occurring in 2022. For 2024, the Council and Board approved an ABC of 43.82 million pounds. This represents a 48% increase compared to the 2023 ABC. Under the recently revised commercial/recreational allocations, 65% of the ABC is allocated to the commercial sector and 35% is allocated to the recreational sector. After accounting for each sector’s expected discards, this ABC results in a commercial quota of 21.15 million pounds and an RHL of 13.18

million pounds. For 2025, the Council and Board approved an ABC of 39.74 million pounds, resulting in a commercial quota of 18.80 million pounds and an RHL of 11.84 million pounds. The Council and Board agreed that no changes are needed to the commercial management measures, which can be modified through the specifications process. Recreational bag, size, and season limits for upcoming years will be discussed during the December 2023 Council and Board meeting.

### ***Black Sea Bass 2024 Specifications***

No updated stock assessment information is available for black sea bass this year; therefore, the SSC agreed to set the 2024 ABC equal to the 2023 ABC. The Council and Board made no changes to the annual catch limits or annual catch targets compared to 2023. They approved a 2024 commercial quota of 6.00 million pounds, a 25% increase from 2023, and a 2024 RHL of 6.27 million pounds, a 5% decrease from 2023. While these values are based on the same methodology used to set the 2023 measures, updated dead discard projections for each sector led to a change in the quota and RHL. An updated management track stock assessment is anticipated to be available in 2024 for setting 2025-2026 specifications.

The Council and Board also set a black sea bass commercial in-season closure buffer for the first time. Previously, the commercial black sea bass fishery has been required to close in-season once the coastwide quota is projected to be landed. Under changes to the regulations made through Amendment 23, which are expected to be effective on January 1, 2024, the entire commercial fishery would close in-season once landings are projected to exceed the coastwide quota plus an additional buffer of up to 5%. The intent of this buffer is to minimize negative economic impacts when coastwide quota is reached before all states have fully harvested their allocations. The Council and Board agreed to use a 5% commercial in-season closure buffer for 2024. Given recent patterns in the fishery, an in-season closure is not expected for 2024; however, the Council and Board agreed that in the unlikely event that it is needed, a 5% buffer could have some socioeconomic benefits with little risk to stock status.

The Council and Board agreed that no changes are needed to the other commercial measures which can be modified through the specifications process. Recreational bag, size, and season limits for 2024 will be discussed during the December 2023 Council and Board meeting.

### ***Bluefish 2024-2025 Specifications***

The 2023 management track assessment found that bluefish was not overfished and overfishing was not occurring in 2022. However, the stock was not fully rebuilt to the biomass target. Based on the results of this assessment, bluefish remains under the Council and Commission's approved 7-year rebuilding plan, which began in 2022, due to the stock's previously overfished status.

Based on the SSC's recommendation, the Council and Bluefish Board approved an ABC of 17.48 million pounds for 2024 and 21.83 million pounds for 2025. These ABCs are about 43% and 29% lower than the 2023 ABC, respectively. Members of the Council and Bluefish Board supported the Monitoring Committee's progress on the development of a tool to convert qualitative and quantitative sources of management uncertainty into a quantitative value. This tool is intended to help the Monitoring Committee determine whether uncertainty buffers are needed each year between the Annual Catch Limits and the Annual Catch Targets for each sector. For 2024-2025 the Council and Board agreed with the Monitoring Committee's recommendation that no buffer for management uncertainty is needed. After accounting for each sector's expected discards, the Council and Bluefish Board adopted a commercial quota of 2.42 million pounds in 2024 and 3.03 million pounds in 2025 and an RHL of 11.96 million pounds for 2024 and 15.70 million pounds for 2025.

The Council and Bluefish Board also reviewed recent recreational harvest trends and recommended status quo 2024 recreational management measures given that recent recreational harvest has been very close to the 2024 RHL. The status quo measures include a 5 fish bag limit for the for-hire sector and a 3 fish bag limit for private anglers. Because bluefish is still under a rebuilding plan, the percent change approach under the recreational harvest control rule was not applied.

## Scup Commercial Discards Report and Other Management Issues

The Council and Board reviewed an evaluation of commercial scup discards and the scup gear restricted areas (GRA). First implemented in 2000 and 2001, the Northern and Southern GRAs are intended to reduce scup discards in small mesh fisheries during certain times of the year. GRA regulations and boundaries have been reviewed and modified several times over the years. The following are several key findings from the report:

- Although commercial scup discards have decreased since a peak in 2017 and represent a small percentage of annual scup biomass, absolute discards in recent years remain relatively high compared to other periods since implementation of the GRAs.
- The GRAs appear to have contributed to the rebuilding of the scup stock since the early 2000s. However, given the more recent spatial patterns of scup discards, consideration of alternative measures or modifications to the GRAs may be warranted.
- Continued use of GRAs should consider changes that have high probability of reducing where discards **will be** rather than reacting to where they **have been**.

Following the report, the Council tasked the SSC with reviewing and providing feedback on the commercial discard report. The Council also asked the SSC to provide input on potential analysis or modeling approaches that could examine the predictability of scup bycatch using environmental data or any other alternative approaches to reduce scup discards. The Council agreed that the identified research as well as a related Framework action to consider GRA modifications, or other measures to further reduce scup discards, should be added to the Council's 2024 Implementation Plan. Given the Council's decision, the Board recommended the Commission add this topic to its 2024 Action Plan.

During this agenda item, the Council and Board also discussed a motion to initiate a framework/addendum to consider bi-directional quota transfers between the commercial and recreational sectors for the summer flounder, scup, and black sea bass fisheries. While some Council and Board members felt that the issue should be prioritized given the recent recreational overages for scup and black sea bass, others expressed concern that the public had not been given notice or an opportunity to provide comments on the potential initiation of a framework/addendum. The Council's Executive Director also noted that new actions generally need to be planned for during the development of each year's annual implementation plan to ensure that staff time and resources are allocated appropriately. After a lengthy discussion, the motion ultimately failed. However, the action will likely be considered during the October 2023 Council Meeting when the Executive Committee begins development of the Council's 2024 Implementation Plan.

## Recreational Measures Setting Process Framework/Addenda

The Council and the Commission's Interstate Fisheries Management Program Policy Board (Policy Board) met to review progress and discuss next steps for a framework/addenda to consider revisions to the process for setting recreational management measures for summer flounder, scup, black sea bass, and bluefish. This is a follow-on action to the Harvest Control Rule Framework/Addenda, which implemented the Percent Change Approach for setting recreational measures. The Percent Change Approach was used for the first time to set 2023 bag, size, and season limits for summer flounder, scup, and black sea bass. It may be used for bluefish once that stock is no longer under a rebuilding plan. In taking final action on the previous framework/addenda, the Council and Policy Board agreed that the Percent Change Approach should sunset by the end of 2025 with the goal of implementing a longer-term process for setting recreational measures starting with the 2026 measures.

During this meeting, the Council and Policy Board agreed to change the name of this new management action from "Harvest Control Rule Framework/Addenda 2.0" to "Recreational Measures Setting Process Framework/Addenda" to better describe the scope of the action. They also provided staff with guidance on further development of alternatives within this action, including further development of options to refine the Percent Change Approach, consideration of the appropriate starting point for measures under all alternatives, and greater

consideration of the fishing mortality rate resulting from the recreational fishery when setting measures. They agreed that further consideration should be given to the implications of the alternatives for management uncertainty buffers, as currently defined in the Fishery Management Plan. The Council and Policy Board supported the plans to use the Summer Flounder Management Strategy Evaluation model to assist with development of this action. They also agreed that the SSC should assist with development of this action. The Council will develop specific terms of reference for SSC involvement at a later date with input from the Policy Board.

The Council appointed two members to a new work group of Council members and Commissioners. The purpose of this work group is to serve as a liaison between the Council/Policy Board and the technical team which has been formed to assist with development of management alternatives (i.e., the Fishery Management Action Team/Plan Development Team). The Council and Policy Board also agreed that further consideration should be given to the best ways to involve recreational fishery stakeholders throughout development of this action.

### Marine Recreational Information Program Pilot Study

Marine Recreational Information Program (MRIP) staff provided a brief update on findings of a recent pilot study that evaluated potential sources of bias in the recreational Fishing Effort Survey (FES) questionnaire for shore and private boat modes. The FES currently asks respondents to report their fishing activity over a 2-month period and then over a 12-month period. In the pilot study, conducted over the course of 6 months, the order of these questions was reversed so respondents were asked first about their fishing trips in the previous 12 months. This study found switching the sequence of questions resulted in fewer reporting errors and effort estimates that were generally 30 to 40 percent lower for shore and private boat modes than estimates produced from the current design. However, results varied by state and fishing mode. These results are based on a pilot study that had a limited time frame and geographic scope, and much more extensive work needs to be done to determine the true impacts of the survey design. MRIP is planning a larger-scale follow-up in 2024. The follow-up study will further evaluate the order of the questions, as well as asking about 1-month periods, rather than the current 2-month periods. The revised survey design will be administered alongside the current design, and then potential modifications for future surveys and calibrations for past estimates will be evaluated.

### Atlantic Mackerel 2024-2025 Specifications

The 2023 management track stock assessment for Atlantic mackerel found that the stock remains overfished, with spawning stock biomass estimated to be at about 12% of the biomass target. Although the assessment found that overfishing was no longer occurring in 2022 (likely due to the low U.S. catch in 2022 and the near-total closure of the Canadian commercial fishery), the stock is not rebuilding as projected. Because the assessment is scheduled for additional peer review in September 2023, the Council agreed to set preliminary 2024-2025 specifications which will be revisited in December 2023 after the SSC considers the peer review (the Council also asked for 2024-2025 rebuilding ABCs that approximate an average of the calculated 2024-2025 ABC sequence and would still support a 61% chance to rebuild mackerel by 2032).

Based on the recommendations of the SSC, the Council adopted ABCs of 2,726 metric tons (MT) for 2024 and 3,900 MT for 2025. After accounting for expected Canadian catch, U.S. recreational catch, and U.S. commercial discards, the Council recommended setting the commercial quota at 394 MT for 2024 and 1,568 for 2025. The 2024 quota represents an 89% reduction from the already-low 2023 quota. No changes to recreational measures are currently being considered.

To constrain catch to the very low quotas while avoiding excessive discarding, the Council recommended setting an initial trip limit of 20,000 pounds for limited access permits and 1,000 pounds for open access permits. Once 80% of the quota has been landed, the limited access trip limit would be reduced to 1,000 pounds.

Projections indicate that landing the full 2023 quota will likely lead to overfishing in 2023. Given this information, the Council requested that NOAA Fisheries take emergency action to limit directed fishing for mackerel in 2023 as

soon as possible via trips limits of 20,000 pounds for limited access permits and 5,000 pounds for open access/incidental permits.

Council discussion acknowledged the negative impacts on fishing communities due to the depleted status of mackerel and agreed that if any states pursue fishery disaster declarations/relief, Council staff will assist with those applications.

### River Herring and Shad (RH/S)

After reviewing a staff update on river herring and shad (RH/S), the Council adopted a status-quo RH/S cap of 129 metric tons (MT) for 2024-2025 on the Atlantic mackerel fishery. While the RH/S Committee recommended an 89 MT cap to maintain incentive for the mackerel fishery to avoid RH/S, due to mackerel's depleted status there will not be substantial directed fishing for mackerel in 2024-2025. The Council will revisit potential changes to the RH/S cap once there is sufficient quota for a substantial directed mackerel fishery. The Council will also consider exploration of modeling approach for shad and river herring bycatch avoidance approaches during 2024 priorities discussions.

### Longfin Squid 2024-2026 Specifications

The Council adopted near status-quo longfin squid specifications for 2024-2026. Slightly more squid were set aside for potential discards, resulting in a commercial quota of 22,894 metric tons (approximately 51 million pounds) for these years. The Council notes that a research track stock assessment for longfin squid is beginning later this year and is scheduled to be reviewed in early 2026. A follow-up management track assessment would then be conducted and used to determine catches for 2027 and beyond.

### *Illex* Hold Baseline Framework

The Council continues development of a framework to consider a volumetric vessel hold baseline requirement and upgrade restriction for all *Illex* limited access permits. A similar volumetric requirement is in place for the directed mackerel fishery, and most regional limited access programs have other baselines (horsepower and length) to control increases in fishing power/capacity. About 30 of the current 76 *Illex* limited access permits already have this requirement and upgrade restriction due to their mackerel limited access permits, so this action would affect the other 46 permits. The Council reviewed the draft alternatives and discussed several technical issues related to implementation of such a baseline. The Mackerel, Squid, and Butterfish Committee will meet before the Council takes final action later in 2023. Additional information and updates are available on the [Illex Hold Baseline Framework](#) page.

### East Coast Climate Change Scenario Planning

The Council reviewed the outcomes of the recently completed [East Coast Climate Change Scenario Planning Initiative](#), including two documents summarizing the main themes and potential actions that emerged through the process. These documents include a report of the East Coast Scenario Planning Summit meeting held in February 2023, as well as a Potential Action Menu that expands on, clarifies, and prioritizes the governance and management actions identified during the summit. The Potential Action Menu is intended to serve as a living document that will continue to guide collective and individual priorities for East Coast management organizations for potential actions identified through the scenario planning process.

The Council also reviewed staff recommendations for near-term and potential longer-term actions for the Mid-Atlantic Council to undertake in response to the scenario planning process. Based on the Council's feedback, several actions will be added to the draft 2024 implementation plan for consideration by the Executive Committee in October. In addition, an East Coast Climate Coordination Group has been formed consisting of leadership from all participating East Coast management organizations. This group will be responsible for tracking progress on the scenario planning actions, estimating resources needed, and supporting coordinated implementation of actions.



The group will meet this fall to identify possible collective priorities for addressing potential actions that require coordination among multiple groups.

## NOAA Fisheries Climate Governance Policy

The Council discussed development of comments on a draft NOAA Fisheries procedural directive titled “Guidance on Council Authority for Preparing Fishery Management Plans for Stocks that May Extend across the Geographic Areas of more than one Council, pursuant to MSA §304(f)” (also referred to as the “Fisheries Climate Governance Policy”). The draft policy is intended to provide guidance on when and how the Secretary of Commerce will review and assign management authority over fisheries found across more than one Council jurisdiction. NOAA Fisheries has invited the regional fishery management councils to provide comments on the draft policy, with a deadline of November 17, 2023.

During this meeting, the Council discussed [SSC comments](#) and [preliminary staff comments](#) on the draft policy, both of which highlight a number of serious concerns about the policy itself and its potential implications for Mid-Atlantic fisheries and stakeholders. The following are several key points that were discussed by the Council:

- The draft policy is overly prescriptive, lacks specific objectives, and does not adequately describe the problem that it is attempting to address.
- The draft policy treats changes in Council management authority as a first course of action for addressing shifting stock distributions. Revisions of management authority could be extremely disruptive and should be exercised as a last resort when other approaches to address governance and representation concerns (such as those identified through the East Coast Climate Change Scenario Planning Initiative) have been deemed inadequate.
- The proposed process could lead to near-constant reviews for some species, creating the possibility of frequent changes in management authority.
- Some of the review criteria are potentially problematic and/or unclear in their underlying intent, rationale, and technical justification. The heavy reliance on commercial revenue and recreational fishing effort, as well as the inclusion of “certain Council actions” as a review trigger, are particularly concerning.
- The draft policy does not acknowledge the complexities of evaluating changes in stock distribution and does not explain how such analyses would utilize the best scientific information available and what kind of peer review would be conducted.
- The draft policy is poorly organized, difficult to follow, and lacks critical details needed to ensure consistent and predictable implementation of the policy.

The Council generally expressed support for the staff and SSC comments and directed staff to draft a letter for submission to NOAA Fisheries. The Council also agreed to solicit public comments on the draft policy to be submitted to NOAA Fisheries separately. Additional information and updates are available on the Council’s [Climate Governance Policy](#) page.

## Research Set-Aside Program Redevelopment Update

The Council received an update on the status of the potential redevelopment of the Council’s Research Set-Aside (RSA) program. In 2014, the Council voted to suspend the RSA program due to a number of concerns associated with the program that included administrative, oversight, enforcement, and science issues. In June 2022, the Council reviewed and supported the continued development of a redesigned RSA program framework that would try to address the issues of the original program. The Atlantic States Marine Fisheries Commission (Commission) and state partners would play a critical role in the dockside administration and enforcement components of a redesigned program, particularly for jointly managed species.

Given the importance of Commission and state partner cooperation, the Council requested feedback from the ASMFC regarding their interest in redeveloping the RSA program. The Commission’s Policy Board met in July and

recommended the Council only consider an RSA program for those species that are not jointly managed with Commission (i.e., summer flounder, scup, black sea bass, bluefish, and spiny dogfish would not be part of an RSA program). The Policy Board suggested that this approach would address monitoring and enforcement issues, minimize the administrative burden on the states, and allow the Council to potentially continue redevelopment of an RSA program.

However, the Council noted that without the support and participation from the Commission and state partners, and with the loss of revenue generated from jointly managed species (historically accounted for 95% of all RSA revenue) to support research, implementing a successful RSA program would be extremely challenging and potentially impossible. Given these challenges, the Council agreed to continue the suspension of the RSA program and work with regional management partners to prioritize cooperative research and identify funding opportunities to support the Council’s research needs.

### National Standard 4, 8, and 9 Guidelines

The Council developed comments in response to the National Marine Fisheries Service (NMFS) Advanced Notice of Public Rulemaking (ANPR) regarding potential future changes to the guidelines for National Standards 4 (allocation), 8 (communities) and 9 (bycatch). It’s been 25 years since the guidelines for the National Standard 4 were last revised and 15 years for National Standard 8 and 9 guidelines. Given the amount of time since the last revisions and an increasing number of management challenges, NMFS is seeking comment on those areas that may benefit from further review and/or update with a focus on climate-related impacts, including changes in stock distribution, and equity and environmental justice (EEJ) considerations.

The Council identified a range of comments for each National Standard, but overall felt that the existing guidelines provide the Council with sufficient direction to address current management challenges, including those related to climate change, and include enough flexibility to consider future issues and priorities and, as such, should remain largely unchanged. Staff will develop a comment letter for NMFS consideration to be submitted by the comment period deadline of September 12, 2023.

### Council Awards

#### ***Award of Excellence***

The Council presented its Award of Excellence to Dr. Lee Anderson in recognition of his outstanding contributions to fisheries science, management, and policy in the Mid-Atlantic region. The award was established in 2016 and has only been given one other time. Dr. Anderson has been involved in the Mid-Atlantic Council process for almost the entirety of the Council’s 47-year history. He was one of three economists appointed to the Council’s Scientific and Statistical Committee when it was first formed in 1976. He was later appointed to the Council, holding Delaware’s obligatory seat from 1986 to 1995 and 2007 to 2016. He served for three years as Council Chair (1992-1995) and a total of ten years as Vice-Chair (1990-1992, 2008-2016). After his departure from the Council in 2016, he was reappointed to the SSC and served until early 2023.

Throughout his years on the Council and SSC, Dr. Anderson brought a wealth of knowledge that helped the Council understand and account for the economic forces that shape fisheries management decisions. His expertise and leadership were particularly instrumental in the Council’s development of an individual transferable quota program (ITQ) system for the Atlantic surfclam and ocean quahog fisheries, which was the first catch share program in the United States.



In addition to his contributions to the Council, Dr. Anderson is a true pioneer in the study of the economic principles that govern fisheries management. His book, *The Economics of Fisheries Management*, has served as an important learning tool for fisheries economists nationally and internationally. He has written or edited six books and over sixty scientific papers on fisheries economics and the economics of fisheries management. Over the course of his career, he acted in an advisory capacity to a wide range of fishery management organizations, federal agencies, and international governments.

### ***Ricks E Savage Award***

Dr. Mark Terceiro was presented with the Council’s Ricks E Savage award. The award is given each year to a person who has added value to the Council process and management goals through significant scientific, legislative, enforcement, or management activities. Dr. Terceiro began his career in 1986 with the Population Dynamics Branch of the Northeast Fisheries Science Center. During that entire time, he has served as the lead assessment biologist for summer flounder, a species that supports economically and socially important commercial and recreational fisheries throughout the region. He also served as the lead assessment biologist for bluefish early in his career and as the lead assessment biologist for scup since the early 2000s.

Dr. Terceiro has been a member of the Council’s Summer Flounder, Scup, and Black Sea Bass Monitoring Committee for much of his career, and has patiently, consistently, and effectively explained complex assessment results to Council members and the public. Dr. Terceiro captured his vast institutional knowledge of the history of science, management, and politics of this fishery in “The Summer Flounder Chronicles,” a three-part series published in 2001, 2010, and 2018 in the journal *Reviews in Fish Biology and Fisheries*. He has worked tirelessly to improve the science that supports the management process, and the Council has benefitted from his long tenure with the Science Center.



## **Council Membership and Leadership**

### ***Departing Council Member***

The Council bid farewell to departing Council member Captain Dewey Hemilright. Capt. Hemilright is a commercial fisherman based in Wanchese, North Carolina. He was appointed to the Council in 2012 to fill a mid-term vacancy and went on to serve three additional full terms, for a total of 11 years. Capt. Hemilright participated on most of the Council’s Committee during his time on the Council, including serving for seven years as chair of the HMS Committee. He also served as liaison to the South Atlantic Council and as Council representative on the NOAA Fisheries HMS Advisory Panel. Capt. Hemilright was thanked for his dedicated service to the Council.



### ***New and Reappointed Council Members***

The Council welcomed one new Council member: Captain Robert Ruhle of Wanchese, North Carolina. Capt. Ruhle owns and operates the F/V Darana R along with his father, James Ruhle, who previously served three terms on the Mid-Atlantic Council. Robert has been fishing commercially since 1994. Over the course of his career, he has



been active in numerous Mid-Atlantic and New England fisheries and has fished from Hatteras to Canada, primarily focusing on *Illex* squid, Longfin squid, Atlantic Mackerel, Atlantic herring, Atlantic Croaker, and Butterfish. He also participates in the Summer Flounder, Black Sea Bass, and Scup fisheries. Capt. Ruhle has served multiple terms as an advisor, and currently is an Advisor for the Mid-Atlantic Council, serving on Atlantic Mackerel/Squid/Butterfish, Summer Flounder/Scup/Black Sea Bass, River Herring/Shad, and Ecosystems and Ocean Planning Advisory Panels.

The Council also swore in four reappointed members: Sonny Gwin (Maryland, 3<sup>rd</sup> term), Michelle Duval (Pennsylvania, 2<sup>nd</sup> term), Paul Risi (New York, 2<sup>nd</sup> term), and Danny Farnham (New York, 2<sup>nd</sup> term).

### ***Election of Officers***

During the yearly election of officers, Council members elected Paul Weston (Wes) Townsend as Council Chair and Mike Luisi as Vice Chair. Mr. Townsend is currently in his third term as an appointed member holding Delaware's obligatory seat. He is the owner/operator of the F/V PAKA out of Indian River Inlet in Delaware and has extensive experience with commercial fishing in state and federal waters. He previously served as Council Vice Chair from 2020 to 2023. Mr. Luisi has served as Maryland's designated state official since 2010 and previously served as Council Chair from 2016 to 2023.

### **Other Business**

#### ***National Fish and Wildlife Foundation Electronic Monitoring and Reporting Grant Program***

The Council received a presentation on funded projects and opportunities through the National Fish and Wildlife Foundation (NFWF) Electronic Monitoring and Reporting Grant Program. These projects focus on voluntary collaborative projects in areas that advance sustainable fisheries through data modernization and innovative technologies in fisheries data collection. NFWF is [currently soliciting full proposals](#) for the 2023 Electronic Monitoring and Reporting Grant Program with an application deadline of October 16<sup>th</sup>.

#### ***Highly Migratory Species (HMS)***

Based on Council direction at the June 2023 meeting, the Council's HMS Committee met on July 11, 2023, to discuss and develop comments in response to multiple NOAA HMS management initiatives. The Council reviewed a summary of the Committee's discussion and recommended the comments be submitted to NOAA HMS leadership on behalf of the Council.

### **Next Meeting**

The next Council meeting will be held **October 3-5, 2023, in New York City, NY**. A complete list of upcoming meetings can be found at <https://www.mafmc.org/council-events>.

## October 2023 Council Meeting Summary

The Mid-Atlantic Fishery Management Council met October 3-5, 2023, in New York, NY. Presentations, briefing materials, motions, and webinar recordings are available at <http://www.mafmc.org/briefing/october-2023>.

### **HIGHLIGHTS**

During this meeting, the Council:

- Selected preferred alternatives and took final action on the Illex Vessel Hold Capacity Framework
- Approved a range of alternatives for a joint framework action being developed with the New England Council to reduce sturgeon bycatch in the monkfish and spiny dogfish gillnet fisheries
- Recommended several revisions to a draft policy and process document for Council review of Exempted Fishing Permit (EFP) applications
- Approved an updated list of risk elements to be included in a revised Ecosystem Approach to Fisheries Management (EAFM) risk assessment
- Reviewed recreational tilefish permitting and reporting in the Greater Atlantic region and discussed future efforts to improve angler awareness and compliance
- Reviewed the findings of the management track assessments for spiny dogfish and Atlantic mackerel
- Received an update on NOAA Fisheries' habitat activities in the Greater Atlantic region
- Received updates on offshore wind development in the region, including presentations from the Bureau of Ocean Energy Management and New York State Energy Research and Development Authority
- Received presentations from Northeast Fisheries Science Center (NEFSC) staff on a range of topics
- Requested that the NEFSC develop a white paper outlining an industry-based survey that is complementary to the spring and autumn Bottom Trawl Survey
- Provided input on proposed actions and deliverables for the 2024 Implementation Plan (Executive Committee)

### ***Illex* Vessel Hold Capacity Framework**

The Council took final action on a framework action intended to restrict future increases in capacity in the *Illex* squid fishery. After reviewing public comments and considering recommendations from the Mackerel, Squid, Butterfish Committee and Advisory Panel, the Council voted to implement a volumetric vessel hold baseline requirement and 10% upgrade restriction for all 76 *Illex* limited access permits (30 already have the requirement due to their Atlantic mackerel permits). As with the existing length and horsepower baseline restrictions, the rationale/goal for a hold baseline and upgrade restriction is to cap fishing power. If approved by NOAA Fisheries, vessels will be notified of deadlines to obtain a certification for their vessel hold volume by qualified individuals. The Council also approved requiring *Illex* and Tier 1 longfin squid vessels to provide a non-binding annual declaration of their intended processing method (at-sea freezing, refrigerated seawater, iced, etc.). This information would be considered during future evaluations of catch per unit of effort (CPUE) analyses.

### **Monkfish and Dogfish Joint Framework to Reduce the Bycatch of Atlantic Sturgeon**

The Mid-Atlantic and New England Fishery Management Councils are developing a joint framework action to reduce interactions with sturgeon by the monkfish and spiny dogfish gillnet fisheries. During this meeting, the Mid-Atlantic Council reviewed recommendations from the Joint Monkfish and Dogfish Committee and FMAT/PDT

and approved the range of alternatives to be considered in the joint framework. The New England Council approved an identical range of alternatives the prior week at their September 2023 Meeting. The approved range of alternatives includes management measures such as time/area closures, gear modifications, and soak time restrictions, with the goal of reducing sturgeon interactions in bycatch hotspot areas. Final action for both Councils is scheduled for April 2024.

### Exempted Fishing Permit Application Review Policy and Process

The Council discussed a draft policy and process document for Council review of Exempted Fishing Permit (EFP) applications for species listed as Ecosystem Components under the Unmanaged Forage Omnibus Amendment. The draft document incorporated recommendations from the Ecosystem and Ocean Planning Advisory Panel and Committee as well as staff. EFPs are issued by the NOAA Fisheries Regional Offices. Therefore, the draft document summarized the federal requirements which apply to all EFPs and included additional considerations for catch of forage species, including greater emphasis on ecosystem impacts.

The Council agreed to a few revisions to the document. They agreed to add more details on the desired contents of reports summarizing the outcome of use of an EFP. They also agreed to more clearly indicate that this document is not binding on NOAA Fisheries and does not change the federal requirements for EFPs. They also considered presenting the document as a guide to prospective EFP applicants rather than a Council policy and process document. Some Council members thought this re-framing would better communicate that the document summarizes the desired process for Council review but does not change the federal process. The Council decided to postpone adoption of a revised document until their December meeting to provide more time to finalize the preferred language.

### Ecosystem Approach to Fisheries Management Risk Assessment Review

The Council reviewed and approved an updated list of risk elements to be included in a revised Ecosystem Approach to Fisheries Management (EAFM) risk assessment. The initial risk assessment was completed in 2017 and is intended to identify and prioritize ecosystem interactions and help the Council decide where to focus limited resources to address priority ecosystem considerations in its science and management programs. Over the last year, the Council's Ecosystem and Ocean Planning Committee and Advisory Panel conducted a comprehensive review of the risk assessment with the goal of producing an updated risk assessment that incorporates the latest scientific information, reflects the Council's current priorities, and can be adaptive and responsive to new and changing conditions that can support a variety of Council management needs.

The updated assessment will include 28 different risk elements that will track aspects that may threaten the Council's ability to achieve the ecological, socio-economic, and management objectives desired for Council-managed fisheries. A revised risk assessment will be completed in spring and will include the most up-to-date information and relevant indicators derived from the 2024 Mid-Atlantic State of the Ecosystem report developed by the Northeast Fisheries Science Center. The Council will review and approve the new EAFM risk assessment for use by the Council in future management documents, priorities, and decisions in April 2024.

### Private Recreational Tilefish Permitting and Reporting

In August 2020, recreational permitting and reporting requirements were implemented for private tilefish anglers. During this meeting the Council received a presentation from the Greater Atlantic Regional Fisheries Office (GARFO) on the status of private recreational tilefish (golden and blueline) permitting and reporting. The [update](#) included information related to the number of permits issued, recreational trips, and landings reported since the requirements were initially implemented.

Council staff also provided an update on future outreach efforts and plans to improve compliance with and awareness of the permitting and reporting requirements. As a result of the presentation and subsequent discussion, the Council recommended that efforts to improve compliance and awareness should go beyond outreach and that staff should consider alternative approaches. The Council also recommended holding a joint meeting of the Tilefish Committee and the Law Enforcement Committee in 2024 to continue discussions and consider a possible path moving forward.

### Spiny Dogfish and Atlantic Mackerel Assessments

Staff updated the Council on the spiny dogfish and Atlantic mackerel management track assessments, which were recently peer-reviewed and found to be “technically sufficient to...provide scientific advice.” In 2022 mackerel was still overfished (not overfishing) and spiny dogfish was just slightly above its biomass target (not overfishing). The Council’s SSC will evaluate these assessments to provide Acceptable Biological Catch (ABC) advice on October 30, 2023 (<https://www.mafmc.org/ssc>). The Council will consider the SSC’s mackerel advice in December 2023. The SSC’s spiny dogfish advice will be considered by the Spiny Dogfish Committee, followed by action from the Mid-Atlantic Fishery Management Council in December 2023 and then by action from the New England Fishery Management Council in January 2024 (spiny dogfish are jointly managed by the Councils).

### Habitat Activities Update

Karen Greene and Sue Tuxbury, from GARFO’s Habitat and Ecosystem Services Division (HESD), updated the Council on the status of their essential fish habitat (EFH) consultation role in offshore wind development projects that are currently underway. They also highlighted several U.S. Army Corps of Engineers’ coastal storm risk management studies and port development projects proposed in the region (project links available in posted [presentation](#)). They also noted the recently approved national guidance on incorporating climate change into EFH consultations from NOAA Fisheries.

### Offshore Wind Updates

#### ***Bureau of Ocean Energy Management***

Ursula Howson, from the Bureau of Ocean Energy Management (BOEM), provided an update on several offshore wind energy projects in the Mid-Atlantic region. The presentation also highlighted two ongoing studies funded by BOEM. One study will analyze the potential and actual changes in surfclam, ocean quahog, and Atlantic sea scallop fishing activities as a result of offshore wind development. Another study which is taking place off Virginia will evaluate the effectiveness of nature inclusive design materials in promoting marine grown and enhancing habitat. BOEM may use the results of this study to inform future requirements regarding the materials that must be used for materials such as scour protection around turbine and offshore substation foundations or external cable armoring.

#### ***New York State Offshore Wind Master Plan 2.0: Deep Water***

Morgan Brunbauer, from the New York State Energy Research and Development Authority (NYSERDA), provided an update on New York State’s “Offshore Wind Master Plan 2.0: Deepwater.” A primary goal of this initiative is to identify additional areas offshore of New York which may be suitable for wind energy development, as the existing lease areas will not allow the state to meet their current goal of 9 GW of offshore wind energy by 2035. NYSERDA staff summarized the timeline for several ongoing and potential future studies to inform this effort. NYSERDA aims to finalize these studies by the end of 2023 and make a formal request to BOEM in early 2024 to initiate the BOEM process to define new lease areas. The NYSERDA recommendations will be based on consideration of the various studies as well as input and engagement as appropriate with the offshore wind industry, federal and regional state partners, elected officials, maritime users, non-governmental organizations, other stakeholders, and the public.

## Northeast Fisheries Science Center Presentations

### ***Federal Survey Performance, Issues, and Planning for the Future***

Dr. Kathryn Ford and Peter Chase provided an overview of several Northeast Fisheries Science Center (NEFSC) surveys, including the NOAA ship Henry B. Bigelow bottom trawl survey and the R/V Hugh R. Sharp Scallops Survey. They also provided an update on past survey performance, 2023 survey issues, potential future contingency plans, and future scheduling. As a result of the presentation and subsequent discussion, the Council passed a motion requesting the NEFSC to develop a white paper to be submitted to the Council by January 12, 2024, outlining an industry-based survey that is complementary to the spring and autumn Bottom Trawl Survey.

### ***Northeast Fisheries Observer Program Update***

Katherine McArdle provided an update on the Northeast Fisheries Observer Program (NEFOP). In 2023 the full Standard Bycatch Reporting Methodology (SBRM) discard analysis occurred for first time since the COVID-19 pandemic (data gap issues). For the current year, a total of 6,926 seadays are needed with a total of 5,630 seadays made available based on funding. There is an increase in seadays to the small mesh otter trawl fleet relative to the previous several years. Outreach has occurred with the fleet, and permit holder letters were sent out in August when the SBRM was rolled out. NEFOP coverage overall has been proceeding well despite the delays to the rollout of the 2023 Sea Day Schedule. The first quarter of the year did have shortfalls in the mid-Atlantic small mesh bottom trawl accomplishments (completing 65% of the tasked days). The NEFOP contract was modified in June of 2023 and resulted in an increase in observer pay – this should improve observer retention. Data review is occurring as anticipated and the NEFSC does not anticipate any delays will impact the 2024 SBRM cycle.

### ***Cooperative Research Update***

The NEFSC's Cooperative Research Branch has expanded its portfolio in recent years to address the evolving research needs of fisheries in the northeast region and has enhanced communication and coordination of cooperative research among the science and fishing communities. Dr. Anna Mercer provided an overview of the Cooperative Research Branch's portfolio, with focus on new research initiatives pertinent to the Council, including the longfin squid biological sampling program (SQUIBS), the Illex squid size monitoring program (ILXSM), research on oceanographic drivers of Illex productivity, a pilot hook and line survey, a recreational biological sampling program (RecBio), research on offshore wind impacts on fishing operations, and collaborative monitoring of scallop disease and reproduction. Dr. Mercer also shared the outcomes of the 2023 Northeast Cooperative Research Summits, which engaged over 250 fishermen and scientists in sharing, discussing, and prioritizing cooperative research in the northeast region. Planning for the 2024 Northeast Cooperative Research Summit, which will be held in New Jersey, is currently underway.

### ***Presentation on Maternal Effects Research***

Mark Wuenschel presented the results of several recent studies examining whether the potential for greater reproductive output of larger females challenges a common assumption that spawning stock biomass is an appropriate metric of population reproduction irrespective of the stock's size structure. Maternal effects may take the form of larger females producing more eggs, better eggs that lead to higher survival, or expanded seasonal spawning windows. Loss of larger fish thus has the potential to create disproportional negative impacts on stock productivity. Yellowtail flounder showed maternal effects in fecundity (number of eggs) relative to fish size while summer flounder showed maternal effects in terms of extra spawning events for larger fish. Implications for management could include considering measures that maintain a diverse size and age structure. Assessments may also need to better account for the different relative reproductive value of a given spawning stock biomass if the stock structure is composed of smaller or larger fish.

## Executive Committee – 2024 Implementation Plan

The Executive Committee met to discuss the 2024 Implementation Plan. The Council develops Implementation Plans each year to ensure progress toward achieving the goals and objectives of its 5-year strategic plan. First, the Committee received a progress update on the 2023 Implementation Plan. The Committee then reviewed, and recommended several revisions to, a draft list of actions and deliverables that had been developed by staff for 2024. The revised list will be used to develop a complete 2024 Implementation Plan for review by the Council in December.

## Next Meeting

The next Council meeting will be held **December 12-14, 2023, in Philadelphia, PA**. A complete list of upcoming meetings can be found at <https://www.mafmc.org/council-events>.

### 2024 Marine Resource Education Program Workshop – Apply Now!

The Marine Resource Education Program (MREP) is accepting applications for the next Greater Atlantic Fisheries Science and Management Workshop, to be held **February 12-16, 2024 in Falmouth, Massachusetts**.

- [APPLY HERE](#)

MREP is designed to equip fishermen with tools to engage in shaping regulatory action and to participate in collaborative science. Created by fishermen, for fishermen, this workshop will bring commercial, charter, and recreational fishermen from North Carolina to Maine together with regional scientists and managers to learn the processes, share insights, and network. The workshop is free and includes hotel lodging, meals, and travel reimbursement for accepted participants.

Space is limited, and preference will be given to applications received by November 13, 2023. The application takes approximately 5-10 minutes to complete. Accepted participants will be notified in early January 2024.

MREP Fisheries Science &  
Management Workshop  
February 12 – 16, 2024  
Sea Crest Beach Hotel  
Falmouth, MA

Apply today! Scan the QR code or visit:  
[mrep.gmri.org/apply](http://mrep.gmri.org/apply)







# *South Atlantic Fishery Management Council*

## *News Release*

FOR IMMEDIATE RELEASE  
September 20, 2023

CONTACT: Kim Iverson  
Public Information Officer  
Toll Free: 866/SAFMC-10 or 843/571-4366  
kim.iverson@safmc.net

### **Federal Council Approves Amendment to Implement Electronic Logbook Reporting for Federally Permitted Commercial Vessels**

Federally permitted commercial fishermen are required to report information about their individual fishing trips and have been doing so through the NOAA Fisheries Southeast Fishery Science Center's Coastal Fisheries Logbook Program since the program began in 1990. Over the years, the program has expanded and the format for the reporting forms has changed, but the use of paper logbooks has remained constant. Members of the South Atlantic Fishery Management Council approved a comprehensive amendment that would replace the current paper-based logbook and require electronic reporting, eliminating the need for carbon copies and paper mailings.

If approved by the Gulf of Mexico Fishery Management Council and subsequently the Secretary of Commerce, the joint Comprehensive Amendment Addressing Electronic Reporting for Commercial Vessels would apply to commercial vessels permitted in the South Atlantic snapper grouper, Atlantic dolphin wahoo, Atlantic and Gulf coastal migratory pelagic (CMP), and Gulf Reef Fish fisheries. The requirements may also affect vessels fishing in the Greater Atlantic Region and in other fisheries (e.g., Highly Migratory Species) that have the permits noted above.

Data collection programs, such as the Coastal Fisheries Logbook Program, provide essential information required to assess stock status and monitor harvest. The move to electronic reporting is expected to improve timeliness and efficiency of commercial logbook data collection and management, improve monitoring and compliance, and eventually support one-stop reporting for vessels that hold multiple permits. Developed jointly with the Gulf of Mexico Fishery Management Council, the amendment is expected to be approved by the Gulf Council during its October 23-26, 2023, meeting.

"As a fisherman that fishes every day and has to fill out daily logbooks, sometime twice a day, this is much appreciated," said Jimmy Hull, a commercial fisherman and owner of Hull's Seafood in Ormond Beach, Florida. "It takes a long time to fill out paper logbooks and sometimes mistakes are made, but with e-logbooks, reporting will be more accurate, and I can do this daily and more quickly. Overall, I see this as a positive and full speed ahead." Hull, a former member and Chair of the Council's Snapper Grouper Advisory Panel, also noted the advisory panel has been supportive of this effort for several years.

#### **Other Business**

The Council received a presentation from the NOAA Fisheries Office of Science and Technology regarding a pilot study conducted on the Marine Recreational Information Program's Fishing Effort Survey (FES).

*(Continued)*

## **Electronic Logbook Reporting (Continued)**

Preliminary results suggest the order of the questions in the survey may lead to an overestimation of recreational fishing effort, in some cases 30 to 40%. Council members discussed their concerns, and the implications of the FES pilot study and steps NOAA Fisheries will take over the next few years to address the potential bias. The Council approved a series of motions outlining their approach to address the impact of biased FES estimates on management and assessment activities. This included reviewing each amendment discussed during the meeting to consider how bias in recreational catch and effort estimates could impact proposed actions.

The Council approved a Habitat Program Evaluation and Blueprint to establish goals and objectives for its habitat program that ensure Magnuson-Stevens Fishery Conservation and Management Act requirements are addressed, clarify processes for developing habitat policies and comments, and provide overall direction for the program. The Habitat Blueprint also includes modifications to the Council's Habitat and Ecosystem Advisory Panel.

The Council discussed the status of Snapper Grouper Regulatory Amendment 35 with actions to reduce catch levels for Red Snapper and require the use of single-hook rigs when fishing for snapper grouper species. The amendment was approved by the Council in March of this year but has not been submitted for Secretarial review. The Council will continue discussion of the amendment during its December meeting.

Additional information about the Council's September meeting, including final committee reports and reports from meetings of the Full Council are available from the Council's website at: <https://safmc.net/events/september-2023-council-meeting/>. The next meeting of the South Atlantic Council will be held December 4-8, 2023, in Beaufort, North Carolina.

**The South Atlantic Fishery Management Council, one of eight regional councils, conserves and manages fish stocks from three to 200 miles offshore of North Carolina, South Carolina, Georgia and east Florida.**



**South Atlantic Fishery Management Council**  
**Full Council and Committee**  
**SUMMARY MOTIONS**  
**September 11-15, 2023**

This is a summary of the motions approved by the Council. Motions addressing actions and alternatives for FMP amendments are followed by text showing the result of the approved motion. Complete details on motions and other committee recommendations are provided in the Committee Reports available on the SAFMC website.

**Full Council Session I**

**MOTION 1: APPROVE EDITS TO OPTION 1 IN THE COMPREHENSIVE AMENDMENT ADDRESSING ELECTRONIC REPORTING FOR COMMERCIAL VESSELS.**

Option 1: Modify the reporting requirements to require the owner or operator of a vessel for which a commercial fishing permit for South Atlantic snapper grouper, Atlantic dolphin and wahoo, coastal migratory pelagic species or Gulf reef fish has been issued to maintain a fishing record for each trip on an electronic software approved by the National Marine Fisheries Service. Completed fishing records must be electronically transmitted to the Science and Research Director no later than 7 days after the end of each fishing trip. If no fishing occurred during a calendar month, a report must be submitted on one of the electronic forms no later than 7 days after the end of that month. Information to be reported is indicated on the form and its accompanying instructions.

**MOTION 2: APPROVE THE COMPREHENSIVE AMENDMENT ADDRESSING ELECTRONIC REPORTING FOR COMMERCIAL VESSELS FOR FORMAL SECRETARIAL REVIEW AND DEEM THE CODIFIED TEXT AS NECESSARY AND APPROPRIATE. GIVE STAFF EDITORIAL LICENSE TO MAKE ANY NECESSARY EDITORIAL CHANGES TO THE DOCUMENT/CODIFIED TEXT AND GIVE THE COUNCIL CHAIR AUTHORITY TO APPROVE THE REVISIONS AND RE-DEEM THE CODIFIED TEXT.**

**MOTION 3: DURING THE SEPTEMBER COUNCIL MEETING AND PRIOR TO DISCUSSION ON EACH AMENDMENT THAT UTILIZES MRIP-FES DATA, THE COUNCIL WILL DISCUSS THE FOLLOWING:**

1. THE AMENDMENT'S DEPENDENCY ON MRIP-FES DATA,
2. ANY MSA OR FEDERAL DEADLINES REQUIRED TO COMPLETE THE AMENDMENT, AND
3. IF THE COUNCIL IS INTERESTED IN MOVING FORWARD WITH THE AMENDMENT AND SUBSEQUENT TIMELINE OR POSTPONING FURTHER DISCUSSION UNTIL THE MRIP FES BIAS EVALUATION STUDY IS COMPLETE.

**MOTION 4: DURING THE SEDAR COMMITTEE, THE COUNCIL WILL DISCUSS THE ONGOING AND UPCOMING PROJECTS REQUESTED BY THE SAFMC, CONSIDER THEIR DEPENDENCY ON MRIP-FES, AND PROVIDE RECOMMENDATIONS TO BE CONSIDERED AT THE NEXT SEDAR STEERING COMMITTEE.**

**MOTION 5: DIRECT THE EXECUTIVE COMMITTEE AT THEIR OCTOBER 2023 MEETING TO RE-EVALUATE AND PRIORITIZE THE WORKLOAD IN ACCORDANCE WITH THE COUNCIL’S ACTIONS DURING THE SEPTEMBER 2023 MEETING TO ADJUST FMP AMENDMENT TIMELINES AND SAFMC SEDAR PRIORITIES IN LIGHT OF THE RECENT NOTIFICATION OF POSSIBLE BIAS IN ESTIMATES PROVIDED BY THE MRIP-FES PROGRAM.**

**MOTION 6: DIRECT STAFF TO DO THE FOLLOWING:**

- Prepare a presentation on management triggers to inform activities related to climate change response for the March 2024 Council meeting.
- Request a presentation from SEFSC on status and outcomes from the 2020 Atlantic Science Coordination Workshop for the December 2023 Council meeting.
- Request an update from the SEFSC on progress to address differences in fishery independent surveys across regions (Southeast and Northeast) that currently limit the use of survey information to evaluate climate impacts on fish stocks for the December 2023 meeting.
- Finalize comment letter on governance procedural directive.
- Submit a FOIA request to the USCG to obtain information on the number, frequency, and duration of closures in the EEZ as a result of space-related activities over the past 10 years.
- Prepare a letter to support the state’s positions regarding shrimp imports and the effect they are having on the domestic shrimp industry.

### **Mackerel Cobia Committee**

**MOTION 7: APPROVE THE PURPOSE AND NEED STATEMENT AS PRESENTED.**

The purpose of this amendment is to revise the acceptable biological catch, annual catch limits, annual optimum yield and recreational annual catch target for Atlantic migratory group Spanish mackerel, based on the results of the latest stock assessment.

The need for this amendment is to ensure catch limits are based on the best scientific information available and to ensure overfishing does not occur in the Atlantic migratory group Spanish mackerel fishery.

**MOTION 8: APPROVE CMP FRAMEWORK AMENDMENT 13 FOR SCOPING.**

**MOTION 9: ADOPT THE FOLLOWING TIMING AND TASKS:**

- Continue work on CMP Framework Amendment 13, bringing the amendment to the Mackerel Cobia AP for discussion and holding scoping hearings prior to the December 2023 meeting.
- Continue development of port meetings, discussing possible meeting structure and locations with the planning team and Mackerel Cobia AP. Planning team members have been requested from NC, SC, GA, and FL state agencies.
- Convene an in-person meeting of the Mackerel Cobia AP this fall to discuss the topics listed above and note the importance of attendance.

## **Habitat and Ecosystem Committee**

**MOTION 10:** APPROVE THE SAFMC HABITAT BLUEPRINT

**MOTION 11:** APPROVE THE HABITAT AND ECOSYSTEM ADVISORY PANEL JOB DESCRIPTION AS WRITTEN.

**MOTION 12:** APPROVE THE REVISED 2023 BEACH RENOURISHMENT AND LARGE-SCALE OCEAN ENGINEERING POLICY STATEMENT.

**MOTION 13:** APPROVE LIST OF AGENDA ITEMS FOR NOVEMBER 2023 HABITAT AND ECOSYSTEM AP MEETING

- NOAA Fisheries HCD EFH Consultation Update
- NOAA Fisheries EFH 5 Year Review (Subcommittees Reports)
- Update: SECAS and Conservation Blueprint
- US Navy Atlantic Fleet Training and Testing EIS
- Offshore Wind Activities in South Atlantic Region
  - Update on BOEM Research and Energy Development Activities
- EFH Policy Statement on Energy
- SAFMC Habitat Blueprint
  - Review the Habitat Blueprint and Input on the Blueprint Workplan
  - Develop a plan to prepare the initial Habitat Annual Report at the Spring 2024 meeting
  - Policy considerations and priorities (e.g., flow and artificial reef)
- Update on the South Atlantic Salt Marsh Initiative
- Space Operations off Florida

**MOTION 14:** ADOPT THE FOLLOWING TIMING AND TASKS:

- Habitat and Ecosystem AP fall meeting planning incorporating approved agenda items.
- Confirm and coordinate with presenters for the fall AP meeting.
- Prepare Habitat Blueprint Workplan for review in December 2023
- Add discussion of Lake Okeechobee discharges to workplan for HEAP
  - Intent is to focus the discussion on impacts to Oculina reef off Florida and impacts to the deepwater shrimp fishery.

## **SEDAR Committee**

**MOTION 15:** APPROVE STATEMENTS OF WORK FOR 2026 SEDAR PROJECTS, AS MODIFIED.

For Snowy Grouper and Spanish Mackerel:

- Develop sensitivities to explore potential impact of bias in recreational landings.

For Dolphin:

- Ensure the evaluation includes an exploration of the potential impact of biased recreational landings.

- Evaluate potential distributional shifts or impacts of climate on Dolphin.
- Incorporate fleet dynamics for the commercial sector.

**MOTION 16:** APPOINT KAI LORENZEN TO THE SEDAR 82 GRAY TRIGGERFISH RESEARCH TRACK REVIEW PANEL, APPOINT STEVE TURNER AND FRED SERCHUK TO THE SEDAR79 MUTTON SNAPPER BENCHMARK ASSESSMENT PANEL, AND APPOINT STEVE TURNER AND KAI LORENZEN TO THE SEDAR92 BLUELINE TILEFISH OPERATIONAL REVIEW PANEL.

**MOTION 17:** ADOPT THE REVISED SEDAR PROJECT SCHEDULE INCLUDED IN SEDAR PROJECT SCHEDULE RECOMMENDED CHANGES DOCUMENT (FIGURE 3 IN FINAL COMMITTEE REPORT) AS THE RECOMMENDED SCHEDULE FOR SOUTH ATLANTIC PROJECTS.

**Snapper Grouper Committee**

*Note: Motions 18-22 pertain to the Private Recreational Permitting Amendment (SG Amendment 46)*

**MOTION 18:** ACCEPT THE EDITS TO THE PURPOSE AND NEED STATEMENTS.

The purpose of the amendment is to develop a recreational permitting system that will identify the universe of private anglers or vessels targeting South Atlantic snapper grouper species and will enhance the ability to collect recreational effort and catch data. Also work to promote best recreational fishing practices through education.

The need for the amendment is to improve the quality of effort and catch data for the private component of the recreational sector that targets South Atlantic snapper grouper species, while minimizing, to the extent practicable, adverse social and economic effects. Also improve education on best fishing practices.

**MOTION 19:** REMOVE ALTERNATIVES 3 AND 6 IN ACTION 2 TO THE CONSIDERED BUT REJECTED SECTION.

**Action 2. Specify the species that would be covered by a private recreational snapper grouper permit**

**Alternative 3.** A federal private recreational snapper grouper permit would be required when fishing for, harvesting, or possessing any assessed species in the snapper grouper fishery management unit for which recreational harvest is allowed.

**Alternative 6.** A federal private recreational snapper grouper permit would be required when fishing for, harvesting, or possessing any species with a size or bag limit.

**MOTION 20:** REMOVE ACTION 3 TO THE CONSIDERED BUT REJECTED SECTION.

**Action 3. Specify the effective term of a private recreational snapper grouper permit**

**Alternative 1 (No Action).** A federal permit is not required for a private angler or private vessel when fishing for, harvesting, or possessing snapper grouper species in the South Atlantic exclusive economic zone.

**Alternative 2.** A federal private recreational snapper grouper permit would remain valid for the calendar year that it was issued.

**Alternative 3.** A federal private recreational snapper grouper permit would remain valid for one year from issuance.

**Alternative 4.** A federal private recreational snapper grouper permit would expire on the date of birth for the permit holder.

**MOTION 21:** REMOVE ACTION 6 TO THE CONSIDERED BUT REJECTED SECTION AND CLARIFY IN ACTION 5 THAT THE INTENT IS FOR THE EDUCATION COMPONENT TO BE MANDATORY.

**Action 6. Specify whether an education component in the private recreational portion of the snapper grouper fishery would be mandatory or voluntary**

**Alternative 1 (No Action).** There is not a required education component for private recreational anglers to fish for, harvest, or possess snapper grouper species in the South Atlantic exclusive economic zone.

**Alternative 2.** An education component would be mandatory for all private recreational permit holders to fish for, harvest, or possess snapper grouper species in the South Atlantic exclusive economic zone.

**Alternative 3.** An education component would be voluntary for all private recreational permit holders to fish for, harvest, or possess snapper grouper species in the South Atlantic exclusive economic zone.

**MOTION 22:** REMOVE ALTERNATIVE 2 IN ACTION 8 TO THE CONSIDERED BUT REJECTED SECTION.

**Action 8. Specify the timing of education component requirements for the private recreational portion of the snapper grouper fishery in the South Atlantic region**

**Alternative 2.** An education component would need to be completed each calendar year.

**MOTION 23:** INITIATE A FRAMEWORK ACTION TO MODIFY THE GAG AND BLACK GROUPE VESSEL LIMIT TO 2 FISH COMBINED PER VESSEL.

**MOTION 24:** INCLUDE BLACK SEA BASS ON-DEMAND POT GEAR IN THE BLACK GROUPE AND GAG FRAMEWORK AMENDMENT.

**MOTION 25:** APPROVE THE ‘WHAT IT MEANS TO ME’ PROJECT AND BEGIN FILMING AT FALL AP MEETINGS.

**MOTION 26:** ADD DISCUSSION OF REGULATORY AMENDMENT 35 TO THE DECEMBER 2023 AGENDA.

**MOTION 27:** DIRECT STAFF TO DO THE FOLLOWING:

- Continue to develop Amendment 48 including bringing together the WAG and WSC to discuss cost recovery, monitoring, participation and eligibility. Provide the Committee with an update on the WAG and WSC meetings at the December 2023 Council meeting.
- Prepare an Amendment 46 public hearing document for approval at the December 2023 Council meeting.
- Continue to develop the BFP MVP and ‘What It Means to Me’ program. Identify possible participants for ‘What it Means to Me’ during the Fall 2023 AP meetings.

- Begin development of a framework amendment that will address the Gag and Black Grouper vessel limit and Black Sea Bass commercial on-demand gear to approve for scoping in December 2023.
- Request the SSC withdraw the stock ABC for yellowtail snapper in light of the MRIP-FES data issue and the availability of SRFS data for the species.
- Request the FWC consider prioritizing the yellowtail snapper assessment to include SRFS data.



ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

November 16, 2023

## MEMORANDUM

**TO:** N.C. Marine Fisheries Commission  
**FROM:** Col. Carter Witten  
**SUBJECT:** Law Enforcement Report

---

### Issue

Quarterly update on Marine Patrol law enforcement activities.

### Action Needed

For informational purposes only, **no action is needed at this time.**

### Overview

Marine Patrol officers have had an active 2023 fall fishing season with our officers meeting the challenges of enforcing the commercial and recreational flounder season as well as answering calls for service to the community. We continue to fill staff vacancies and are finalizing our mandated and specialized officer training for the year. We have attended education and outreach events and have secured grant monies to purchase new equipment.

Between September 1 and October 24, Marine Patrol wrote 9 citations and 12 warnings during the flounder season. During the WRC's flounder season, we wrote 4 warnings for violations of the transportation rule. In addition to our on the water duties, a marine patrol officer assisted during an active shooter situation at Fort Fisher State Park. We placed the DMF headquarters on lock down while Morehead City police officers were trying to apprehend a breaking & entering suspect in the parking lot. And finally, Harnett County Emergency Management called for Marine Patrol's assistance in looking for a missing child who thankfully was located before our officers arrived on scene.

Marine Patrol officers, along with other Division employees, staffed the DMF's display at the North Carolina State Fair in Raleigh this October. We participated in the Seafood Festival in Morehead City and National Night Out as well as attending other educational events at various schools in our local communities.

The swift water rescue team was activated and made ready to assist when Hurricane Ophelia made landfall near Emerald Isle. Luckily, no emergency situations arose during that storm. The Swift Water Team recently received a \$45,000 grant from Homeland Security which will go toward the purchase of equipment and a \$19,620 grant from the FDA and AFDO which will go toward the purchase of new rain gear for all officers.

The Marine Patrol is in the process of hiring two officer positions, one in Hatteras and one in Hyde County. We are in the initial stages of this process and anticipate scheduling interviews by the end of the month.





ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

October 20, 2023

## MEMORANDUM

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

**FROM:** Barbie Byrd, Biologist Supervisor  
Protected Resources Program, Fisheries Management Section

**SUBJECT:** Protected Resources Program Update

---

### Issues

Summary information is provided from the Division's Protected Resources Program for observer program activities during summer (June-August) 2023. Seasonal reports to National Marine Fisheries Service (NMFS) are required for the Sea Turtle Incidental Take Permit (ITP) and monthly reports, if there is an observed take, are required for the Atlantic Sturgeon ITP. The summer seasonal report can be found in the briefing materials. There were no monthly reports submitted as there were not sturgeon incidental takes during summer.

The Division did not receive the renewed ITP before the sea turtle ITP expired at the end of August 2023. However, NMFS provided a letter authorizing the Division to continue operating under the sea turtle ITP until a final determination is made on the application. The letter did not include reference to the Atlantic sturgeon ITP because it does not expire until the end of August 2024. The public comment period for the draft Environmental Assessment of the ITP renewal application closed on September 11<sup>th</sup>. The NMFS is working through public comments and an Endangered Species Act (ESA) Section 7 consultation, which is an interagency process "...designed to assist federal agencies in fulfilling their duty to ensure any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat" (<https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-consultations-greater-atlantic-region>).

The Division continues to coordinate with NC Department of Information Technology to develop the Observer Trip Scheduling System (OTSS). The OTSS should ensure that ITP observer coverage requirements are met and that the observer coverage is distributed evenly among participants and representative of the fishery. Currently, the OTSS is in the internal testing phase. Once this testing phase is complete, the Observer Program will be reaching out to members of the commercial fishing industry, including those on the Marine Fisheries Commission, to further test the system. An implementation date for requiring participation in the OTSS has not been set, but the target date is early 2024. Public information meetings and trainings will occur before the OTSS is fully implemented.



## Action Needed

For informational purposes only; **no action is needed at this time.**

## Overview of the ITP report

During summer 2023, the estuarine anchored large-mesh gill-net fishery remained closed state-wide. Closures to the estuarine anchored small-mesh gill-net fishery varied by month and Management Unit (MU). For the entire season, MUs A, C, and D2 were open to anchored small-mesh gill nets, and MU D1 remained closed from a proclamation published during spring (Proclamation [Proc.] M-9-2023). Though MU E was closed during spring (Proc. M-9-2023), it was reopened on August 10 after fishermen contacted staff about the extant closure and agreed to arrange observed trips if the MU was reopened (Proc. M-14-2023). Staff were unable to locate small-mesh gill-net effort in much of MU B except for Shallow Water Gill Net Restricted Area (SGNRA) 2 and 4 (Figure 1). To ensure continued compliance with the ITP, on August 10 all of MU B except these areas was closed to anchored gill nets (Proc. M-14-2023).

During summer, NCDMF staff conducted 20 small-mesh gill-net observations (Table 1). Estimated observer coverage of the small-mesh gill-net fishery met or exceeded 1% minimum threshold in all open MUs. Management Unit D1 remained closed as NCDMF staff received no contact from any fishermen in regards to reopening that MU. There were no observed sea turtle or Atlantic sturgeon interactions during summer.

Observers and Marine Patrol officers logged 233 unsuccessful attempts to find and observe anchored gill-net effort (i.e., No-Contact trips) during summer 2023 (Table 2).

During summer 2023, 326 contacts occurred with 38% ( $n=125$ ) representing occasions where observers and fishermen spoke to each other (Figure 2). Only 3% ( $n=11$ ) of the 326 contacts resulted in a booked trip.

The final document can be found at the following link:

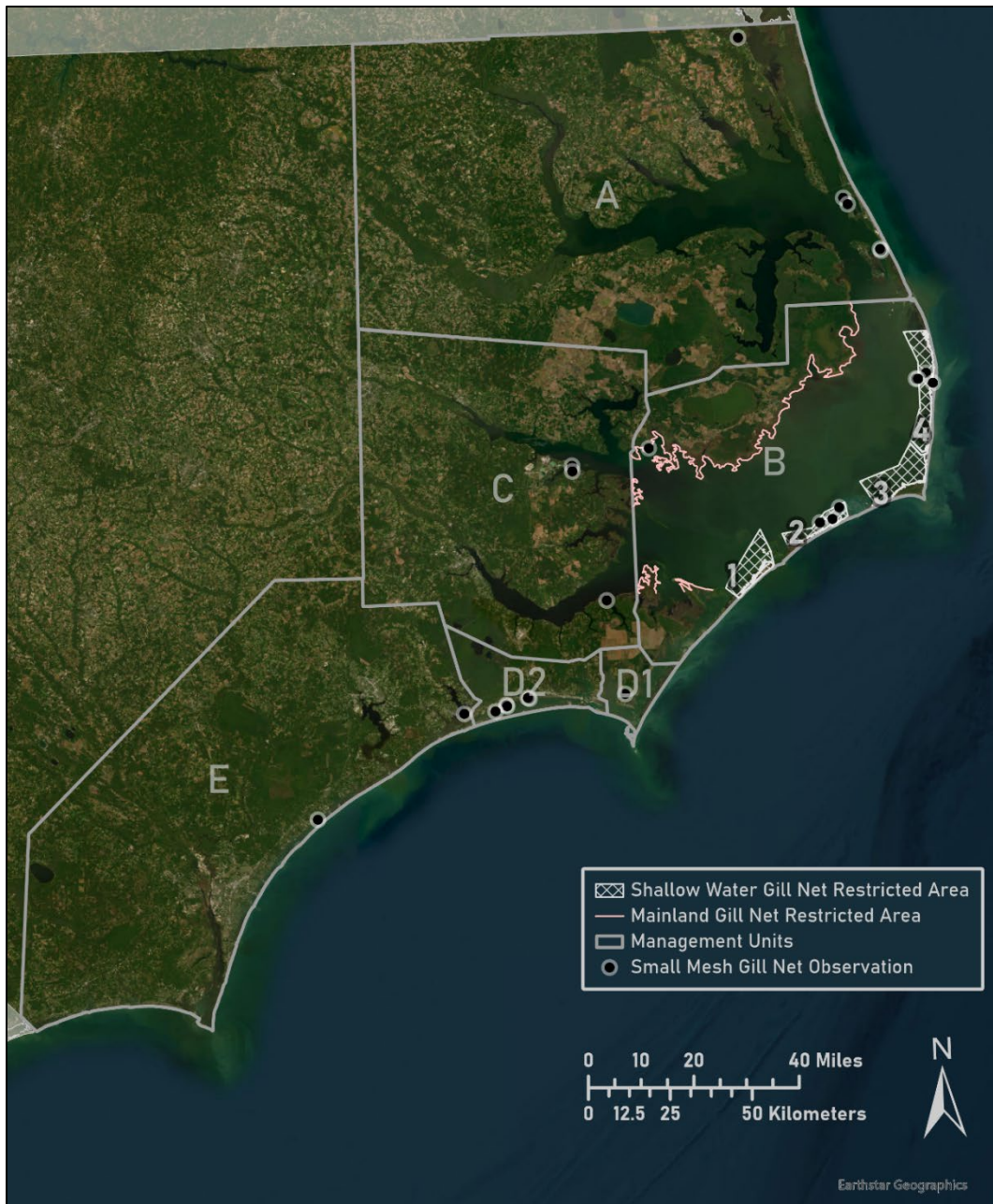
Summer 2023 Seasonal Sea Turtle ITP Report

**Table 1.** For estuarine anchored small-mesh gill nets, estimated percent observer coverage calculated from observed trips (<4 inch) and estimated fishing trips using Trip Ticket Program data (<5 inch) by management unit during summer (June-August) 2023 of ITP Year 2023. Management Units D1 was closed to estuarine anchored gill nets.

Management Unit	Estimated Fishing		Percent Observer Coverage
	Trips	Observed Trips	
A	192	5	2.6
B	840	8	1.0
C	65	2	3.1
D1	closed	closed	closed
D2	17	2	11.8
E	65	3	4.6
Total	1,179	20	1.6

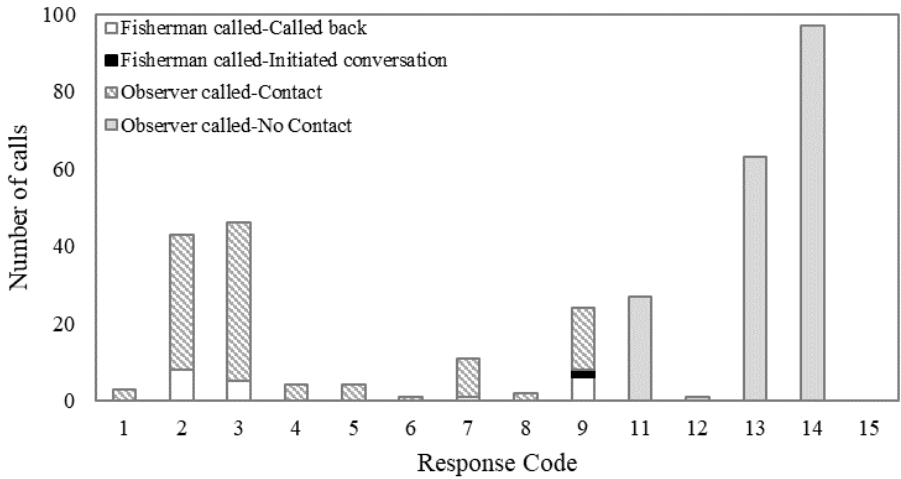
**Table 2.** Number of “No-Contact” trips by management unit completed by Marine Patrol and observers during summer (June-August) 2023 for Incidental Take Permit Year 2023. “No Contact” refers to unsuccessful attempts to find and observe anchored gill-net effort.

Management Unit	Marine Patrol	Observer	Total
	No-Contact Trips	No-Contact Trips	No-Contact Trips
A	70	0	70
B	32	10	42
C	53	2	55
D1	closed	closed	closed
D2	20	4	24
E	42	0	42
Total	217	16	233



**Figure 1.** Map of observed small-mesh (<4 ISM) gill-net trips ( $n=20$ ), June–August 2023 (summer) of ITP Year 2023. Note that in some areas, multiple observations may be depicted as fewer observations due to the point layering and map scale. For example, a single point may be visible; however, multiple points may exist at that location. For observed trip totals within each management unit, please see Table 1

Summer (June-August) 2023  
*n*=326



**Figure 2.** Contact attempts (*n*=326) during June–August 2023 (summer) to schedule trips. Contact response categories include the following: 1) Left message with someone else; 2) Not fishing general; 3) Fishing other gear; 4) Not fishing because of weather; 5) Not fishing because of boat issues; 6) Not fishing because of medical issues; 7) Booked trip; 8) Hung up, got angry, and/or trip refused; 9) Call back later time/date; 10) Saw in person; 11) Disconnected; 12) Wrong number; 13) No answer; 14) No answer, left voicemail; 15) Not fishing because of natural disaster (e.g., hurricane). Contact responses are stratified by occasions when observers initiated a successful contact (gray striped bars), when the observer initiated an unsuccessful contact (gray bars), when the fisherman returned an observer’s call (white bars), and when the fisherman initiated contact (black bars).

2023 Summer Seasonal Progress Report  
for Activities under Endangered Species Act  
Section 10 Incidental Take Permit No. 16230  
June 1–August 31, 2023  
ITP Year 2023



David J. Ushakow, Barbie L. Byrd, & Matthew R. Doster  
North Carolina Department of Environmental Quality  
North Carolina Division of Marine Fisheries  
Protected Resources Program  
3441 Arendell Street  
Morehead City, NC 28557

September 2023

## TABLE OF CONTENTS

<b>List of Tables</b> .....	3
<b>List of Figures</b> .....	4
<b>Summary</b> .....	5
<b>Tables</b> .....	7
<b>Figures</b> .....	10

## LIST OF TABLES

<b>Table 1.</b> Proclamations (Proc.) affecting anchored gill-net fisheries during June–August 2023 (summer).....	7
<b>Table 2.</b> For small-mesh gill nets, estimated percent observer coverage calculated from observed trips (<4 inches stretched mesh [ISM]) and estimated fishing trips using Trip Ticket Program data (<5 ISM) by management unit during June–August 2023 (summer) of ITP Year 2023.....	7
<b>Table 3.</b> Summary of “No-Contact” trips by management unit completed by Marine Patrol and observers during June–August 2023 (summer) of ITP Year 2023. “No Contact” refers to unsuccessful attempts to find and observe anchored gill-net effort. ....	7
<b>Table 4.</b> Total annual authorized and actual takes (observed and estimated) of sea turtles by species and, for estimated takes, by condition for the 2023 ITP Year to date (September 2022–August 2023). Estimated takes denoted as not applicable (n/a) are for species whose authorized takes in the ITP are expressed only as counts. Because there were no observed takes during spring or summer, this table is unchanged since the fall 2023 report.....	8
<b>Table 5.</b> Fisherman contact code and associated descriptions for fisherman contact attempts during June–August 2023 (summer) of ITP Year 2023.....	8
<b>Table 6.</b> Citations written by Marine Patrol officers for anchored gill nets by date and violation code during June–August 2023 (summer) of ITP Year 2023.....	9
<b>Table 7.</b> Notice of Violations (NOVs) for Estuarine Gill Net Permit (EGNP) holders using anchored gill nets by date and violation code issued during June–August 2023 (summer) of ITP Year 2023. ....	9

## LIST OF FIGURES

- Figure 1.** Map depicting areas in Management Unit B open and closed to estuarine anchored small-mesh gill nets per Proclamation M-14-2023, effective August 10, 2023..... 10
- Figure 2.** Map of observed large-mesh ( $\geq 4$  inches stretched mesh [ISM]) and small-mesh ( $< 4$  ISM) gill-net trips, June–August 2023 (summer) of ITP Year 2023. Note that in some areas, multiple observations may be depicted as fewer observations due to the point layering and map scale. For example, a single point may be visible; however, multiple points may exist at that location. For observed trip totals within each management unit, please see Table 2. ....11
- Figure 3.** Contact attempts ( $n=326$ ) during June–August 2023 (summer) to schedule trips. Contact response categories include the following: 1) Left message with someone else; 2) Not fishing general; 3) Fishing other gear; 4) Not fishing because of weather; 5) Not fishing because of boat issues; 6) Not fishing because of medical issues; 7) Booked trip; 8) Hung up, got angry, trip refused; 9) Call back later time/date; 10) Saw in person; 11) Disconnected; 12) Wrong number; 13) No answer; 14) No answer, left voicemail; 15) Not fishing because of natural disaster (e.g., hurricane). Contact responses are stratified by occasions when observers initiated a successful contact (light green), when the observer initiated an unsuccessful contact (dark green), when the fisherman returned an observer’s call (light blue), and when the fisherman initiated contact (dark blue). ..... 12



## SUMMARY

This report summarizes activities of the North Carolina Division of Marine Fisheries (NCDMF) Observer Program during June-August 2023 (i.e., summer) of the Incidental Take Permit (ITP) Year 2023 (September 1, 2022–August 31, 2023) for ITP No. 16230. Throughout this document, all references to gill nets are for estuarine anchored gill nets only unless stated otherwise. Mesh-size categories for gill nets are large-mesh, defined as  $\geq 4$  inches stretched mesh (ISM), and small-mesh, defined as  $< 4$  ISM. Finally, data used in this seasonal report are preliminary and subject to change.

During summer 2023, the estuarine anchored large-mesh gill-net fishery remained closed state-wide. Closures to the estuarine anchored small-mesh gill-net fishery varied by month and Management Unit (MU). For the entire season, MUs A, C, and D2 were open to anchored small-mesh gill nets, and MU D1 remained closed from a proclamation published during spring (Proclamation [Proc.] M-9-2023; Table 1). Though MU E was closed during spring (Proc. M-9-2023), it was reopened on August 10 after fishermen contacted staff about the extant closure and agreed to arrange observed trips if the MU was reopened (Proc. M-14-2023; Figure 1). Staff were unable to locate small-mesh gill-net effort in much of MU B except for Shallow Water Gill Net Restricted Area (SGNRA) 2 and 4 (Figure 2). To ensure continued compliance with the ITP, on August 10 all of MU B except these areas was closed to anchored gill nets (Proc. M-14-2023).

Prior to the start of the summer season, the Observer Program projected the number of observed trips by mesh-size category, month, and MU needed to meet the coverage levels required by the ITP. For the small-mesh gill-net fishery in all management units except for MU B, this coverage projection was calculated as 2% of the average number of fishing trips reported to the Trip Ticket Program by month and MU from the previous five years, 2017–2022. For MU B, estimated fishing effort was prorated for August with the following steps. During 2018–2022, there were 1,627 reported small-mesh anchored trips in MU B during summer. Of those, 1,255 (77%) were landed in towns where trips in open areas of MU B were likely to be offloaded: Wanchese, Nags Head, Hatteras Island towns, and Ocracoke. We applied this 77% to prorate estimated trips during August 2023, which lowered the estimated trips for the season and the associated observer quota to meet the 1 and 2% thresholds.

During summer, NCDMF staff conducted 20 small-mesh gill-net observations (Table 2; Figure 2). Estimated observer coverage of the small-mesh gill-net fishery met or exceeded 1% in all open MUs. Management Unit D1 remained closed from summer as NCDMF staff received no contact from any fishermen in regards to reopening that MU.

Observers and Marine Patrol officers logged 233 unsuccessful attempts to find and observe anchored gill-net effort (i.e., No-Contact trips) during summer 2023 (Table 3).

There were no observed sea turtle interactions during summer 2023 (Table 4).

In addition to alternative platform trips, observers attempt to locate trips through other methods. Initially, observers attempt to contact fishermen via phone using fisherman-provided contact information of current Estuarine Gill Net Permit (EGNP) holders, prioritizing those who have

reported gill-net landings over the previous three years. If observers fail to schedule a trip in advance through phone calls, observers scout for fishermen at boat ramps and attempt to organize impromptu on-board observations. Fishermen contacts and contact attempts are then logged in a database. For each contact or contact attempt, responses are categorized and recorded as one of 15 response categories (Table 5; Figure 3). During summer 2023, 326 phone calls were made with 38% ( $n=125$ ) representing occasions where observers and fishers spoke to each other. Only 3% ( $n=11$ ) of the 326 contacts resulted in a booked trip. For two contacts, the callee expressed hostility towards NCDMF staff.

As a condition of the EGNP, fishermen are required to provide current contact information so that observers can schedule trips. Additionally, fishermen are required to update their contact information within 14 days if there is a change. During spring 2023, observers began to closely track contact attempts that ended in a disconnected number and again attempted contact after 14 days. If the number was still disconnected on the second attempt, a Notice of Violation (NOV) was initiated. This approach continued during summer 2023. An NOV is the NCDMF's administrative process to suspend a permit and is initiated by an officer or other division employee when a permit holder is found to be in violation of general or specific permit conditions.

As part of their regular duties, Marine Patrol officers monitor fishing activity to ensure regulatory compliance. When Marine Patrol officers find gear or fishing practices to be out of compliance, they can issue either Citations, NOVs, or both. A citation is an enforcement action taken by a Marine Patrol officer for person(s) found to be in violation of general statutes, rules, or proclamations under the authority of the North Carolina Marine Fisheries Commission and is considered a proceeding for district court. A citation and an NOV may both be initiated by the same permit condition violation; however, they are two separate actions. For this report, NOVs or citations associated with gill-net activities or the ENGP (database codes "NETG" and "EGNP") were compiled. The NCDMF issued seven citations (Table 6) and five NOVs for anchored gill nets during summer 2023 (Table 7). Some of the suspensions were rescinded, due to permit compliance following issuance of the NOV in cases where it was their first violation of these permit conditions.

## TABLES

**Table 1.** Proclamations (Proc.) affecting anchored gill-net fisheries during June–August 2023 (summer).

Effective Date	Proc. Number	Regulation change
4/28/2023	M-9-2023	This proclamation supersedes proclamation M-3-2023 dated January 11, 2023. It reduces the yardage limits for gill nets less than 4 inches stretched mesh used in Management Unit B, establishes a drift gill net yardage limit for the Spanish Mackerel fishery that occurs in Management Unit B and closes Management Units D1 and D2 to the use of fixed or stationary gill nets less than 4 inches stretch mesh while allowing an exemption for actively fished nets.
8/10/2023	M-14-2023	This proclamation supersedes proclamation M-13-2023 dated May 24, 2023. It closes portions of Management Unit B and opens Management Unit E to the use of fixed or stationary gill nets less than 4 inches stretch mesh.

**Table 2.** For small-mesh gill nets, estimated percent observer coverage calculated from observed trips (<4 inches stretched mesh) and estimated fishing trips using Trip Ticket Program data (<5 ISM) by management unit during June–August 2023 (summer) of ITP Year 2023.

Management Unit	Estimated Fishing Trips	Observed Trips	Percent Observer Coverage
A	192	5	2.6
B	840	8	1.0
C	65	2	3.1
D1	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>
D2	17	2	11.8
E	65	3	4.6
Total	1,179	20	1.6

**Table 3.** Summary of “No-Contact” trips by management unit completed by Marine Patrol and observers during June–August 2023 (summer) of ITP Year 2023. “No Contact” refers to unsuccessful attempts to find and observe anchored gill-net effort.

Management Unit	Marine Patrol No-Contact Trips	Observer No-Contact Trips	Total No-Contact Trips
A	70	0	70
B	32	10	42
C	53	2	55
D1	<i>Closed</i>	<i>Closed</i>	<i>Closed</i>
D2	20	4	24
E	42	0	42
Total	217	16	233

**Table 4.** Total annual authorized and actual takes (observed and estimated) of sea turtles by species and, for estimated takes, by condition for the 2023 ITP Year to date (September 2022–August 2023). Estimated takes denoted as not applicable (n/a) are for species whose authorized takes in the ITP are expressed only as counts. Because there were no observed takes during spring or summer, this table is unchanged since the fall 2023 report.

Species	Observed (live/dead)		Estimated			
	Authorized	Actual	Authorized		Actual	
			Alive	Dead	Alive	Dead
Green	18	5	330	165	67.2	17.0
Hawksbill	8	0	n/a	n/a	n/a	n/a
Kemp's ridley	12	0	98	49	17.7	0.0
Leatherback	8	0	n/a	n/a	n/a	n/a
Loggerhead	24	1	n/a	n/a	n/a	n/a
Any Species	8	1	n/a	n/a	n/a	n/a
Total	78	7	428	214	84.9	17.0

**Table 5.** Fisherman contact code and associated descriptions for fisherman contact attempts during June–August 2023 (summer) of ITP Year 2023.

Code	Description	Total
1	Left message with someone else	3
2	Not fishing general	43
3	Fishing other gear	46
4	Not fishing - weather	4
5	Not fishing - boat issues	4
6	Not fishing - medical issues	1
7	Booked trip	11
8	Hung up, got angry, trip refused	2
9	Call back later time/date	24
10	Saw in person	0
11	Disconnected	27
12	Wrong number	1
13	No answer	63
14	No answer, left voicemail	14
15	Not fishing - natural disaster	0
Response Total		326

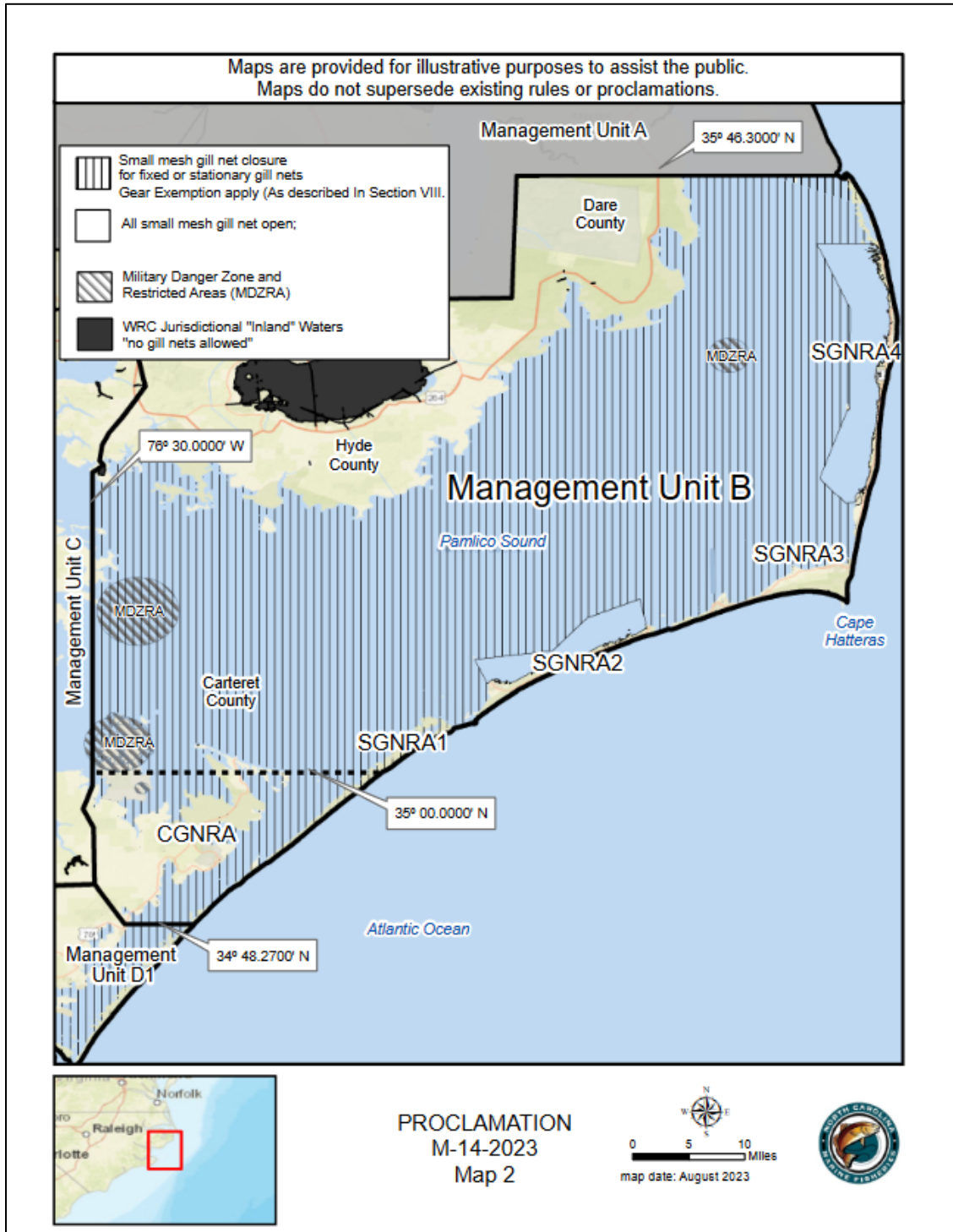
**Table 6.** Citations written by Marine Patrol officers for anchored gill nets by date and violation code during June–August 2023 (summer) of ITP Year 2023.

Date	Code	Description
6/5/2023	NETG01	Leave gill net in coastal waters unattended
6/5/2023	EGNP11	Failure to attend nets
6/19/2023	NETG16	Use an unattended gill net in a restricted area
7/11/2023	NETG22	Improperly set gill net
7/25/2023	EGNP01	Fishing gill net without a valid Estuarine Gill Net Permit
8/21/2023	NETG03	Using gill net with improper buoys or identification
8/21/2023	NETG01	Leave gill net in coastal waters unattended

**Table 7.** Notice of Violations (NOVs) for Estuarine Gill Net Permit (EGNP) holders using anchored gill nets by date and violation code issued during June–August 2023 (summer) of ITP Year 2023.

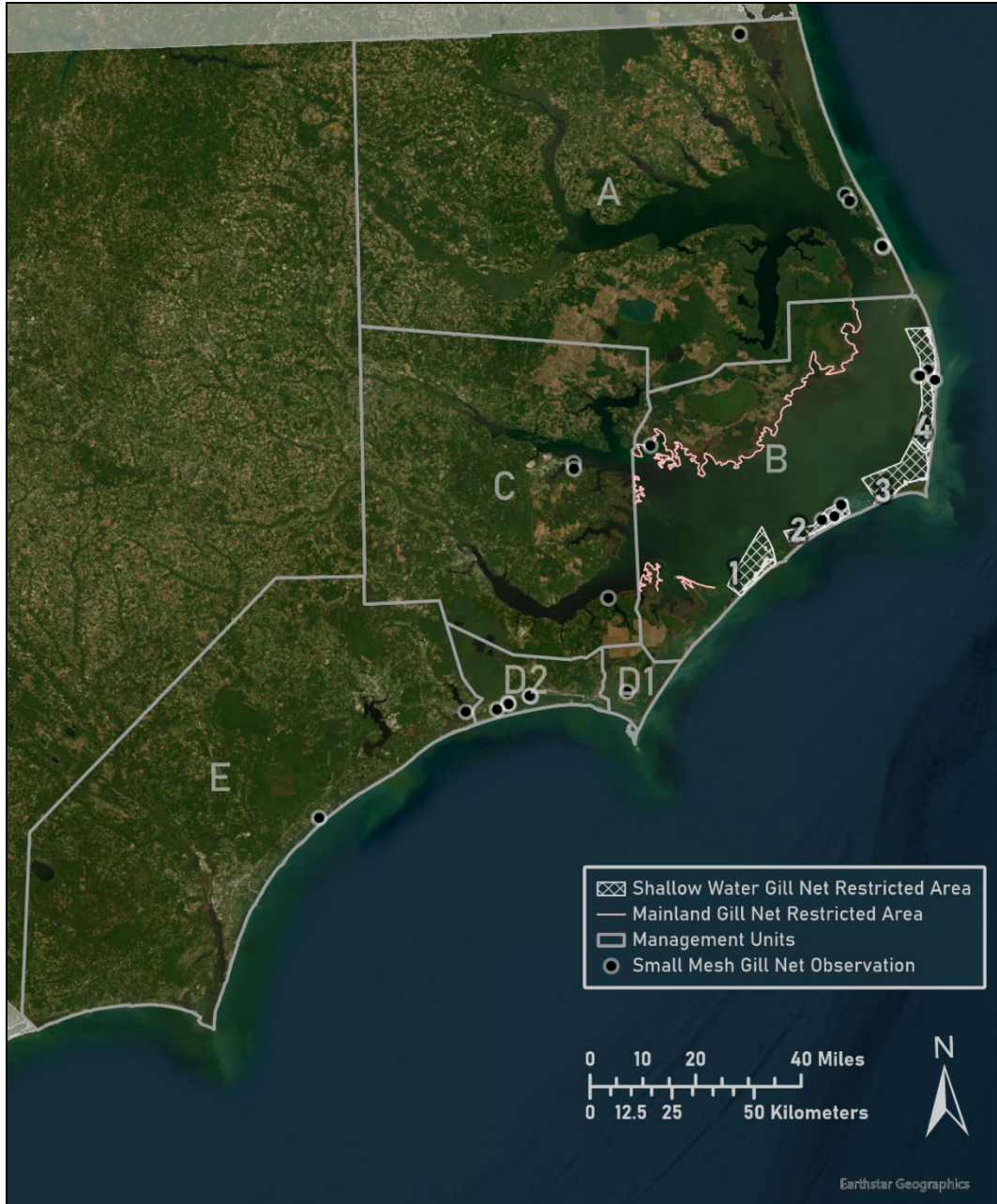
Date	Code	Description
6/5/2023	EGNP99	Failure to comply with statutes(s), rules(s), and/or proclamation(s)
6/21/2023	EGNP08	Failure to notify DMF of a change in phone number within 14 days
6/21/2023	EGNP08	Failure to notify DMF of a change in phone number within 14 days
6/21/2023	EGNP08	Failure to notify DMF of a change in phone number within 14 days
6/26/2023	EGNP08	Failure to notify DMF of a change in phone number within 14 days

## FIGURES



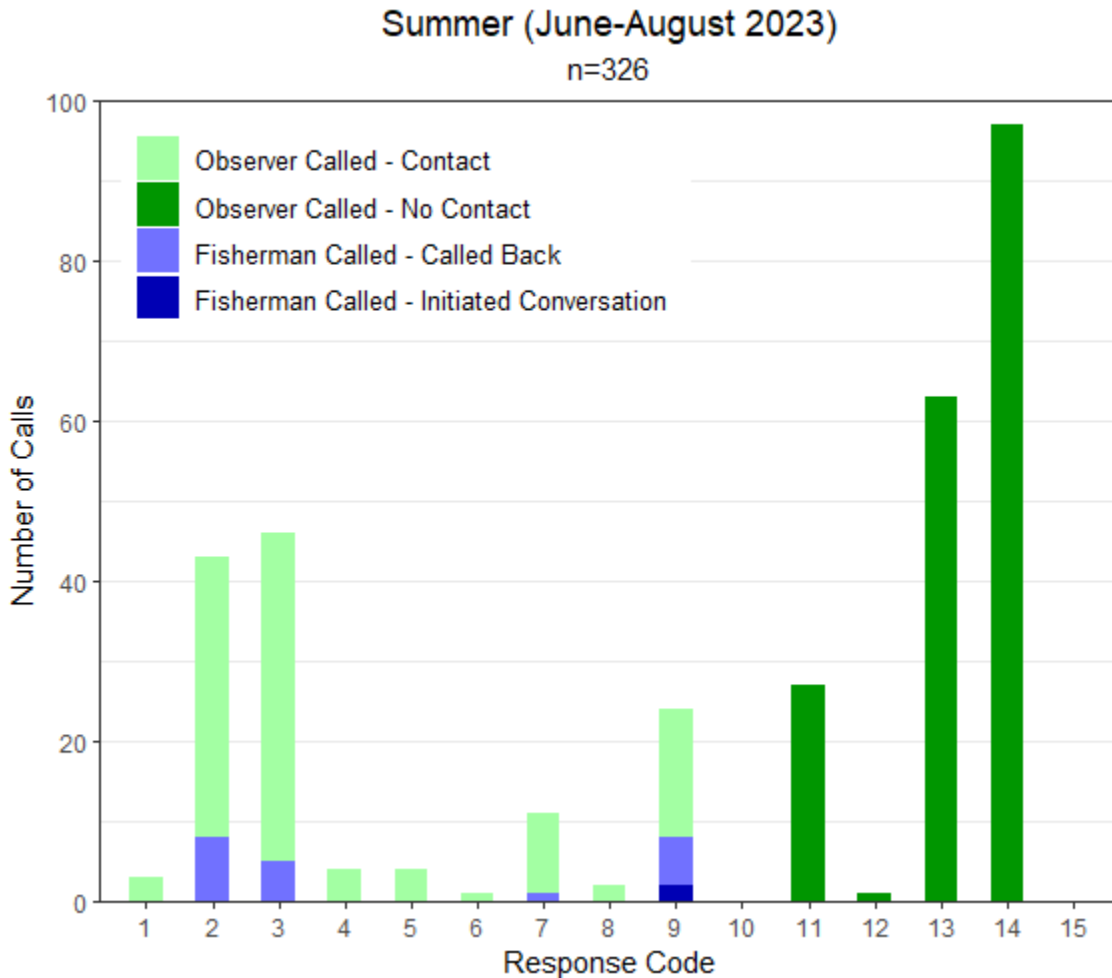
**Figure 1.** Map depicting areas in Management Unit B open and closed to estuarine anchored small-mesh gill nets per Proclamation M-14-2023, effective August 10, 2023.





**Figure 2.** Map of observed large-mesh ( $\geq 4$  inches stretched mesh [ISM]) and small-mesh ( $< 4$  ISM) gill-net trips, June–August 2023 (summer) of ITP Year 2023. Note that in some areas, multiple observations may be depicted as fewer observations due to the point layering and map scale. For example, a single point may be visible; however, multiple points may exist at that location. For observed trip totals within each management unit, please see Table 2.





**Figure 3.** Contact attempts ( $n=326$ ) during June–August 2023 (summer) to schedule trips. Contact response categories include the following: 1) Left message with someone else; 2) Not fishing general; 3) Fishing other gear; 4) Not fishing because of weather; 5) Not fishing because of boat issues; 6) Not fishing because of medical issues; 7) Booked trip; 8) Hung up, got angry, trip refused; 9) Call back later time/date; 10) Saw in person; 11) Disconnected; 12) Wrong number; 13) No answer; 14) No answer, left voicemail; 15) Not fishing because of natural disaster (e.g., hurricane). Contact responses are stratified by occasions when observers initiated a successful contact (light green), when the observer initiated an unsuccessful contact (dark green), when the fisherman returned an observer’s call (light blue), and when the fisherman initiated contact (dark blue).



ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

November 2, 2023

## MEMORANDUM

**TO:** N.C. Marine Fisheries Commission  
**FROM:** Steve Poland, Fisheries Management Section Chief  
**SUBJECT:** Temporary Rule Suspensions

---

### Issue

In accordance with the North Carolina Division of Marine Fisheries Resource Management Policy Number 2014-2, Temporary Rule Suspension, the North Carolina Marine Fisheries Commission will vote on any new rule suspensions that have occurred since the last meeting of the commission.

### Findings

No new rule suspensions have occurred since the August 2023 business meeting.

### Action Needed

For informational purposes only, no new action is needed at this time.

### Overview

In accordance with policy, the division will report current rule suspensions previously approved by the commission as non-action items. They include:

#### **NCMFC Rule 15A NCAC 03O .0501 (e)(4) PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS**

Suspension of portion of this rule for an indefinite period. Suspension of this rule allows the division to issue the Shellfish Relocation Permit to permittees already issued a Division of Coastal management permit for development activity. This suspension was implemented in Proclamation [M-11-2023](#).

#### **NCMFC 15A NCAC 03R .0117 (c), (i), and (j) of section (1) OYSTER SANCTUARIES**

Suspension of portion of this rule for an indefinite period. Suspension of this rule allows the division to publish correct coordinates for the Pea Island, Raccoon Island, and Swan Island Oyster Sanctuaries to ensure that the sanctuaries continue to be protected according to the FMP restrictions while the rule is modified to reflect the correct boundary coordinates. This suspension was implemented in Proclamation [SF-6-2022](#).

### **NCMFC Rule 15A NCAC 03M .0515 (a)(2) Dolphin**

Suspension of portion of this rule for an indefinite period. Suspension of this rule allows the division to adjust the recreational vessel limit to complement management of dolphin under the South Atlantic Fishery Management Council's Amendment 10 to the Fishery Management Plan for the Dolphin and Wahoo Fishery of the Atlantic. This suspension was implemented in Proclamation [FF-30-2022](#).

### **NCMFC Rule 15A NCAC 03L .0105 (2) Recreational Shrimp Limits**

Suspension of portion of this rule for an indefinite period. Suspension of this rule allows the division to modify the recreational possession limit of shrimp by removing the four quarts heads on and two and a half quarts heads off prohibition from waters closed to shrimping in accordance with Amendment 2 to the North Carolina Shrimp Fishery Management Plan. This suspension was implemented in Proclamation [SH-4-2022](#).

### **NCMFC Rule 15A NCAC 03J .0103 (h) Gill Nets, Seines, Identification, Restrictions**

Continued suspension a portion of this rule for an indefinite period. Suspension of this rule allows the division to implement year-round small mesh gill net attendance requirements in certain areas of the Tar-Pamlico and Neuse rivers systems. This action was taken as part of a department initiative to review existing small mesh gill net rules to limit yardage and address attendance requirements in certain areas of the state. This suspension continues in Proclamation [M-22-2023](#).

### **NCMFC Rule 15A NCAC 03L .0103 (a)(1) Prohibited Nets, Mesh Lengths and Areas**

Continued suspension of portions of this rule for an indefinite period. This allows the division to adjust trawl net minimum mesh size requirements in accordance with the Amendment 2 to the North Carolina Shrimp Fishery Management Plan. This suspension was implemented in proclamation SH-3-2019 and continues in [SH-1-2022](#).

### **NCMFC Rule 15A NCAC 03J .0501 (e)(2) Definitions and Standards for Pound Nets and Pound Net Sets**

Continued suspension portions of this rule for an indefinite period. This allows the division to increase the minimum mesh size of escape panels for flounder pound nets in accordance with Amendment 2 of the North Carolina Southern Flounder Fishery Management Plan. This suspension was implemented in Proclamation [M-34-2015](#).

### **NCMFC Rule 15A NCAC 03M .0519 (a) and (b) Shad & 03Q .0107 (4) Special Regulations: Joint Waters**

Continued suspension portions of these rules for an indefinite period. This allows the division to change the season and creel limit for American shad under the management framework of the North Carolina American Shad Sustainable Fishery Plan. These suspensions were continued in Proclamation [FF-67-2021\(Revised\)](#)

# **Fishery Management Plans**

November 2023 Business Meeting

<u>Document</u>	<u>Page</u>
Fishery Management Plan (FMP) Update Memo	02
Hard Clam FMP Amendment 3 Decision Document	04
Eastern Oyster FMP Amendment 5 Decision Document	08
Eastern Oyster and Hard Clam FMP Amendments Scoping Document	13
Striped Mullet FMP Amendment 2 Decision Document	21
Draft Striped Mullet FMP Amendment 2	32



ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

Nov. 2, 2023

## MEMORANDUM

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

**FROM:** Corrin Flora, Fishery Management Plan Coordinator  
Fisheries Management Section

**SUBJECT:** Fishery Management Plan Update and Schedule Review

---

### Issue

Update the N.C. Marine Fisheries Commission (MFC) on the status of North Carolina fishery management plans (FMPs).

### Action Needed

For informational purposes only, **no action is needed at this time.**

### Overview

This memo provides an overview of the status of six North Carolina FMPs for the November 2023 MFC business meeting.

### Striped Mullet FMP

The peer reviewed benchmark stock assessment for striped mullet indicated the stock was overfished and experiencing overfishing in the terminal year of 2019. Due to overfishing concerns, the Secretary authorized the MFC to develop temporary management through a supplement. At its November 2022 business meeting, the MFC selected preferred management for Supplement A to the Striped Mullet FMP Amendment 1. At its May 2023 business meeting, the MFC requested additional management options with regional considerations be added to Supplement A. The MFC adopted Supplement A at its May 2023 business meeting. Supplement A management will be implemented in November 2023.

Until new management is adopted, striped mullet are managed under the Striped Mullet FMP Amendment 1 and Supplement A to Amendment 1. At the November 2022 MFC business meeting, the MFC approved the Striped Mullet FMP Amendment 2 Goal and Objectives. Staff, with guidance from the Striped Mullet FMP Advisory Committee, have completed drafting Amendment 2. The MFC will receive an overview of Amendment 2 at its November business meeting. At that time, the MFC will vote to send Amendment 2 for public and MFC advisory committees review. This review would occur December 18, 2023 – January 17, 2024.

### **Spotted Seatrout FMP**

The peer reviewed, benchmark stock assessment for spotted seatrout indicated the stock is not overfished but is experiencing overfishing. The DMF held scoping for the Spotted Seatrout FMP Amendment 1 from March 13-24, 2023. At its May 2023 business meeting, the MFC approved the Amendment 1 Goal and Objectives. Staff are working on drafting Amendment 1. The division will seek applications for the Spotted Seatrout FMP Advisory Committee in early 2024.

### **Eastern Oyster and Hard Clam FMPs**

The 2022 FMP Schedule includes reviews of the Eastern Oyster and Hard Clam FMPs. Scoping was held September 11-22, 2023. The public had opportunities to participate through written comment, two online questionnaires, and four meetings (one of which was available virtually). Due to limited participation, staff are working on additional ways to obtain the public perspective on potential management. At its November 2023 business meeting, the MFC will have the opportunity to provide input on oyster and hard clam management strategies to consider while drafting the plans and will be asked to approve the Eastern Oyster FMP Amendment 5 and Hard Clam Amendment 3 goal and objectives.

### **Blue Crab FMP**

The Blue Crab FMP Amendment 3 adaptive management framework included an update to the stock assessment at least once between full reviews of the FMP. The 2018 stock assessment indicated the stock was overfished and overfishing was occurring in the terminal year of 2016. Amendment 3 implemented management to address the stock status. A stock assessment update has is being completed with data through 2022. Staff are analyzing the results and working to complete the 2023 stock assessment update report. At its February 2024 business meeting, the MFC will receive an overview of the 2023 stock assessment update results.

### **Estuarine Striped Bass FMP**

Estuarine Striped Bass is managed under Amendment 2, adopted in November 2022. Based on stock concerns identified during the preparation of the 2022 Annual Review, specifically the continuing low juvenile abundance, the division updated the Albemarle-Roanoke stock assessment with data through 2022. The MFC received an overview of the 2022 stock assessment update results at its August 2023 business meeting. At its November 2023 business meeting, the MFC will receive an update on Amendment 2 adaptive management and continuing efforts to address the stock condition.

# DECISION DOCUMENT

## Hard Clam Fishery Management Plan

### Amendment 3



This document was developed to help the MFC track previous activity and prepare for upcoming actions for Eastern Oyster FMP Amendment 5.

November 15, 2023



## Summary

The Marine Fisheries Commission will review the outcome from the recent joint Hard Clam and Eastern Oyster Scoping period, can provide input on management strategies for further development, and may vote on approval of the draft Goal and Objectives for both plans. The Hard Clam and Eastern Oyster plans are often reviewed and amended at the same time because many of the issues considered in the management of these fisheries are related and therefore the management options can overlap. However, despite a single scoping document, from this point forward the two plans will be addressed in separate documents. Amendment 3 of the Hard Clam FMP will focus on two primary issues, recreational shellfish harvest and the mechanical harvest fishery.

## Background

### Recreational Shellfish Harvest (Joint Issue with Eastern Oyster)

An issue acknowledged in all past eastern oyster and hard clam fishery management plans is the inability to accurately estimate the recreational shellfish harvest in the state, resulting in a potentially large gap in landings data for both species. Limited data has been collected since November 2010 through a monthly shellfish survey sent to select Coastal Recreational Fishing License (CRFL) holders, however, since no license is needed to recreationally harvest shellfish, there may be many additional recreational shellfish harvesters not included as possible survey participants. Low survey returns from CRFL license holders and the inability to adequately survey all potential recreational harvesters has resulted in unreliable estimates of recreational harvest.

An expansion of recreational harvest data collection, which includes the entire recreational shellfishing community, is needed to accurately estimate recreational effort and catch. The division is striving to establish the best available data sources across the fishery to develop stock assessments, however, key information like effort and catch are necessary for success. A license or permit may be one way to collect that necessary data. This management tool would better allow for accurate estimates of recreational harvest for both eastern oysters and hard clams within North Carolina.

### Mechanical Harvest

The use of mechanical gear to harvest clams has historically made up an important portion of total clam harvest. However, mechanical harvest participation has been declining over the years. From 1994 to 2021 the number of participants went from 122 to 4. This decline has continued over the last five years with 13 participants landing 12,370 pounds in 2017 while 2021 had 4 participants who landed 9,889 pounds. When the area of New River is open, 48% to 97% of total mechanical harvest landings come from this location.

In the past 5 to 10 years there have been high rates of die offs in the New River. The root cause of die-off events are hard to determine but have been investigated to the

practical extent of the Division’s resources with no definite conclusions. Although, water quality is frequently cited by the public. Not only is there a decrease of clams coming from this location but the ecological impacts and bottom disturbing nature of mechanical harvest harbors negative effects. These effects include a decrease in clam recruitment, seagrass bed biomass, and other benthic macroinvertebrates.

Maintenance Dredging

Mechanical harvest can also occur before a maintenance dredging event occurs through Marine Fisheries Commission Rule 15A NCAC 03K .0301 (b). This could be an area where mechanical harvest can still be utilized. However, it has not been used since 2007 and often the short window of opportunity has limited the ability to use this rule. Timing and communication with the Army Corps of Engineers is another factor that limits the use of this rule.

Amendment Timing (Grey indicates a step is complete.)

You Are Here

September – October 2023	Division holds public scoping period
<b>November 2023</b>	<b>MFC approves goal and objectives of FMP</b>
November 2023 – June 2024	Division drafts FMP
July 2024	Division held workshop to review and further develop draft FMP Striped Mullet FMP Advisory Committee
August – October 2024	Division updates draft plan
November 2024	MFC Reviews draft and votes on sending draft FMP for public and AC review
January 2025	MFC Advisory Committees meet to review draft FMP and receive public comment
February 2025	MFC selects preferred management options
March-April 2025	DEQ Secretary and Legislative review of draft FMP
May 2025	MFC votes on final adoption of FMP
TBD	DMF and MFC implement management strategies

Goal and Objectives (Action Item)

The goal of the N.C. Hard Clam FMP is to manage the hard clam resource to provide long-term harvest and continue to offer protection and ecological benefits to North

Carolina's estuaries. To achieve this goal, it is recommended that the following objectives be met:

- Use the best available biological, environmental, habitat, fishery, social, and economic data to effectively monitor and manage the hard clam fishery and its environmental role.
- Manage hard clam harvesting gear use to minimize damage to the habitat.
- Coordinate with DEQ and stakeholders to implement actions that protect habitat and environmental quality consistent with the Coastal Habitat Protection Plan (CHPP) recommendations.
- Promote stewardship of the resource through public outreach to increase public awareness regarding the ecological value of hard clams and encourage stakeholder involvement in fishery management and habitat enhancement activities.

### Next Steps

If the Goal and Objectives are adopted the Division's Hard Clam Plan Development Team will begin drafting the Hard Clam FMP Amendment 3 document. This includes updating the base plan as well as beginning to draft the issue papers that will discuss management options. The Division's Plan Development Team will also work with a FMP Advisory Committee to develop a draft that is ready for MFC review. That process is expected to be complete by the Commission's November 2024 meeting. During that process, the Commission will receive regular updates and have opportunities to discuss and provide input on the development of the plan.

# DECISION DOCUMENT

## Eastern Oyster Fishery Management Plan

### Amendment 5



This document was developed to help the MFC track previous activity and prepare for upcoming actions for Eastern Oyster FMP Amendment 5.

November 15, 2023

## Summary

The Marine Fisheries Commission will review the outcome from the recent joint Hard Clam and Eastern Oyster Scoping period, can provide input on management strategies for further development, and vote on approval of the draft Goal and Objectives for both plans. The Hard Clam and Eastern Oyster plans are often reviewed and amended at the same time because many of the issues considered in the management of these fisheries are related and therefore the management options can overlap. However, despite a single scoping document, from this point forward the two plans will be addressed in separate documents. Amendment 5 of the Eastern Oyster FMP will address recreational shellfish harvest, subtidal oyster mechanical harvest, and intertidal oyster hand harvest.

## Background

### Recreational Shellfish Harvest (Joint Issue with Hard Clam)

An issue acknowledged in all past eastern oyster and hard clam fishery management plans is the inability to accurately estimate the recreational shellfish harvest in the state, resulting in a potentially large gap in landings data for both species. Limited data has been collected since November 2010 through a monthly shellfish survey sent to select Coastal Recreational Fishing License (CRFL) holders, however, since no license is needed to recreationally harvest shellfish, there may be many additional recreational shellfish harvesters not included as possible survey participants. Low survey returns from CRFL license holders and the inability to adequately survey all potential recreational harvesters has resulted in unreliable estimates of recreational harvest.

An expansion of recreational harvest data collection, which includes the entire recreational shellfishing community, is needed to accurately estimate recreational effort and catch. The division is striving to establish the best available data sources across the fishery to develop stock assessments, however, key information like effort and catch are necessary for success. A license or permit may be one way to collect that necessary data. This management tool would better allow for accurate estimates of recreational harvest for both eastern oysters and hard clams within North Carolina.

### Enhancement Programs

The Division has the longest running and largest scale harvestable oyster reef enhancement programs in the United States, as well as one of the largest no-take oyster enhancement programs. Amendment 5 of the Eastern Oyster FMP seeks to better integrate oyster restoration and protection programs with fishery management needs and to address data needs for a future stock assessment.

The Cultch Planting Program began in 1915 to replace shell material on oyster reefs removed by harvest. Since the program began, over 21 million bushels of cultch material have been planted in the form of small-scale, low-relief, harvestable oyster reefs. Over the last ten years, 624 acres of oyster reef has been created in public

bottom, with the goal of creating an additional 50 acres per year into the future. The Cultch Planting Program constructs oyster reefs for habitat restoration and to reduce pressure on natural reefs.

In 1996, the Oyster Sanctuary Program was established to construct large, no-take reserves that support oyster brood stock and supply both wild and cultch planting sites with oyster larvae. As of 2023, over 395 acres are protected across 14 no-take Oyster Sanctuaries.

### Subtidal Oyster Mechanical Harvest

The mechanical oyster fishery is limited to the Pamlico Sound and a season beginning on the third Monday in November and ending on March 31. While this is the maximum length of the season, it is closed by area when management triggers are reached. Triggers, monitored by the Division, are based on percentage of legal sized oysters in a management region.

The oyster resource in the mechanical harvest areas may be impacted by hurricanes, low dissolved oxygen, or extreme temperatures. These impacts may only allow harvest for a few weeks before the management trigger is reached and the season closes. The actual mechanical harvest season for oysters is highly variable and is affected by the condition of the oyster resource and fishery effort. This variability in season length and area openings is often viewed negatively by commercial harvesters.

Poor water quality from storm events has disproportionately affected the deep-water oyster reefs in the Neuse River and Pamlico River areas of western Pamlico Sound. These reefs have suffered large die offs compared to oyster reefs in the shallow bays or the eastern portion of Pamlico Sound, closer to Oregon inlet. These deep-water reefs have been in poor condition since 2017. Research has shown oyster reefs need higher vertical relief (height) in these deep areas to be resilient to these negative storm event effects. However, mechanical harvest reduces the ability of natural oyster reefs in deep water to gain and maintain height.

The Division's Cultch Planting Program has put significant effort into creating and enhancing oyster reefs in Pamlico Sound. Most of this effort has occurred in the shallow bays and along the shoreline to the north and the Crab Hole area south of Wanchese. Current mechanical fishery management does not distinguish between natural and cultch planted reefs in Pamlico Sound, however, management could focus harvest effort on cultch planted reefs. This would help restore and protect the deep-water natural oyster resources in western Pamlico Sound and offer greater certainty to commercial harvesters on season length and area openings.

### Intertidal Oyster Hand Harvest

Intertidal oyster reefs are in the zone between the low and high tide marks. Hand harvest accounts for most of the commercial oyster landings and has been the dominant harvest gear in North Carolina since the 1960s. Hand harvest oyster landings

are more consistent than mechanical harvest landings and come primarily from intertidal oyster reefs between Core Sound and the South Carolina state line. Oyster hand harvest from this southern region is a significant amount of the overall oyster landings even though the area only accounts for five percent of the total shellfish harvest area open in the state.

In response to the concern of increasing participation and declining bushels landed per trip in the hand harvest oyster fishery, the Marine Fisheries Commission limited Shellfish License holders to two bushels of oysters per person per day no more than four bushels per vessel statewide as part of Amendment 4 in October 2017. After Amendment 4 implementation, participation and landings in the hand harvest fishery declined. A pilot program to monitor intertidal oyster reefs was developed and implemented by the Division. While this program is not currently used to manage the hand harvest fishery, information collected by this sampling program could be used in future management.

### Amendment Timing (Grey indicates a step is complete.)

You Are Here

September – October 2023	Division holds public scoping period
<b>November 2023</b>	<b>MFC approves goal and objectives of FMP</b>
November 2023 – June 2024	Division drafts FMP
July 2024	Division held workshop to review and further develop draft FMP Striped Mullet FMP Advisory Committee
August – October 2024	Division updates draft plan
November 2024	MFC Reviews draft and votes on sending draft FMP for public and AC review
January 2025	MFC Advisory Committees meet to review draft FMP and receive public comment
February 2025	MFC selects preferred management options
March-April 2025	DEQ Secretary and Legislative review of draft FMP
May 2025	MFC votes on final adoption of FMP
TBD	DMF and MFC implement management strategies



## Goal and Objectives (*Action Item*)

The goal of the N.C. Oyster FMP is to manage the oyster resource to maintain oyster populations that provide long-term harvest and continue to offer protection and ecological benefits to North Carolina's estuaries. This goal reflects the actions of the Cultch Planting and Oyster Sanctuary programs. To achieve this goal, it is recommended that the following objectives be met:

- Use the best available biological, environmental, habitat, fishery, social, and economic data to effectively monitor and manage the oyster fishery and its environmental role.
- Support and implement the restoration and protection of oyster populations as both a fishery resource and an important estuarine habitat through the actions of the Cultch Planting and Oyster Sanctuary programs.
- Coordinate with DEQ and stakeholders to implement actions that protect habitat and environmental quality consistent with the Coastal Habitat Protection Plan (CHPP) recommendations.
- Manage oyster harvesting gear use to minimize damage to habitat.
- Promote stewardship of the resource through public outreach to increase public awareness regarding the ecological value of oysters and encourage stakeholder involvement in fishery management and habitat enhancement activities.

## Next Steps

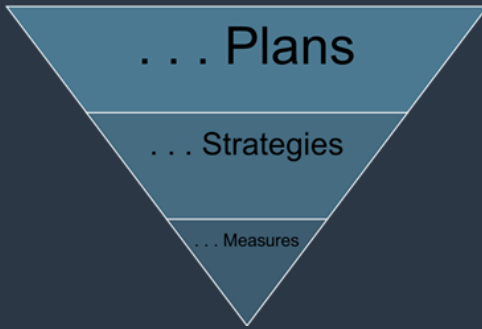
If the Goal and Objectives are adopted the Division's Eastern Oyster Plan Development Team will begin drafting the Eastern Oyster FMP Amendment 5 document. This includes updating the base plan as well as beginning to draft the issue papers that will discuss management options. The Division's Plan Development Team will also work with a FMP Advisory Committee to develop a draft for MFC review. That process is expected to be complete by the Commission's November 2024 meeting. During that process, the Commission will receive regular updates and have opportunities to discuss and provide input on the development of the plan.

# SHELLFISH SCOPING DOCUMENT

for

## Eastern Oyster and Hard Clam Fishery Management Plans

### Fishery Management



Management **PLANS** set specific management goals for a fishery.

Management **STRATEGIES** are techniques to achieve the set management goals.

Management **MEASURES** are the actions to achieve the management strategies.



September 2023

### What is Scoping?

Scoping is the first stage of the Division of Marine Fisheries (DMF) Fishery Management Plan (FMP) process. Scoping serves to:

- (1) Provide notice to the public that a FMP is under formal review.
- (2) Inform the public of the stock status, when available.
- (3) Solicit stakeholder input on relevant management strategies and issues that may need addressed.
- (4) Recruit potential FMP advisory committee (AC) members to assist the DMF in drafting the plan.

Scoping is the first opportunity to provide insight on a FMP. This is the best opportunity to provide input for consideration during FMP development.

This scoping document provides an overview of the potential management strategies and issues identified by the DMF, as well as background information on the fisheries and stocks. Management strategies developed in Eastern Oyster Amendment 5 and Hard Clam Amendment 3 will be dependent on statutory requirements, available data, research needs, and the social and economic impacts of management.

### The N.C. Division of Marine Fisheries seeks your input on management strategies for Eastern Oyster and Hard Clam



# Shellfish Scoping Period for Eastern Oyster and Hard Clam

## September 11 - 22, 2023

### Scoping Meetings

DMF staff will provide information to prompt discussion about the N.C. Eastern Oyster FMP Amendment 5 and the Hard Clam FMP Amendment 3. Following a presentation, the public will have an opportunity to give comment and speak directly with DMF staff.

Four in-person meetings will be held across the state, one of which will be available virtually. All meetings will take place from **6 p.m. to 8 p.m.** The Shellfish Scoping Information page has up to date information on both plans.

#### Monday, September 11

Dare County Administration  
Building  
Room 238  
954 Marshall C. Collins Drive  
Manteo, NC 27954

#### Monday, September 18

NC Department of Environmental  
Quality  
Washington Regional Office  
943 Washington Square Mall  
Highway 17  
Washington, NC 27889

#### Tuesday, September 19

Cape Fear Community College  
Union Station Building  
Room 470  
502 N. Front Street  
Wilmington, NC 28401

#### Thursday, September 21

NC Division of Marine Fisheries  
Central District Office  
5285 Highway 70 West  
Morehead City, NC 28557

Attend virtually through WebEx

[Meeting Link](#)

Event number 2432 261 2180

Event password 1234



### Looking for additional ways to provide insight?

Beginning September 11, submit written comments by online forms or U.S. mail by 5 p.m. September 22, 2023.

#### Eastern Oyster online form:



#### Hard Clam online form:



#### To comment by U.S. mail:

N.C. Division of Marine Fisheries  
Shellfish Scoping  
P.O. Box 769  
Morehead City, NC 28557

*FMP Process Questions?  
Contact the FMP  
Coordinator  
Corrin Flora  
Corrin.Flora@deq.nc.gov*

# Eastern Oyster FMP Amendment 5

## Hard Clam FMP Amendment 3

### Background

Previous [Eastern Oyster](#) and [Hard Clam](#) FMPs managed the harvest of wild shellfish stocks, as well as address issues specific to the private cultivation of shellfish in aquaculture. The ending of the relay program and the transition into the use of farming cages and hatchery sourced seed, have reduced reliance on wild shellfish. These changes to private culture practices reduce the need to consider aquaculture in the management of wild oyster and clam stocks. The FMP amendments under development will only focus on wild harvest in both fisheries.

Issues specific to the private aquaculture of shellfish on leases or franchises are addressed by the [North Carolina Shellfish Lease and Aquaculture Program](#).

---

## POTENTIAL JOINT MANAGEMENT STRATEGY TO EXPLORE

---

### *Recreational Shellfish Harvest*

An issue acknowledged in all past eastern oyster and hard clam plans is the inability to accurately estimate the amount and extent of recreational shellfish harvest in the state. Recreational harvest is potentially a significant amount, resulting in a large gap in landings data. Limited data has been collected since November 2010 through a monthly shellfish survey sent to select Coastal Recreational Fishing License (CRFL) holders. Since no license is needed to recreationally harvest shellfish, there may be many additional recreational shellfish harvesters not included as possible survey participants. Low survey returns from CRFL license holders and the inability to adequately survey all potential recreational harvesters has resulted in unreliable estimates of recreational harvest.

An expansion of recreational harvest data collection, which includes the entire recreational shellfishing community, is needed to accurately estimate recreational effort and catch. Effort and catch are key components for a possible future stock assessment. The division is striving to establish the best available data sources across the fishery to complete a stock assessment.

A license or permit may be one way to collect the necessary data currently unavailable. The division is interested in public input on potential license or permitting options. This management tool would better allow for accurate estimates of recreational harvest for both eastern oysters and hard clams within North Carolina.



---

### Needed Stakeholder Input

- How often do you recreationally harvest oysters and clams in North Carolina?
- How many oysters and clams do you typically harvest recreationally?
- In order to collect landings data, do you support requiring a license or permit to recreationally harvest oysters and clams?



# Eastern Oyster FMP Amendment 5

## Background

Eastern oysters (*Crassostrea virginica*) are unique when compared to other North Carolina managed marine resources because they support economically important wild harvest and private farmed aquaculture fisheries, as well as valuable habitat. Managing eastern oysters requires a balance of diverse stakeholder interests, long-term harvest, protecting and restoring habitat, and adapting to changing environmental conditions. Amendment 5 will focus solely on the management of North Carolina's wild oyster stocks. The Division seeks input on issues and potential management strategies to consider when drafting the Eastern Oysters Fishery Management Plan Amendment 5.



In North Carolina, oysters form intertidal and subtidal reefs. Intertidal oyster reefs are in the zone between the low and high tide marks. These areas are exposed to air during low tide and underwater during high tide. Intertidal oyster reefs are found primarily in the southern portion of the state from Cape Lookout to the South Carolina State line. Subtidal oyster reefs are in waters which are consistently submerged. The majority of subtidal oyster reefs are found in Pamlico Sound and surrounding bays from Wanchese to Cape Lookout.

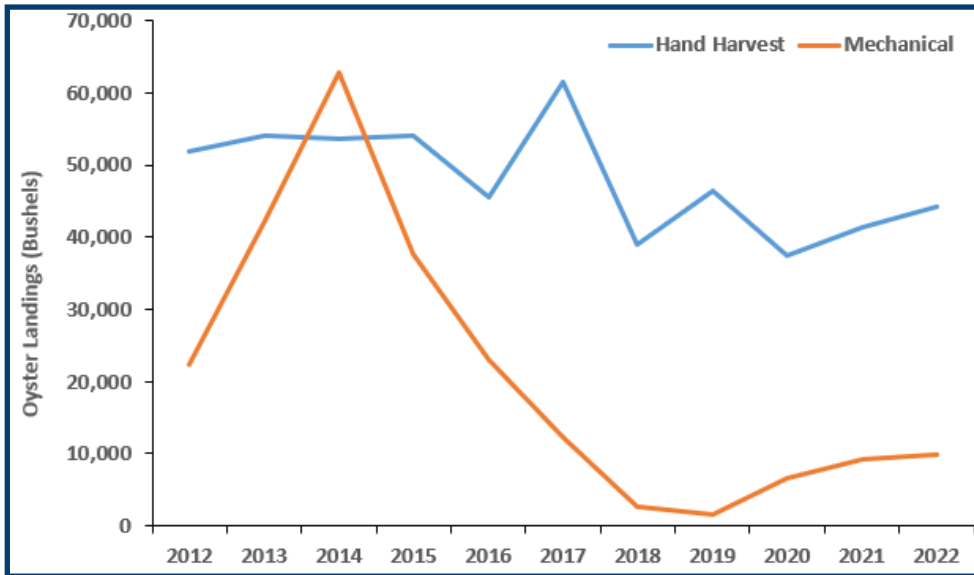


Oyster harvest from intertidal reefs is limited to hand harvest methods, while mechanical harvest (dredge) is allowed on some subtidal oyster reefs. Hand harvest and mechanical harvest require different management approaches due to the reef type and the impacts associated with each harvest method.

Annual oyster landings fluctuate but have been consistent since 2018. Landings fluctuations are primarily due to mechanical harvest landings. Mechanical harvest landings depend on participation and effort, but there have also been declines in subtidal oysters in Pamlico Sound.

Hand harvest landings remain relatively constant and make up 56% of total oyster landings from 2009 to 2022. Due to a decrease in landings and participation in the mechanical harvest fishery, landings from hand harvest have accounted for 89% of overall oyster landings since 2018.

The Division has the longest running and largest scale harvestable oyster reef enhancement programs in the United States, as well as one of the largest no-take oyster enhancement programs. The Cultch Planting Program began in 1915 to replace shell material on oyster reefs removed by harvest. Since the program began, over 21 million bushels of cultch material have been planted in the form of small-scale, low-relief, harvestable oyster reefs.



Over the last ten years, 624 acres of oyster reef has been created on public bottom, with the goal of creating an additional 50 acres per year into the future. The Cultch Planting Program constructs oyster reefs for habitat restoration and to reduce pressure on natural reefs. In 1996, the Oyster Sanctuary Program was established to construct large, no-take reserves that support oyster brood stock and supply both wild and cultch

planting sites with oyster larvae. As of 2023, over 395 acres are protected across 14 no-take Oyster Sanctuaries. Amendment 5 of the Eastern Oyster FMP seeks to better integrate oyster restoration and protection programs with fishery management needs and to address data needs for a future stock assessment.

## AMENDMENT 5 POTENTIAL MANAGEMENT STRATEGIES TO EXPLORE

### *Subtidal Oyster Mechanical Harvest*

The mechanical oyster fishery is limited to Pamlico Sound and a maximum season from the third Monday in November to March 31. However, this season is closed by area when management triggers are reached. Triggers, monitored by the Division, are based on percentage of legal sized oysters in a management region. The shallow bays of Pamlico Sound have a total possible six-week season, but may be closed sooner if the management trigger has been reached. The oyster resource in the mechanical harvest areas may be impacted by hurricanes, low dissolved oxygen, or extreme temperatures. These impacts may only allow harvest for a few weeks before the management trigger is reached and the season closes. The actual mechanical harvest season for oysters is highly variable and is affected by the condition of the oyster resource and fishery effort. This variability in season length and area openings is often viewed negatively by commercial harvesters.

Poor water quality from storm events has disproportionately affected the deep-water oyster reefs in the Neuse River and Pamlico River areas of western Pamlico Sound. These reefs have suffered large die offs compared to oyster reefs in the shallow bays or the eastern portion of Pamlico Sound, closer to Oregon inlet. Therefore, these reefs have not supported a mechanical harvest fishery. Research has shown oyster reefs need higher vertical relief (height) in these deep areas to be resilient to these negative storm event effects. However, mechanical harvest reduces the ability of natural oyster reefs in deep water to gain and maintain height.



The Division’s Cultch Planting Program has put significant effort into creating and enhancing oyster reefs in Pamlico Sound. Most of this effort has occurred in the shallow bays, along the shoreline to the north and the Crab Hole area south of Wanchese. Current mechanical fishery management does not distinguish between natural and cultch planted reefs in Pamlico Sound. The Division is seeking public input on management strategies which will better integrate the cultch planting program with the management of the mechanical fishery. Possible management could focus harvest effort on cultch planted reefs, help restore and protect the deep-water natural oyster resources in western Pamlico Sound, and offer greater certainty to commercial harvesters on season length and area openings.

**Needed Stakeholder Input**

- Do you mechanically harvest oysters? If yes, what area of Pamlico Sound?
- Are you familiar with the Division’s Cultch Planting Program?
- Do you harvest on cultch planted reefs?
- What do you think about mechanical harvest on natural vs cultch planted reefs?
- Do you have ideas for mechanical harvest oyster management?

***Intertidal Oyster Hand Harvest***

Hand harvest accounts for most of the commercial landings and has been the dominant harvest gear for oysters in North Carolina since the 1960s. Hand harvest oyster landings are less variable than mechanical harvest landings. These higher, more consistent landings come primarily from intertidal oyster reefs between Core Sound and the South Carolina state line. Oyster hand harvest from this southern region is a significant amount of the overall oyster landings even though the area only accounts for five percent of the total shellfish harvest area open in the state. In response to the concern of increasing participation and declining bushels landed per trip in the hand harvest oyster fishery, the Marine Fisheries Commission limited Shellfish License holders to two bushels of oysters per person per day no more than four bushels per vessel statewide as part of Amendment 4 in October 2017. After Amendment 4 implementation, participation and landings in the hand harvest fishery declined.

A pilot program to monitor intertidal oyster reefs was developed and implemented by the Division. While this program is not currently used to manage the hand harvest fishery, information collected by this sampling program could be used in future management. The division is interested in public input on future possible management measures to reduce harvest pressure and sustainably hand harvest intertidal oyster reefs.

**Needed Stakeholder Input**

- What is your view on the health of North Carolina oyster reefs?
- Are oysters an important fishery resource for you?
- Do you think oysters are an important coastal habitat?
- Do you have ideas for hand harvest oyster management?

**Keep Informed**



***Biologist Contact Information***

Joe Facendola	Abby Williams
<a href="mailto:joe.facendola@deq.nc.gov">joe.facendola@deq.nc.gov</a>	<a href="mailto:abby.williams@deq.nc.gov">abby.williams@deq.nc.gov</a>
910-796-7291	252-808-8055



# Hard Clam FMP Amendment 3

## Background

Amendment 1 to the Hard Clam Fishery Management Plan was adopted by the Marine Fisheries Commission in 2008. Amendment 1 maintained the daily limits of hard clams from public bottom established in the original Hard Clam plan. Management in Amendment 1 additionally eliminated the mechanical clam harvest rotation in Pamlico Sound, instituted a resting period in the northern Core Sound mechanical clam harvest area, and developed sampling programs to collect information necessary for a potential hard clam stock assessment. Continued data limitations prevent North Carolina from conducting a stock assessment to calculate sustainable harvest.



Amendment 2, adopted by the Marine Fisheries Commission in February 2017, maintained the recreational hard clam harvest limits. Additional management eliminated mechanical harvest in Pamlico Sound by rule, required shading from April 1 to September 30, implemented modifications to shellfish lease provisions, and added theft convictions on shellfish leases and franchises to the violation types that could result in license suspension or revocation.

Amendment 3 of the Hard Clam FMP seeks to further manage mechanical harvest.

---

## AMENDMENT 3 POTENTIAL MANAGEMENT STRATEGIES TO EXPLORE

---

### *Mechanical Harvest*

The use of mechanical gear to harvest clams has historically made up an important portion of total clam harvest. However, mechanical harvest participation has been declining over the years. From 1994 to 2021 participants went from 122 to 4. Over the last five years 2017 had 13 participants land 12,370 pounds while 2021 had 4 participants land 9,889 pounds. When the area of New River is open, 48% to 97% of total mechanical harvest landings come from this location.

In the past 5 to 10 years there have been high rates of die offs in the New River. The root cause of die off events are hard to determine, but have been investigated to the practical extent of the Division's resources with no definite conclusions. Although, water quality is frequently cited by the public. Not only is there a decrease of clams coming from this location but the ecological impacts and bottom disturbing nature of mechanical harvest harbors negative effects. These effects include a decrease in clam recruitment, seagrass bed biomass, and other benthic macroinvertebrates.

## Maintenance Dredging

Mechanical harvest can also occur before a maintenance dredging event occurs through Marine Fisheries Commission Rule 15A NCAC 03K .0301 (b). This could be an area where mechanical harvest can still be utilized. However, it has not been used since 2007 and often the short window of opportunity has limited the ability to use this rule. Timing and communication with the Army Corps of Engineers is another factor that limits the use of this rule.

## Needed Stakeholder Input

- What method of clam harvest do you use (hand harvest or mechanical)?
- Is clam harvesting an important source of your income?
- Are NC clams an important part of your food source?
- What offers more value or is of more importance: the food source or habitat?



## Keep Informed on the FMP Process



## Biologist Contact Information

### Hard Clam

Lorena de la Garza

[lorena.delagarza@deq.nc.gov](mailto:lorena.delagarza@deq.nc.gov)

252-473-5734

Jeff Dobbs

[jeffrey.dobbs@deq.nc.gov](mailto:jeffrey.dobbs@deq.nc.gov)

252-808-8193

# DECISION DOCUMENT

## Striped Mullet Fishery Management Plan

### Amendment 2



This document was developed to help the MFC track previous activity and prepare for upcoming actions for Striped Mullet FMP Amendment 2.

November 15, 2023

## Summary

At their November 2023 business meeting the Marine Fisheries Commission will review and provide input on the draft Striped Mullet FMP Amendment 2. They will then vote on sending the draft Amendment 2 out for review by the public and Marine Fisheries Commission Advisory Committees.

## Background

The 2022 stock assessment indicated the striped mullet stock is overfished and overfishing is occurring. The North Carolina Fishery Reform Act of 1997 requires the State to implement management to end overfishing and to achieve a sustainable harvest within a 10-year time period.

Amendment 2 to the Striped Mullet Fishery Management Plan is being developed to address the overfished status of the North Carolina striped mullet stock. The recently adopted Supplement A to Amendment 1 to the Striped Mullet FMP implemented management measures to end overfishing with a season closure. Amendment 2 will contain additional management measures that will replace the supplemental management.

### Review of Supplement A to Amendment 1 Decisions and Discussion

In September 2022, the DEQ Secretary determined that it was in the long-term interest of the striped mullet stock to develop temporary management through a Supplement. The Division developed the Striped Mullet Fishery Management Plan Amendment 1 Supplement A. The supplement addresses the overfishing status of the stock while the Division works on comprehensive management to address sustainable harvest in Amendment 2. At its May 2023 business meeting, the Marine Fisheries Commission approved the following season closures:

<b>Region</b>	<b>Closure Dates</b>
North of the Highway 58 Bridge	November 7 – December 31
South of the Highway 58 Bridge	November 10 – December 31

The management adopted in Supplement A is temporary and will be replaced with management adopted in Amendment 2. While a season closure may still be part of long-term management for the species, other options will be explored and could be used in combination to achieve the necessary reductions.

Sustainable harvest primarily focuses on reductions in the commercial fishery, where most striped mullet harvest occurs. In 2019, recreational striped mullet harvest accounted for 1.7% of total harvest while the commercial fishery accounted for 98.3% of the total harvest. Likewise, from 1994 to 2019 the recreational striped mullet harvest accounted for 4.2% of total harvest. While management options are proposed for the recreational



fishery to improve the status of the stock, recreational harvest reductions are not quantifiable due to data limitations.

Several management tools are available to achieve sustainable harvest in the striped mullet fishery, including combinations of management measures. All are discussed fully in Appendix 2 and Appendix 3 of Amendment 2 to the Striped Mullet FMP. References to those documents are included in the discussion of the management options below.

### Amendment Timing (Grey indicates a step is complete.)

September – October 2022	Division holds public scoping period
November 2022	MFC approves goal and objectives of FMP
November 2022 – May 2023	Supplemental Management <i>(Supplement A to Striped Mullet FMP Amendment 1 Adopted)</i>
November 2022 – June 2023	Division drafts FMP
July 2023	Division held workshop to review and further develop draft FMP with the Striped Mullet FMP Advisory Committee
August – October 2023	Division updates draft plan
<b>November 2023</b>	<b>MFC Reviews draft and votes on sending draft FMP for public and AC review</b>
January 2024	MFC Advisory Committees meet to review draft FMP and receive public comment
February 2024	MFC selects preferred management options
March-April 2024	DEQ Secretary and Legislative review of draft FMP
May 2024	MFC votes on final adoption of FMP
TBD	DMF and MFC implement management strategies

Developed  
Temporary  
Management

You Are  
Here

### Goal and Objectives

The goal of Amendment 2 is to manage the striped mullet fishery to achieve a self-sustaining population that provides sustainable harvest using science-based decision-making processes. The following objectives will be used to achieve this goal.

Objectives:

- Implement management strategies within North Carolina that sustain and/or restore the striped mullet spawning stock with adequate age structure abundance to maintain recruitment potential and prevent overfishing.

- Promote the restoration, enhancement, and protection of critical habitat and environmental quality in a manner consistent with the Coastal Habitat Protection Plan, to maintain or increase growth, survival, and reproduction of the striped mullet stock.
- Use biological, social, economic, fishery, habitat, and environmental data to effectively monitor and manage the fishery and its ecosystem impacts.
- Advance stewardship of the North Carolina striped mullet stock by promoting practices that minimize bycatch and discard mortality.

## Management Options, Ordered by Issue

### **Sustainable Harvest**

*These management options will allow for the traditional use of striped mullet in the commercial fishery while meeting sustainable fishery requirements. They are predicted to reduce harvest of striped mullet in ways that are quantifiable using existing data. The data used to quantify harvest reductions are collected from commercial fishermen through the trip ticket and the Division's fish house sampling programs. Quantifiable management options are used to meet the legal requirements of the Fisheries Reform Act to address overfishing and rebuild overfished stocks. Because most of the striped mullet harvest occurs in the commercial fishery, and because the harvest reductions from the recreational fishery are not quantifiable, sustainable harvest options are specific to the commercial fishery, except for the Adaptive Management Option which would apply to both.*

A 21.3 to 35.4% reduction in commercial harvest relative to commercial landings in 2019 is needed to rebuild the striped mullet spawning stock biomass to a sustainable level. Because of low recruitment observed in recent years (p.45 of FMP, Figure 2.1), the **Division recommends a conservative reduction of 35.4% to increase the probability of rebuilding success.**

Option 1: Size Limit Options (Striped Mullet FMP Amendment 2, p. 48)

*On its own, implementation of a minimum size limit set at the L50, or the length at which 50% of the population are mature, for striped mullet would be unlikely to meet sustainability objectives and would eliminate the bait fishery for finger mullet. A maximum size limit, focused on the spawning season (October-December), would have a more direct impact on the spawning stock however it would negatively affect the roe fishery, the most valuable portion of the commercial striped mullet fishery. Slot limits should not be considered because it would exclude harvest of both “finger mullet” for bait as well as large roe mullet. Implementing a minimum or maximum size limit would need to be accompanied by corresponding changes to minimum or maximum mesh sizes used in gill nets to reduce dead discards. This would likely impact other small mesh gill net fisheries targeting other species. To read full discussion of size limits, see p. 48 in draft Amendment 2.*

- a. *Status Quo – Manage fishery without minimum or maximum size limits (0% Reduction)*
- b. *Minimum Size Limit and 3.25 ISM Minimum Gill Net Mesh Size*

Example Size Limit Options (Inches FL)	
Minimum	Percent Reduction
13.5	27.2
14.0	37.2

- c. *Maximum Size Limit and 3.75 or 4.0 ISM Maximum Gill Net Mesh Size*

Example Size Limit Options (Inches FL)	
Maximum	Percent Reduction
15.0	39.8
15.5	28.4

- d. *Seasonal Maximum Size Limit and 3.75 or 4.0 ISM Maximum Gill Net Mesh Size*

Example Size Limit Options (Inches FL)	
Oct-Dec Maximum	Percent Reduction
14.5	51.4
15.0	27.0

Option 2. Season Closure Options (Striped Mullet FMP Amendment 2, p. 55)

*Season closures, specifically end of year season closures, are considered an effective and efficient management option to end overfishing of the striped mullet stock and rebuild SSB. To read full discussion of seasonal closures see p.55 in Amendment 2.*

Season Closure	Reduction
----------------	-----------



2.b*	October 29 - December 31	33.7
2.c	November 7 - December 31	22.1

\*Adding one more closure day exceeds 35.4% statutory reduction requirement.

Season Closure			Reduction
	North	South	
2.d	Oct. 28-Dec. 31	Oct. 30-Dec.31	35.6
2.e	Nov. 7-Dec. 31	Nov. 10-Dec. 31	21.7

**Option 3: Trip limits** (Striped Mullet FMP Amendment 2, p. 57)

*Any trip limit option would be a daily trip limit. Yardage limits on runaround gill nets in tandem with trip limits could be helpful in minimizing discards but would effect other fisheries. To read full discussion of trip limits see p.57 in Amendment 2.*

Table 2.10. Percent harvest reduction from 2019 commercial landings based on various daily trip limits and time periods.

Trip Limit (lb)	Reduction (%)		
	Jan-Sept, Dec	Oct-Nov	Total
50	33.1	50.4	83.4
75	30.3	47.8	78.1
100	27.9	45.5	73.5
150	24.3	41.7	66.0
200	21.3	38.5	59.8
300	16.8	33.3	50.2
400	13.6	29.4	42.9
500	11.0	26.1	37.2
600	9.0	23.4	32.4
1,000	3.8	15.5	19.3
1,100	3.0	14.1	17.1
1,250	2.1	12.3	14.4
1,500	1.2	10.0	11.2
1,750	0.7	8.2	9.0
2,000	0.4	6.8	7.2
2,500	0.1	4.8	4.9

**Option 4: Day of week closures** (Striped Mullet FMP Amendment 2, p. 59)

*To read full discussion of day of week closures see p.59 in Amendment 2.*

Table 2.11. Percent of harvest by day of week or combination of days, 2019 and 2017-2021.

Day(s) of Week	2019 Landings	Landings (%)	2017-2021 Landings	Landings (%)
Sunday	162,709	11.9	780,061	10.4
Monday	209,707	15.4	1,201,290	16.1
Tuesday	247,756	18.2	1,273,991	17.0
Wednesday	190,343	14.0	1,148,997	15.4
Thursday	191,313	14.0	1,038,243	13.9
Friday	173,090	12.7	1,048,743	14.0
Saturday	187,294	13.7	984,763	13.2
Saturday-Sunday	350,003	25.7	1,764,823	23.6
Friday-Sunday	523,093	38.4	2,813,566	37.6
Saturday-Monday	559,710	41.1	2,966,113	39.7
Friday-Monday	732,800	53.8	4,014,856	53.7

Table 2.12. Percent of commercial landings by day of week for each month, 2017-2021.

Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January	8.5	18.2	18.7	16.4	15.2	13.5	9.5
February	8.6	14.7	20.6	13.8	15.2	14.1	13.1
March	9.7	20.2	15.8	15.8	17.1	14.2	7.1
April	11.0	13.7	15.1	17.6	16.2	12.0	14.4
May	11.7	10.4	17.4	19.0	14.0	13.1	14.3
June	10.9	16.3	15.4	14.4	12.8	17.0	13.2
July	10.1	16.0	15.5	15.9	16.8	15.3	10.4
August	9.1	19.6	14.4	13.4	15.4	17.4	10.7
September	14.3	14.3	14.2	15.1	13.2	12.5	16.4
October	10.8	16.7	19.1	15.0	11.4	11.4	15.5
November	9.7	14.7	17.9	16.0	15.1	15.3	11.4
December	10.2	18.1	10.0	14.8	15.2	19.3	12.5

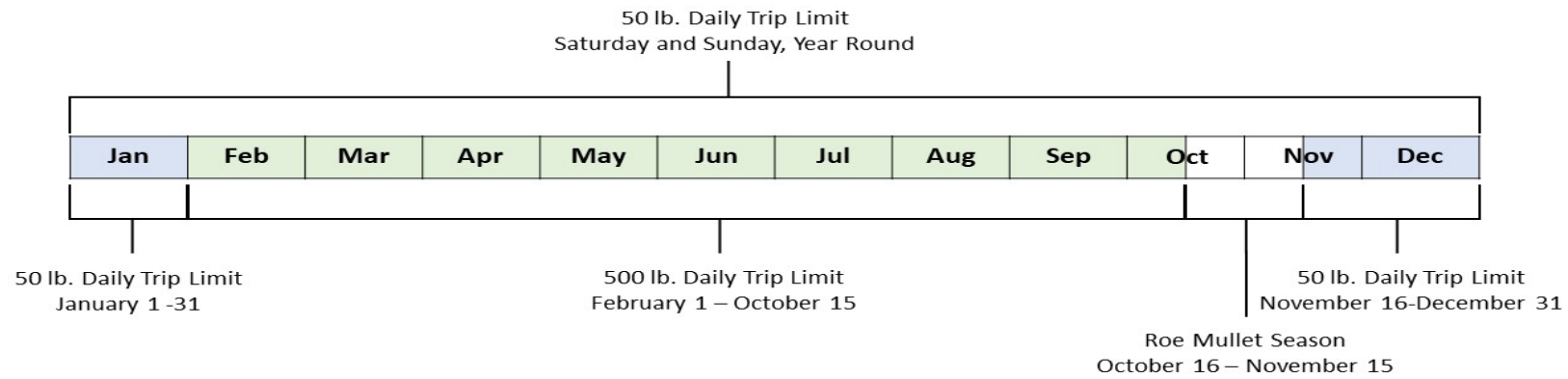
Option 5: Combination of Measures (Striped Mullet FMP Amendment 2, p. 60)

Table 2.13. Management measure combinations to end overfishing and achieve sustainable harvest, compared to 2019 commercial landings. Unless otherwise specified all options for day of week closures or day of week reduced trip limits are applied year-round. All trip limit options are daily trip limits and applied to a commercial fishing operation regardless of the number of persons, license holders, or vessels involved.

Option	Season Closure	Daily Trip Limit (lb.)	Day of Week Closure	% Reduction	% Reduction with 30k Stop Net Cap
5.a*	.	.	Sat-Sun	25.7	24.0
5.b	Dec 1-Dec 31	Jan-Sep 1,000; Sat-Sun 50 lb	.	28.1	26.4
5.c*	.	Jan-Sep 1,000	Sat-Sun	28.5	26.9
5.d	Dec 1-Dec 31	Jan-Oct 15 1,000; Sat-Sun 50 lb	.	28.9	27.3
5.e	Nov 12-Dec 31	1,000	.	29.1	27.5
5.f*	.	Jan-Oct 15 1,000 lb	Sat-Sun	29.3	27.7
5.g	.	Jan-Oct 15 and Dec 500; Sat-Sun 50 lb	.	31.3	29.8
5.h	Dec 1-Dec 31	Jan-Sep 1,000	Sat-Sun	31.8	30.2
5.i	.	Jan-Dec 100 lb; Feb-Sep 500 lb; Sat-Sun 50 lb	.	32.4	30.9
5.j	Dec 1-Dec 31	Jan-Oct 15 1,000	Sat-Sun	32.6	31.1
5.k	Nov 8-Dec 31	1,000	.	34.6	33.1
5.l	.	Jan-Dec 50 lb; Sat-Sun 50 lb; Feb-Oct 15 500 lb	.	34.6	33.2
5.m	.	Jan-Oct 15 and Dec 500	Sat-Sun	35.4	33.9
5.n <sup>+</sup>	.	Jan1-31 and Nov16-Dec31 50 lb., Sat-Sun 50 lb, Feb1-Oct15 500lb	.	36.9	35.5
5.o	.	Jan-Dec 100 lb; Feb-Sep 500 lb	Sat-Sun	36.5	36.0
5.p	Nov 12-Dec 31	1,000	Sat	38.6	37.2

DMF Recommendation

\*Endorsed by Striped Mullet FMP AC  
<sup>+</sup>DMF Recommendation



Option 6: Stop Net Fishery Management (Striped Mullet FMP Amendment 2, p. 63)

- a. Status Quo – Manage stop net fishery with management measures applied to the rest of the fishery
- b. Stop Net Specific Catch Cap - DMF recommends an annual catch cap for the stop net fishery of 30,000 lbs. DMF recommends the stop net season open annually on October 15 and be allowed through December 31 or whenever the 30,000 lb catch cap is reached. Consistent with requirements for spotted seatrout, this will require daily reporting of landings by the stop net crew and notification of when the net will be struck.

Option 7: Seasonal Catch Limit (Striped Mullet FMP Amendment 2, p. 64)

- a. Status Quo – Manage fishery without Seasonal Catch Limit
- b. Implement Statewide Seasonal Catch Limit
- c. Implement Regional (North/South) Seasonal Catch Limit

Option 8: Area Closures (Striped Mullet FMP Amendment 2, p. 68)Option 9: Limited Entry (Striped Mullet FMP Amendment 2, p. 69)Option 10: Adaptive Management Framework (Striped Mullet FMP Amendment 2, p. 72)  
*If adaptive management is adopted as part of Amendment 2, the specifications would apply to the commercial and recreational fisheries for mullet.*

- 1) Update the stock assessment at least once in between full reviews of the FMP, timing at discretion of the division.
  - a. If current management is not projected to meet management targets (management targets are SSB remaining between  $SSB_{Threshold}$  and  $SSB_{Target}$ , and  $F$  remaining between  $F_{Threshold}$  and  $F_{Target}$ ), then management measures shall be adjusted via an adaptive management update and implemented using the Fisheries Director's proclamation authority to reduce harvest to a level that is projected to meet the  $F_{Target}$  and  $SSB_{Target}$ .
  - b. If management targets are being met, then new management measures would not be needed, or current management measures could possibly be relaxed provided projections still meet the management targets. When management targets are met, a striped mullet industry workgroup will be convened to discuss the possibility of "guard rail management" to maintain a sustainable harvest for the striped mullet stock.
- 2) Quantifiable management measures that may be adjusted using adaptive management include:
  - a. Season closures
  - b. Day or week closures
  - c. Trip limits

- d. Gill net yardage or mesh size restrictions in support of the measures listed in a-c
- 3) Use of the Director's proclamation authority for adaptive management to meet management targets is contingent on:
  - a. Consultation with the Northern, Southern, and Finfish advisory committees
  - b. Approval by the Marine Fisheries Commission

Upon evaluation by the division, if a management measure adopted to achieve sustainable harvest (either through Amendment 2 or a subsequent revision) is not working as intended, then it may be revised or removed and replaced provided it conforms to steps 2 and 3 above.

## Recreational Fishery

*These management options will allow for traditional use of striped mullet in the recreational fishery while supporting sustainability objectives. Due to recreational fishery data collection methods and recreational fishery practices it is not possible to calculate harvest reductions from the proposed management options. While the recreational harvest currently accounts for only a small percentage of the striped mullet harvest, there is concern that the reduced availability in commercially harvested bait could lead to a significant shift in directed recreational harvest. The proposed options will reduce the potential for that type of shift and therefore support meeting the sustainability objectives successfully.*

### Option 1. Recreational Vessel and Bag Limit (Striped Mullet FMP Amendment 2, p. 81)

DMF Recommendation

- a. Status Quo
- b. Reduce Recreational Bag Limit (50 fish)
- c. Reduce Recreational Bag Limit (50 fish) and Implement Vessel Limit (100 fish)
- d. Bag Limit (10, 15, 20, 25, etc.) for Fish Over 8-Inches
- e. Seasonal (October-December) Bag Limit (10, 15, 20, 25, etc.) for Fish Over 8-Inches

### Option 2. For Hire Vessel and Bag limit (Striped Mullet FMP Amendment 2, p. 83)

DMF Recommendation

- a. Reduce Recreational Bag Limit (50 fish), Implement Vessel Limit (100 fish), and Implement For Hire Vessel Limit (500 fish, etc.)
- b. Reduce Recreational Bag Limit (50 fish) with an Exception for For Hire Vessel Operations to Possess a Bag Limit for the Number of Anglers They are Licensed to Carry (Including in Advance of a Trip).

- c. Reduce Recreational Bag Limit (50 fish) and Implement Vessel Limit (100 fish) with an Exception for For Hire Vessel Operations to Possess a Bag Limit for the Number of Anglers They are Licensed to Carry (Including in Advance of a Trip).
- d. Mirror Option 1 management decision

## Next Steps

At their November business meeting the Marine Fisheries Commission will review the draft Amendment 2 of the Striped Mullet FMP including full list of management options. This is an opportunity for the Commission to provide input on the management strategies and options that are included in the draft FMP for the public and Advisory Committee review. The Division of Marine Fisheries has recommended a conservative harvest reduction of 35.4% to account for low recruitment observed in recent years which has been coupled with high fishing mortality.

Following their review and input, the MFC will vote to send the draft Amendment 2 out for public and Advisory Committee comment. If approved, the draft is expected to go to the appropriate MFC Advisory Committees in January 2024 and a public comment period will be held around that same time. The outcome of that comment period and AC review would then be presented to the MFC during their February business meeting. If the draft is NOT approved, the draft will return to the Division for further evaluation.

DRAFT

# STRIPED MULLET FISHERY MANAGEMENT PLAN AMENDMENT 2



NC Division of Marine Fisheries 3441  
Arendell St. P.O. Box 769 Morehead  
City, NC 28557



## **DRAFT**

This document may be cited as:

NCDMF (North Carolina Division of Marine Fisheries). 2024. North Carolina Striped Mullet Fishery Management Plan Amendment 2. North Carolina Division of Marine Fisheries, Morehead City, North Carolina.

**Disclaimer:** Data in this Fishery Management Plan may have changed since publication based on updates to source documents.

## DRAFT

### ACKNOWLEDGMENTS

Amendment 2 to the North Carolina Striped Mullet Fishery Management Plan was developed by the Department of Environmental Quality, Division of Marine Fisheries under the auspices of the Marine Fisheries Commission with the advice of the Striped Mullet Advisory Committee. Deserving special recognition are the members of the Striped Mullet Advisory Committee and the Division Plan Development Team who contributed their time and knowledge to this effort.

#### Striped Mullet Advisory Committee

Barry Hodawanic  
Eric Bregman  
Janet Nye  
Joey Frost  
Sammy Corbett  
Steve Edens  
Walter Rogers  
Thomas Newman

#### Striped Mullet Development Team

Alan Bianchi  
Amos Williams  
Barbie Byrd  
Brandi Salmon  
Daniel Zapf (Mentor)  
David Behringer  
Jacob Tyler  
Jason Parker  
Jason Rock  
Jason Walsh  
Jeffrey Dobbs (Co-lead)  
Kimberlee Harding

Laura Lee  
Lee Paramore  
Lucas Pensinger  
Marc Hamric  
Mclean Seward  
Melinda Lambert  
Morgan Paris  
Nolen Vinay  
Steve Poland  
Jeffrey Moore  
Vicky Thayer  
Willow Patten (Co-lead)

The following division staff were also invaluable in assisting with the development of this document: Corrin Flora, Debbie Manley, Carter Witten, Casey Knight, Steve Poland, Tina Moore, and Catherine Blum.

# DRAFT

## CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	2
<b>Fishery Management Plan History</b>	<b>2</b>
<b>Management Unit</b>	<b>2</b>
<b>Goal and Objectives</b>	<b>3</b>
DESCRIPTION OF THE STOCK	3
<b>Biological Profile</b>	<b>3</b>
Physical Description	3
Distribution	3
Species	3
Age and Growth	4
Life Cycle	6
Reproduction	6
Predator-Prey Relationships	6
Habitat	7
<b>Unit Stock and Management Unit</b>	<b>7</b>
<b>Assessment Methodology</b>	<b>7</b>
<b>Stock Status</b>	<b>8</b>
Projections	9
DESCRIPTION OF THE FISHERY	9
<b>Commercial Fishery</b>	<b>11</b>
Collection of Commercial Harvest Data	11
Historical Landings and Value	11
Landings by Market Grade	12
Bait Landings	14
Landings by County and Waterbody	14
Landings By Gear Type	15
Runaround Gill Nets	15
Set Gill Nets	17
Beach Seines	17
Cast Nets	18
Effects of weather on fishery	19
<b>Striped Mullet Bycatch</b>	<b>20</b>
Set Gill Net Fishery	20
Crab Pot Fishery	20
Bycatch in Targeted Striped Mullet Fisheries	20
Recreational Cast Net Fishery	21
<b>Recreational Fishery</b>	<b>21</b>
SUMMARY OF ECONOMIC IMPACT	21
ECOSYSTEM PROTECTION AND IMPACT	22
<b>Coastal Habitat Protection Plan</b>	<b>22</b>
<b>Threats and Alterations</b>	<b>23</b>
Water Quality Degradation	24
<b>Gear Impacts on Habitat</b>	<b>25</b>
Protected Species Interactions	25
<b>Climate Change and Resiliency</b>	<b>26</b>
FINAL AMENDMENT TWO MANAGEMENT STRATEGY	26
RESEARCH NEEDS	26
<b>Appendix 1: SMALL MESH GILL NET CHARACTERIZATION IN THE NORTH CAROLINA STRIPED MULLET FISHERY</b>	<b>28</b>

<b>Appendix 2: ACHIEVING SUSTAINABLE HARVEST IN THE NORTH CAROLINA STRIPED MULLET FISHERY</b>	<b>45</b>
<b>Appendix 3. CHARACTERIZATION AND MANAGEMENT OF THE NORTH CAROLINA RECREATIONAL STRIPED MULLET FISHERY</b>	<b>74</b>
<b>REFERENCES</b>	<b>87</b>

## List of Tables

Table 1 Annual commercial estimates of annual economic impact to the state of North Carolina from striped mullet harvest for 2011 to 2021.	22
Table 2. Monthly commercial estimates of annual economic impact to the state of North Carolina from striped mullet harvest for 2017 to 2021.	22

## List of Figures

Figure 1. Identifying features for striped mullet. Striped mullet have eight soft anal fin rays and do not have a gold spot on the opercle that white mullet sometimes have. Photo By Scott Smith.	4
Figure 2. Identifying features for white mullet. White mullet have nine soft anal fin rays and a gold spot on the opercle. Photo By Scott Smith.	5
Figure 3. Average length at age for male and female striped mullet from DMF data. For some ages, only one sex or one specimen has been observed. Error bars show the range of lengths observed at each age by sex.	5
Figure 4. Estimates of striped mullet recruitment from the 2022 striped mullet stock assessment (NCDMF 2022). Average recruitment is the average number of recruits from 1990 to 2019, high recruitment is the average number of recruits from 1990 to 2003, and low recruitment is the average number of recruits from 2008 to 2019.	9
Figure 5. Comparison of annual estimates of fishing mortality (numbers weighted, ages 1-5) to the fishing mortality target (F35%) and threshold (F25%). Error bars represent plus or minus 2 standard deviations.	10
Figure 6. Comparison of annual estimates of female spawning stock biomass (SSB) to the SSB target (SSB35%) and threshold (SSB25%). Error bars represent plus or minus 2 standard deviations.	10
Figure 7. Annual number of trips and participants for the North Carolina striped mullet commercial fishery from 1994 to 2021.	11
Figure 8. Historical striped mullet landings in the North Carolina commercial striped mullet fishery, for 1880 to 2021.	12
Figure 9. North Carolina annual striped mullet commercial landings and ex-vessel value for 1972 to 2021. Values include all market grades and are not adjusted for inflation.	13
Figure 10. North Carolina striped mullet average monthly landings and average price per pound for 2010 to 2021. Averages include all market grades and are not adjusted for inflation.	13
Figure 11. Percent of total landings by market grade in the North Carolina striped mullet commercial fishery, for 1994 to 2021. Landings reported as extra small, small, medium, large, jumbo, and mixed were combined into the “Mixed” market grade category. Landings reported as roe or red roe were combined into the “Red Roe” market grade category.	14
Figure 12. Annual landings by major market grade in the North Carolina striped mullet commercial fishery for 1994 to 2021. Landings reported as extra small, small, medium, large, jumbo, and mixed were combined into the “Mixed” market grade category. Landings reported as roe or red roe were combined into the “Red Roe” market grade category.	15
Figure 15. Total landings in pounds by dominant gear type in the North Carolina striped mullet commercial fishery for 1972 to 2021. Beach seine landings for 2014 through 2016 and 2018 through 2019 are confidential and therefore not presented, indicated by asterisks.	16
Figure 16. Pounds harvested by runaround gill nets by year and percent of total landings harvested by runaround gill nets by year in the North Carolina striped mullet commercial fishery for 1972 to 2021.	16

**DRAFT**

- Figure 17. Pounds harvested using set gill nets and percent of total landings harvested using set gill nets by year in the North Carolina striped mullet commercial fishery for 1972 to 2021. 17
- Figure 18. Pounds harvested using beach seines and percent of total landings harvested using beach seines by year in the North Carolina striped mullet commercial fishery for 1972 to 2021. Values for 2014 through 2016 and 2018 through 2019 are confidential and therefore not presented, indicated by asterisks. 18
- Figure 19. Pounds harvested using cast nets and percent of total landings harvested using cast nets by year in the North Carolina striped mullet commercial fishery for 1972 to 2021. 19

DRAFT

**DRAFT**

**EXECUTIVE SUMMARY**

\*\*\*This section will be completed after the MFC selects preferred management\*\*\*

## DRAFT

## INTRODUCTION

This is Amendment 2 to the Striped Mullet Fishery Management Plan (FMP). By law, each FMP must be reviewed at least once every five years (G.S. 113-182.1). The N.C. Division of Marine Fisheries (DMF) reviews each FMP annually and a comprehensive review is undertaken about once every five years. FMPs are the product that brings all information and management considerations for a species into one document. The DMF prepares FMPs for adoption by the North Carolina Marine Fisheries Commission (MFC) for all commercially and recreationally significant species or fisheries that comprise state marine or estuarine resources. The goal of these plans is to ensure long-term viability of these fisheries. All management authority for the North Carolina striped mullet fishery is vested in the State of North Carolina. The MFC adopts rules and policies and implements management measures for the striped mullet fishery in Coastal Fishing Waters in accordance with G.S. 113-182.1. Until Amendment 2 is approved for management, striped mullet are managed under Supplement A to Amendment 1 to the Striped Mullet Fishery Management Plan (NCDMF 2023).

Results of the [2022 Striped Mullet Stock Assessment](#) (NCDMF 2022) indicated that striped mullet in North Carolina are overfished and that overfishing is occurring in 2019, the terminal year of the assessment. An external peer review panel and DMF concluded that the 2022 assessment model and results are suitable for providing management advice for at least the next five years and considers the current assessment to be a substantial improvement from previous assessments, representing the best scientific information available for the stock. For More information about previous and current management and results of previous stock assessments, see the original [Striped Mullet FMP](#) (NCDMF 2006), [Amendment 1 to the Striped Mullet FMP](#) (NCDMF 2015), [Supplement A to Amendment 1](#) (NCDMF 2023) and previous stock assessments (NCDMF 2013, NCDMF 2018, NCDMF 2022). These are available on the North Carolina Division of Marine Fisheries [Fishery Management Plan website](#).

### Fishery Management Plan History

Original FMP Adoption:	April 2006
Amendments:	Amendment 1 (2015)
Revisions:	None
Supplements:	Supplement A to Amendment 1 (2023)
Information Updates:	None
Schedule Changes:	None
Comprehensive Review:	

Past versions of the Striped Mullet FMP (NCDMF 2006, NCDMF 2015, NCDMF 2023) are available on the [DMF fishery management plan website](#).

### Management Unit

The management unit of this FMP includes all striped mullet inhabiting North Carolina coastal and inland fishing waters.



## DRAFT

### Goal and Objectives

The goal of Amendment 2 is to manage the striped mullet fishery to achieve a self-sustaining population that provides sustainable harvest using science-based decision-making processes. The following objectives will be used to achieve this goal.

Objectives:

- Implement management strategies within North Carolina that sustain and/or restore the striped mullet spawning stock with adequate age structure abundance to maintain recruitment potential and prevent overfishing.
- Promote the restoration, enhancement, and protection of critical habitat and environmental quality in a manner consistent with the Coastal Habitat Protection Plan, to maintain or increase growth, survival, and reproduction of the striped mullet stock.
- Use biological, social, economic, fishery, habitat, and environmental data to effectively monitor and manage the fishery and its ecosystem impacts.
- Advance stewardship of the North Carolina striped mullet stock by promoting practices that minimize bycatch and discard mortality.

### DESCRIPTION OF THE STOCK

#### Biological Profile

##### *PHYSICAL DESCRIPTION*

Striped Mullet (*Mugil cephalus*) have a long, rounded, silvery body, with a dark bluish green back, fading into silver sides and a white underside. Several dark, horizontal stripes run head to tail along the body. The mouth is small, and the snout is short and blunt.

##### *DISTRIBUTION*

Striped mullet occur in fresh, brackish, and marine waters in tropical and subtropical latitudes worldwide. In the western Atlantic, striped mullet have been documented from Nova Scotia to Brazil (Able and Fahay 1998) with striped mullet occurring year-round from North Carolina southward (Bacheler, Wong and Buckel 2005). Their widespread distribution results in them being known by many names: jumping mullet, black mullet, grey mullet, popeye mullet, whirligig mullet, common mullet, molly, callifavor, menille, liza, and lisa (Ibanez Aguirre, Gallardo Cabello and Sanchez Rueda 1995, Leard, et al. 1995). Striped mullet are used as food and bait, supporting commercial and recreational fisheries worldwide. In North Carolina, striped mullet are distributed coastwide and are found in most coastal habitats including rivers, estuaries, marshes, and the ocean. Tagging studies in North Carolina suggest a residential adult stock (Wong 2001; Bacheler et al. 2005) since most (98.2%) striped mullet dart-tagged in North Carolina between 1997 and 2001 were recovered in state waters (Wong 2001). In general, striped mullet tagging studies reveal a small mark-recapture distance and a general southward spawning migration along the South Atlantic Bight (SAB; Mahmoudi et al. 2001; McDonough 2001; Wong 2001). A northward movement pattern during and after the spawning period suggests adults return to North Carolina estuarine habitats (Bacheler et al. 2005).

##### *SPECIES*

Three Mugilid species exist in North Carolina: striped mullet, white mullet (*Mugil curema*), and mountain mullet (*Agonostomus monticola*). Striped mullet and white mullet sometimes overlap spatially but can be distinguished by the presence of longitudinal stripes in striped mullet, anal fin

## DRAFT

ray counts, or pectoral fin measurements (Figure 1, Figure 2) (M. R. Collins 1985a, M. R. Collins 1985b). As juveniles, both striped and white mullet cohabitate in estuarine waters making differentiation difficult (Martin and Drewry 1978); however, adult white mullet (age 1 +) rarely occur north of Florida and therefore are not associated with the commercial "roe" mullet fishery in North Carolina (Able and Fahay 1998). The mountain mullet is rare in North Carolina; known only from one specimen noted in Brunswick County, North Carolina (Rohde 1976).

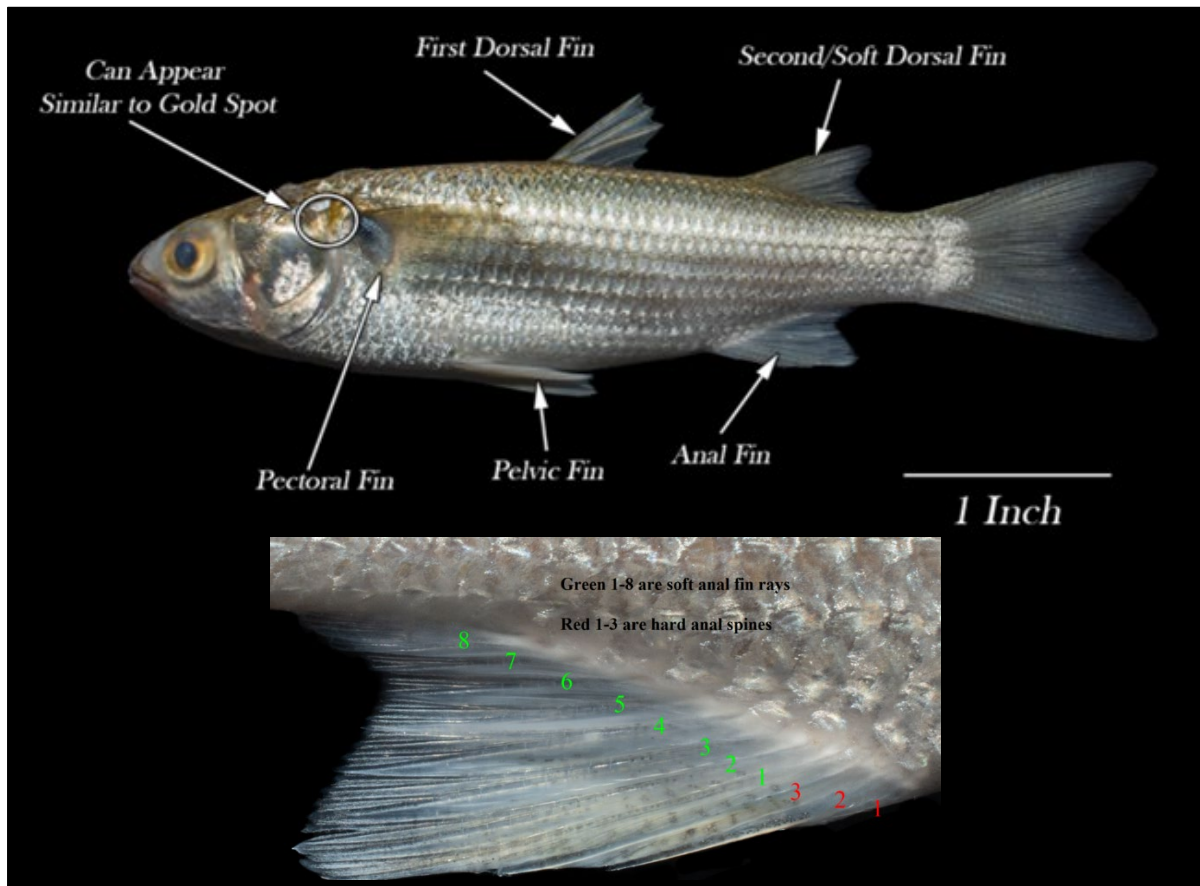


Figure 1. Identifying features for striped mullet. Striped mullet have eight soft anal fin rays and do not have a gold spot on the opercle that white mullet sometimes have. Photo By Scott Smith.

### AGE AND GROWTH

Large variability in size at age has been observed for striped mullet in North Carolina (Figure 3), South Carolina, and Georgia (Charmichael and Gregory 2001, Foster 2001, C. J. McDonough 2001). Male and female fish tend to reach similar lengths at early ages (before age 2), after which, females grow larger and live longer (Mahmoudi, et al. 2001). Adult striped mullet grow at a rate of 38 mm to 64 mm (1.5 to 2.5 inches) per year (Broadhead 1953, Wong 2001) and grow twice as fast during the spring and summer than during the winter (Broadhead 1953, Rivas 1980). Male and female maximum ages of 14 and 13 years respectively have been observed in striped mullet collected by the DMF, and one striped mullet of undetermined sex was observed at 15 years old in the Neuse River, making it the oldest ever to be recorded in North Carolina (NCDMF 2022). Maximum reported sizes have ranged from 698 mm (27.5 inches) TL in North Carolina (NCDMF 2022) to 914 mm (36 inches) TL in India (Gopalakrishnan 1971).

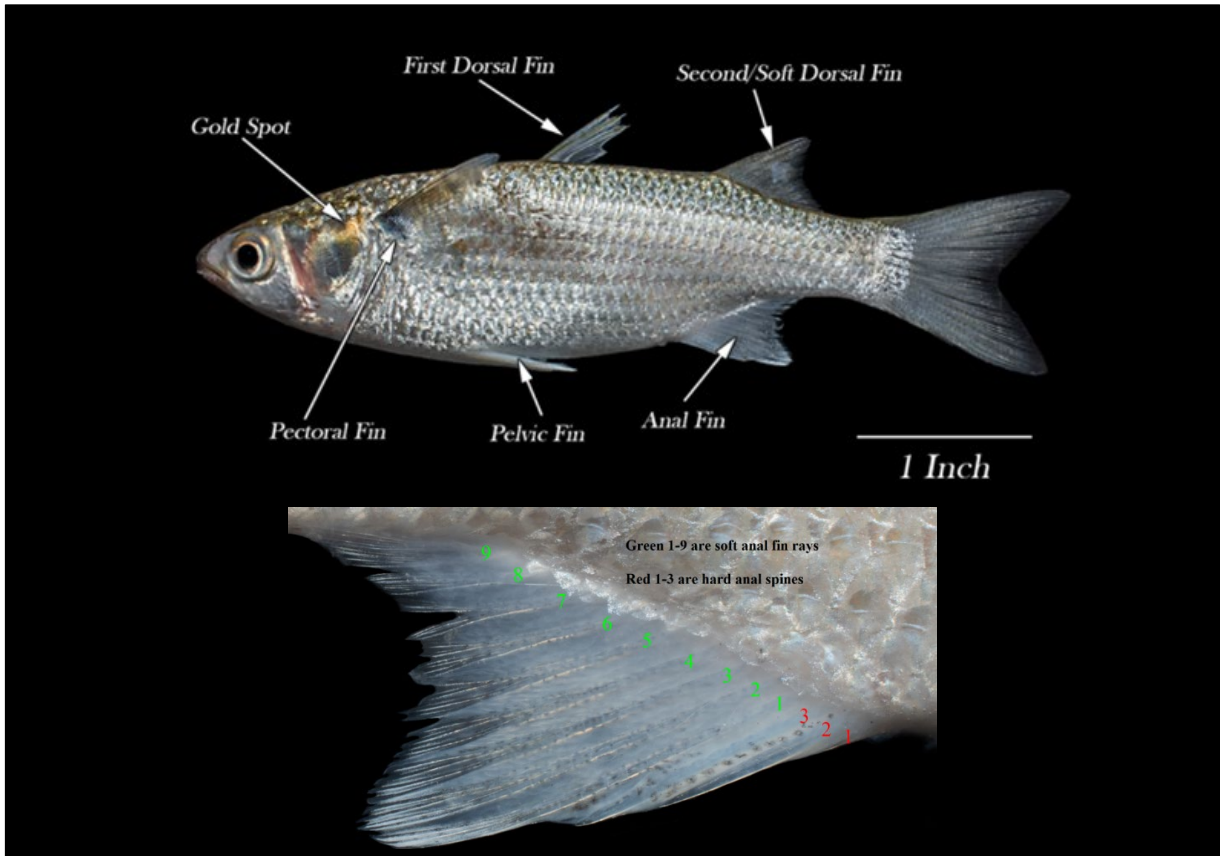


Figure 2. Identifying features for white mullet. White mullet have nine soft anal fin rays and a gold spot on the opercle. Photo By Scott Smith.

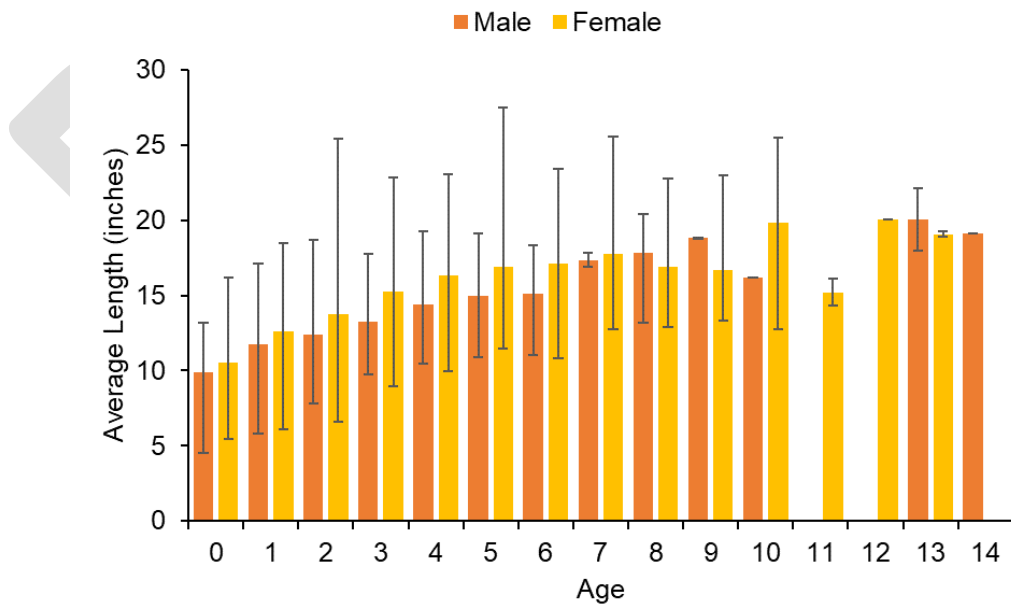


Figure 3. Average length at age for male and female striped mullet from DMF data. For some ages, only one sex or one specimen has been observed. Error bars show the range of lengths observed at each age by sex.

## DRAFT

### *LIFE CYCLE*

Larval and juvenile striped mullet begin their lives offshore, eventually moving inshore into a range of estuarine and shallow-water habitats as they reach adulthood (Anderson 1958, Leard, et al. 1995) where they remain from spring into summer (Leard, et al. 1995). In the southeast US, most adult movement occurs in the fall and winter months during the spawning migration from rivers and estuaries to ocean spawning grounds (M. R. Collins 1985a, Leard, et al. 1995, J. B. Bichy 2000). Increased migratory movement has been associated with north or northwest winds and cold fronts (Jacot 1920, Apekin and Vilenskaya 1979, Mahmoudi, et al. 2001) while hurricanes and unseasonably warm fall water temperatures may delay or disrupt the usual timing of spawning migrations (Thompson, et al. 1991).

### *REPRODUCTION*

Striped mullet spawn once per year and may spawn many times throughout their lives. In North Carolina, striped mullet reach maturity at greater lengths compared to other regions, with males reaching maturity at 283 mm (J. B. Bichy 2004) and females reaching maturity at 319 mm (NCDMF 2021). It is estimated that 50% of striped mullet in North Carolina reach maturity at one year old for both males and females (J. B. Bichy 2000), one to two years earlier than in states south of North Carolina (Pafford 1983, Mahmoudi, et al. 2001). Maximum fecundity is reported to be from 0.5 to 4.2 million eggs per female, with fecundity being positively related to body size (larger fish produce more eggs) (Whitfield and Blaber 1978, Pafford 1983, J. B. Bichy 2000, Wenner 2001, Bichy and Taylor 2002, McDonough, Roumillat and Wenner 2003)

Striped mullet are catadromous, migrating in large schools from freshwater or brackish water habitats to marine spawning areas (Martin and Drewry 1978, M. R. Collins 1985a, S. M. Blaber 1987). The spawning location of North Carolina striped mullet is inferred largely based on indirect evidence, and likely occurs offshore, in and around the edge of the South Atlantic Bight (Broadhead 1953, Anderson 1958, Arnold and Thompson 1978, Martin and Drewry 1978, Powles 1981, Collins and Stender 1989, Ditty and Shaw 1996, Able and Fahay 1998). Spawning also likely occurs in nearshore coastal waters, lower estuarine areas, sounds, and (rarely) in freshwater (Jacot 1920, Breder 1940, Johnson and McClendon 1969, Shireman 1975, Martin and Drewry 1978, Collins and Stender 1989, Bettaso and Young 1999). Spawning is believed to occur at night near the surface (Anderson 1958, Arnold and Thompson 1978) and temporally around new and full moon spring tides (Greeley, Calder and Wallace 1987). The spawning season usually lasts from September to March in North Carolina, peaking in October and November (Jacot 1920, Bichy and Taylor 2002).

### *PREDATOR-PREY RELATIONSHIPS*

Striped mullet act as an important ecological bridge among a wide range of trophic levels connecting base food chain items such as detritus, diatomaceous microalgae, phytoplankton, zooplankton, and marine snow (Odum 1968, Moore 1974, M. R. Collins 1985a, Larson and Shanks 1996, Cardona 2000, Torras, Cardona and Gisbert 2000), with top-level predators such as birds, fishes, sharks, and dolphins (Breuer 1957, J. M. Thompson 1963, M. R. Collins 1985a, Barros and Odell 1995, Fertl and Wilson 1997, Bacheler, Wong and Buckel 2005, Kiszka, et al. 2014). However, striped mullet likely contribute minimally to the diets of red drum (Facendola and Scharf 2012, Peacock 2014), striped bass (Rudershausen, et al. 2005) and other finfish species (Binion-Rock 2018). Carnivorous feeding on copepods, mosquito larvae, and microcrustaceans is common in striped mullet larvae and small juveniles (Desilva 1980, Harrington and Harrington 1961) followed by an increasing dependence on benthic and epiphytic detritus, microalgae, and microorganisms with increasing body size (DeSilva and Wijeyaratne 1977, Ajah and Udoh 2013, Bekova, et al. 2013). Adult striped mullet are primarily “interface feeders”, feeding on the water



## DRAFT

surface, water bottom, or surfaces of objects, but will occasionally feed on mid-water polychaetas and live bait of anglers in non-interface areas (Bishop and Miglarese 1978).

### *HABITAT*

Striped mullet live in both fresh and saline water (M. R. Collins 1985a, Hotos and Vlahos 1998) and can be found in rivers, estuaries, and ocean habitats. Adult striped mullet are found in almost all shallow marine and estuarine habitats including beaches, tidal flats, lagoons, bays, rivers, channels, marshes, and seagrass beds (Moore 1974, Pattillo, et al. 1999, Nordlie 2000). Striped mullet are highly mobile, allowing them to use a wide range of habitats (Baker, et al. 2013). Field specimens have been collected in salinities ranging from 0 to 75 parts per thousand (ppt); however, striped mullet prefer a salinity range of 20 ppt to 26 ppt (M. R. Collins 1985a, Leard, et al. 1995, Pattillo, et al. 1999). Young-of-the-year striped mullet are capable of full osmoregulation and can tolerate freshwater to full seawater salinities by 40 mm, when they are 7 to 8 months old (Nordlie 2000).

Striped mullet do not seem to live permanently in waters with temperatures below 16°C (M. R. Collins 1985a), but have been observed in waters colder than 2°C in low salinity habitats (<2 ppt) in North Carolina (NCDMF unpublished data). Smaller striped mullet (<50 mm) prefer higher water temperatures, 30.0°C to 32.4°C, while larger fish prefer cooler temperatures, 19.5°C to 29.0°C (Major 1977, M. R. Collins 1985a). Peak growth of juveniles of mixed *Mugil* species (striped mullet and white mullet) occurs at temperatures greater than 25°C in laboratory settings (Peterson, et al. 2000). Additionally, striped mullet can tolerate low levels of dissolved oxygen and can capture air from the surface to supplement their oxygen supply for respiration (Pattillo, et al. 1999). They live at depths ranging from a few centimeters to over 1,000 meters but are mostly observed within 40 meters of the surface. Once inshore, they prefer depths of 3 meters or less.

### **Unit Stock and Management Unit**

Based on available movement, migration, and life history data, the unit stock and management unit for striped mullet are defined as all striped mullet inhabiting North Carolina coastal and inland fishing waters.

### **Assessment Methodology**

The stock assessment used a model to estimate historical and current population sizes for striped mullet in North Carolina. Data used in the assessment were collected from 1950 to 2019, from fish within North Carolina coastal and inland fishing waters (the range of the assumed biological unit stock). Commercial harvest data used in the assessment were collected by the North Carolina Trip Ticket Program, and recreational harvest data were collected through the National Oceanic and Atmospheric Administration's (NOAA) Marine Recreational Information Program (MRIP). Biological samples and environmental data were collected by DMF as part of several fishery-independent and fishery-dependent data collection programs. Several environmental variables including salinity, dissolved oxygen, water temperature, and bottom composition were incorporated into calculation of abundance indices. Following completion of the stock assessment, an external peer review workshop was held in April 2022. The DMF and peer review panel both concluded that the assessment model and results are suitable for providing management advice for at least the next five years.

Stock assessments often use a measure of female spawning stock biomass (SSB) to determine the status of the population relative to the level that is adequate for the recruitment class of a fishery to replace the spawning class of the fishery. Female spawning stock biomass includes

## DRAFT

female fish that are mature and capable of producing offspring. The fishing mortality rate ( $F$ ) is a measure of how quickly fish are being removed from the population by commercial and recreational fisheries combined. Removals include those fish that are kept and those that die after being released or discarded.

The 2019 estimates for female SSB and  $F$  were compared to thresholds that are considered sustainable. Sustainable harvest is defined as the amount of fish that can be taken from a fishery on a continuing basis without reducing the stock biomass of the fishery or causing the fishery to become overfished (G.S. 113-129 14a). These levels are based on two types of established reference points: a target level and a threshold level. The threshold is the minimum level required to end overfishing or allow the stock to rebuild from an overfished status. The target is intended to provide a buffer that accounts for variable conditions that may impact the efficacy of management actions. Managing to the target may increase the probability of successfully limiting fishing mortality to a level that allows the fishery to achieve sustainable harvest levels. If female SSB is less than the SSB threshold the stock is overfished, meaning that the spawning stock biomass of the fishery is below the level that is adequate for the recruitment class of a fishery to replace the spawning class of the fishery (G.S. 113-129 12c). If  $F$  is above the  $F$  threshold the rate of removals is too high and overfishing is occurring. Overfishing is fishing that causes a level of mortality that prevents a fishery from producing a sustainable harvest (G.S. 113-129 12d).

The threshold and target fishing mortality and spawning stock biomass reference points used in stock assessments are selected to achieve a desired spawning potential ratio (SPR). SPR describes the expected reproductive output of an “average” individual fish over its lifetime when the population is fished, compared to what would be expected for that same individual in the absence of fishing. When choosing an SPR level for management decisions, the goal is to ensure the number of new fish (recruits) joining the spawning stock each year is not greatly decreased compared to what the stock would produce if it were not experiencing fishing pressure. Higher SPR levels do not necessarily result in more fish recruiting to the spawning stock because as more fish are added to the population, they compete for resources such as food and habitat, and survival decreases. Alternatively, when SPR drops too low, not enough new fish are produced and recruitment to the adult population declines, eventually resulting in a stock that is overfished. The appropriate SPR for a given stock is dependent on life history characteristics of the species and how associated fisheries operate. An SPR level of 20-50% is usually appropriate (Caddy and Mahon 1995). A greater SPR level is used when a more conservative management strategy is desired for the fishery.

For more details about assessment methodology, please refer to the 2022 Striped Mullet Stock Assessment (NCDMF 2022).

### Stock Status

The North Carolina striped mullet stock is overfished, and overfishing is occurring in 2019, the terminal year of the 2022 stock assessment (NCDMF 2022). The observed data and model predictions suggest a decreased presence of larger, older striped mullet in the population. The model estimates declining trends in age-0 recruitment and SSB over the last several decades (Figure 4). Model results also indicate consistent overestimation of biomass and the greatest risk for overfishing.

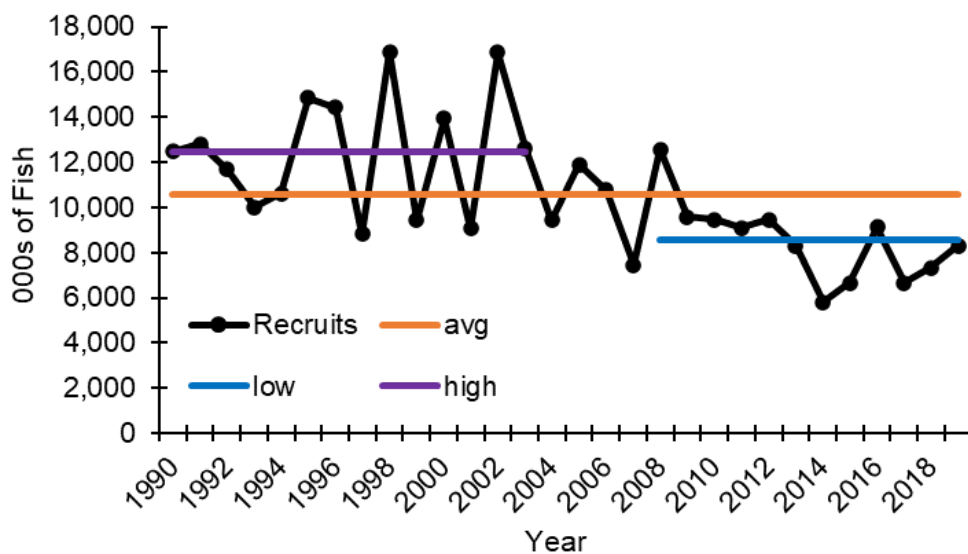


Figure 4. Estimates of striped mullet recruitment from the 2022 striped mullet stock assessment (NCDMF 2022). Average recruitment is the average number of recruits from 1990 to 2019, high recruitment is the average number of recruits from 1990 to 2003, and low recruitment is the average number of recruits from 2008 to 2019.

The stock assessment model estimated a value of 0.37 for the  $F_{25\%}$  threshold and a value of 0.26 for the  $F_{35\%}$  target. In 2019, the terminal year of the assessment,  $F$  was 0.42, greater than the  $F_{25\%}$  threshold, indicating overfishing is occurring (Figure 5). The probability that the stock is undergoing overfishing is 80%. The model estimated a value of 1,364,895 pounds for the  $SSB_{25\%}$  threshold and a value of 2,238,075 pounds for the  $SSB_{35\%}$  target. Female  $SSB$  in 2019 was estimated at 579,915 pounds, lower than the  $SSB_{25\%}$  threshold, indicating the stock is overfished (Figure 6). The probability that the stock is overfished is 95%

*PROJECTIONS*

Please refer to the 2022 stock assessment (NCDMF 2022) and the Achieving Sustainable Harvest in the North Carolina Striped Mullet Fishery Issue Paper (Appendix 2) for more information about stock projections and reductions necessary to end overfishing and achieve sustainable harvest for the North Carolina striped mullet stock.

**DESCRIPTION OF THE FISHERY**

Additional in-depth analyses and discussion of North Carolina’s historical commercial and recreational striped mullet fisheries can be found in earlier versions of the Striped Mullet FMP (NCDMF 2006, NCDMF 2015). Commercial and recreational landings can be found in the [License and Statistics Annual Report](#) (NCDMF 2022) on the DMF Fisheries Statistics website.

Discussion of socio-economic information describes the fishery as of 2021 and is not intended to be used to predict potential impacts from management changes. This and other information pertaining to the FMPs are included to help inform decision-making regarding the long-term viability of the state’s commercially and recreationally significant species and fisheries. For a



detailed explanation of the methodology used to estimate economic impacts, please refer to the DMF License and Statistics Section Annual Report (NCDMF 2022).

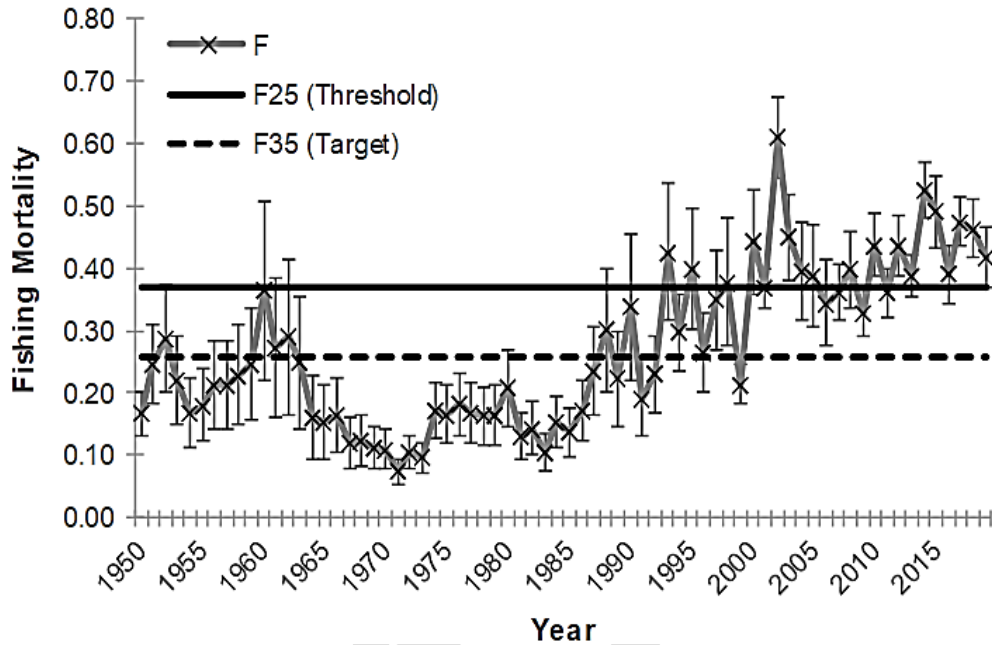


Figure 5. Comparison of annual estimates of fishing mortality (numbers weighted, ages 1-5) to the fishing mortality target (F35%) and threshold (F25%). Error bars represent plus or minus 2 standard deviations.

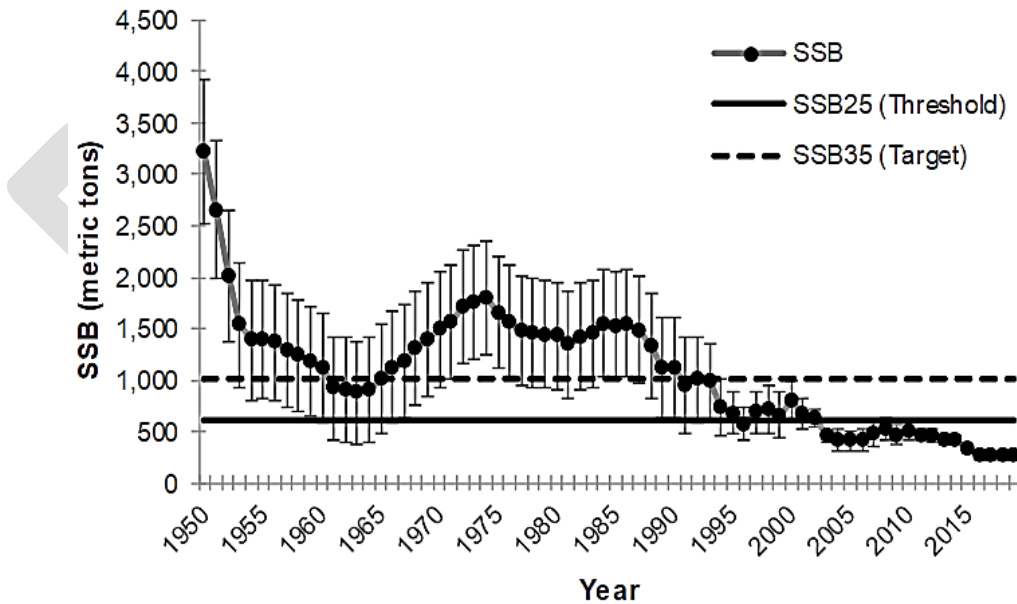


Figure 6. Comparison of annual estimates of female spawning stock biomass (SSB) to the SSB target (SSB35%) and threshold (SSB25%). Error bars represent plus or minus 2 standard deviations.

## Commercial Fishery

### COLLECTION OF COMMERCIAL HARVEST DATA

DMF instituted a mandatory, dealer-based, trip-level, reporting system known as the North Carolina Trip Ticket Program (NCTTP) for all commercial species in 1994. All seafood landed in North Carolina and sold by licensed commercial fishermen must be reported on a trip ticket by a licensed seafood dealer. For more information about licensing requirements for purchasing and selling seafood in North Carolina and how commercial fishing data were collected prior to 1994, please refer to the DMF License and Statistics Section Annual Report (NCDMF 2022). In 2021, 148 seafood dealers reported striped mullet on trip tickets, landed by 664 fishery participants during 11,432 fishing trips (Figure 7).

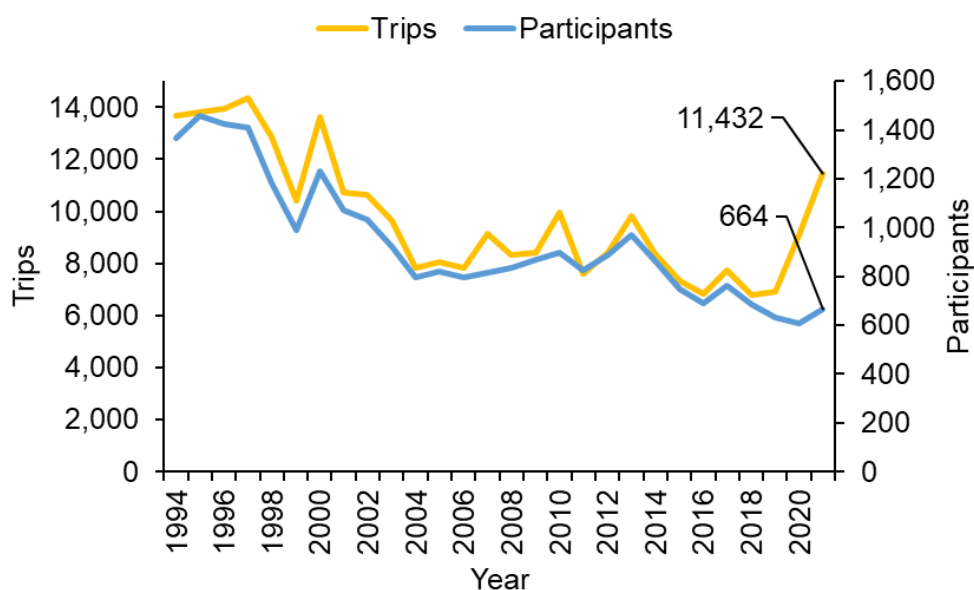


Figure 7. Annual number of trips and participants for the North Carolina striped mullet commercial fishery from 1994 to 2021.

### HISTORICAL LANDINGS AND VALUE

The historic striped mullet fishery had a prominent role in the early development of the North Carolina commercial fishing industry and striped mullet were ranked as the most abundant and important saltwater fish of North Carolina in the early 1900s (Smith 1907). The fishery's historical importance is illustrated by the colloquial name of the Atlantic and North Carolina Railway, known as the 'Old Mullet Line', which connected coastal and piedmont North Carolina from the 1850s to 1950s (Little 2012). The mullet fishery operated at over 3 million pounds annually during the late 1800s (Figure 8) (Chestnut and Davis 1975) and enormous catches of greater than 1 million pounds of striped mullet landed in a single day were not an uncommon event during fall spawning migrations (Smith 1907). The greatest recorded landings of over 6.7 million pounds and 5.1 million pounds were harvested in 1902 and 1908, respectively (Figure 8) (Chestnut and Davis 1975).

The fishery and market for striped mullet changed markedly in the late 1980s. Strong demand from Asia for striped mullet roe and competing roe-exporting companies combined to create a highly profitable roe fishery in NC in 1988; that year landings exceeded 3 million pounds for the first time in 28 years. Value of the fishery increased even more noticeably than landings during the late 1980s. From 1987 to 1988, landings increased by 18%, yet value grew by 150% (Figure 9). A depressed Asian economy in the late 1990s may have led to a decline in roe demand.

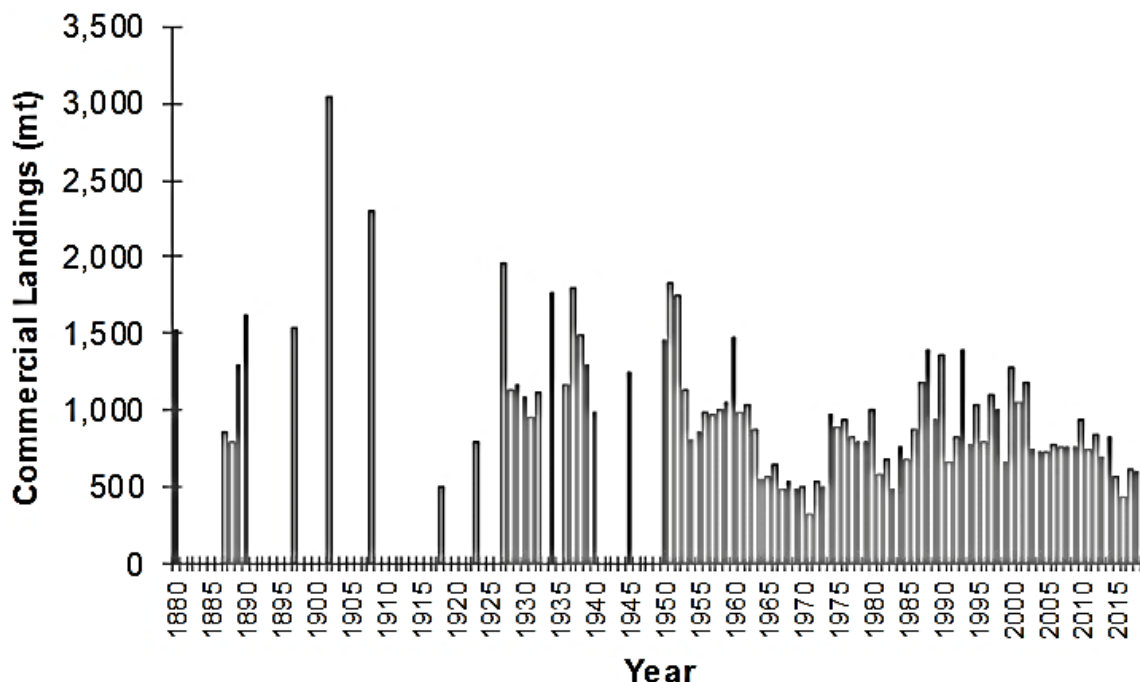


Figure 8. Historical striped mullet landings in the North Carolina commercial striped mullet fishery, for 1880 to 2021.

From 2000 to 2021, the price per pound for striped mullet has been variable, ranging from a low of \$0.40 per pound in 2008 to \$0.91 per pound in 2013. Since the early 2000s, landings in the striped mullet fishery have stabilized to around 1.5 to 2.0 million pounds annually, with the exception of 2016, when total landings dipped to just under 1 million pounds (Figure 9). Because the commercial fishery primarily targets striped mullet roe, the greatest demand, intensity of harvest, and price per pound occurs in October and November (Figure 10), coinciding with the peak spawning period of striped mullet (Bichy and Taylor 2002, Jacot 1920).

#### LANDINGS BY MARKET GRADE

Striped mullet harvest is categorized by size and market grades when purchased by seafood dealers from fishermen. Striped mullet landings only began to be recorded by specific market grades on trip tickets in 1994, as extra-small, small, medium, large, jumbo, mixed, red roe, roe, and white roe market categories. For the market grade analyses in this FMP, landings reported as extra small, small, medium, large, jumbo, and mixed were combined into the “Mixed” market grade category and landings reported as roe or red roe were combined into the “Red Roe” market grade category. From 1994 to 2021, striped mullet landings were sorted into either mixed (54%), red roe (40%), or white roe (spawning male striped mullet; 6%) market grades (Figure 11). During the same time period 42% of the value came from mixed market grade striped mullet, 55% of the value came from red roe, and 3% of the value came from white roe.

Mixed market grade harvest occurs year-round but increases in late summer, early fall, and January, likely because of the increased availability of striped mullet to the commercial fishery during their spawning migration. From 1994 to 2021, 97% of the annual red roe harvest, 95% of the annual white roe harvest, and 23% of the annual mixed market grade harvest occurred in November and December. Most spawning striped mullet are graded as mixed after Thanksgiving, even though ripe (ready to spawn) fish are occasionally harvested into February and March. The roe market typically shifts from North Carolina to Florida in December. From 1994 to 2021,

landings of Red Roe and Mixed grade mullet have fluctuated, with mixed grade landings increasing substantially since 2016 (Figure 12).

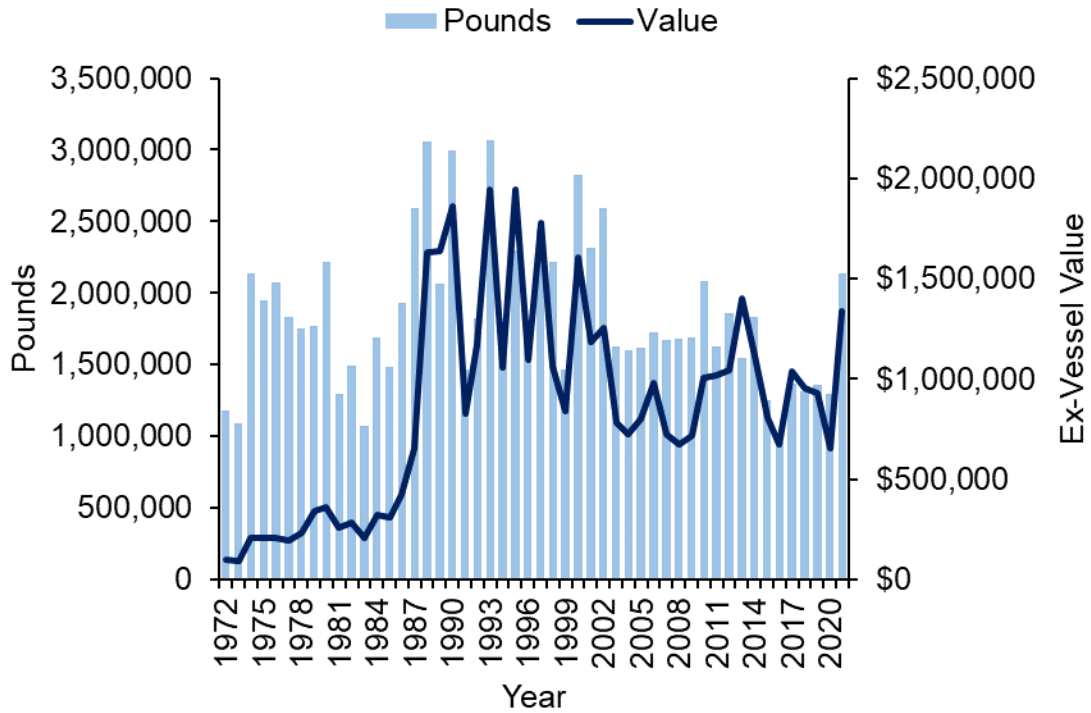


Figure 9. North Carolina annual striped mullet commercial landings and ex-vessel value for 1972 to 2021. Values include all market grades and are not adjusted for inflation.

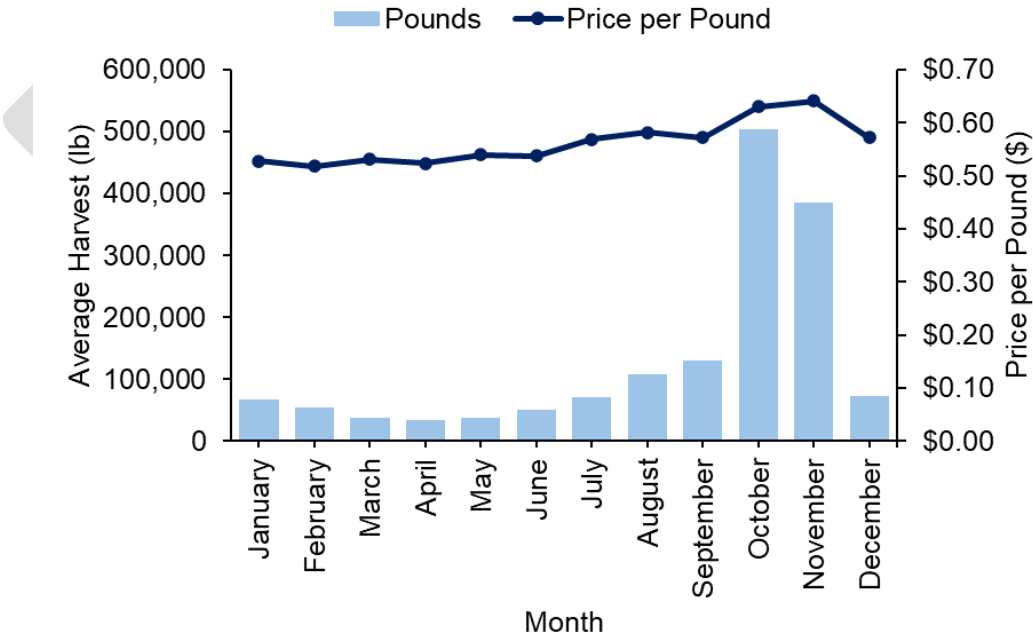


Figure 10. North Carolina striped mullet average monthly landings and average price per pound for 2010 to 2021. Averages include all market grades and are not adjusted for inflation.

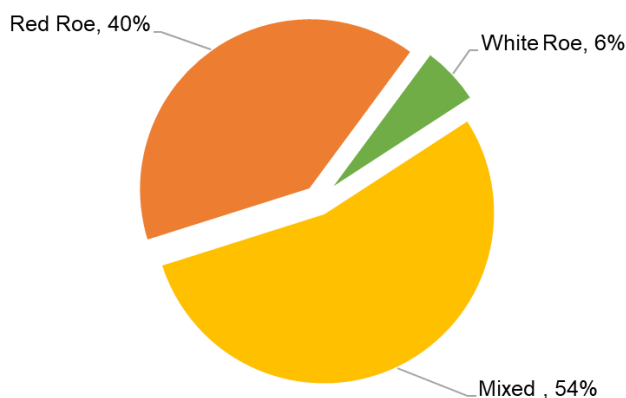


Figure 11. Percent of total landings by market grade in the North Carolina striped mullet commercial fishery, for 1994 to 2021. Landings reported as extra small, small, medium, large, jumbo, and mixed were combined into the “Mixed” market grade category. Landings reported as roe or red roe were combined into the “Red Roe” market grade category.

**BAIT LANDINGS**

The option for seafood dealers in North Carolina to report the disposition of landings on their trip tickets became available in 2017. Disposition is now a required field on trip tickets for dealers reporting electronically but some seafood dealers reporting on paper trip tickets are still using older, unused trip tickets that are missing the disposition field. Some seafood dealers leave the disposition field blank, an option intended to indicate that the default disposition for mullets of “food” should be used; however, a blank field could also indicate an accidental omission while recording the ticket. Additionally, mullets reported in numbers of fish rather than in pounds are often but not always bait landings, and some dealers report bait mullets using generic bait codes rather than using the correct species codes for “Finger Mullet” or “Jumping Mullet” (white and striped combined). Seafood dealers do not report mullets to the species level on trip tickets, but instead can report landings of larger fish as “Jumping Mullet” (all market grades except for extra-small) or smaller fish as “Finger Mullet” (extra-small market grade).

Commercial landings disposition data for striped mullet are currently considered to be inadequate for use in developing management measures because of the limited time series of disposition data for striped mullet landings and inconsistency in seafood dealers using the correct species and disposition codes when recording trip tickets. Additionally, commercial landings data for extra-small market grade mullet, or “Finger Mullet”, used as bait are not recorded to the species level. A DMF study completed in the early 2000s indicated that most of these landings may be white mullet, depending on the month and location of harvest (NCDMF 2006).

**LANDINGS BY COUNTY AND WATERBODY**

For information about trends in striped mullet commercial landings by county and by waterbody, please refer to the Small Mesh Gill Net Fishery Characterization Information Paper (Appendix 1). The vast majority of commercial striped mullet landings in North Carolina come from gill net fisheries and are landed in Dare and Carteret counties.

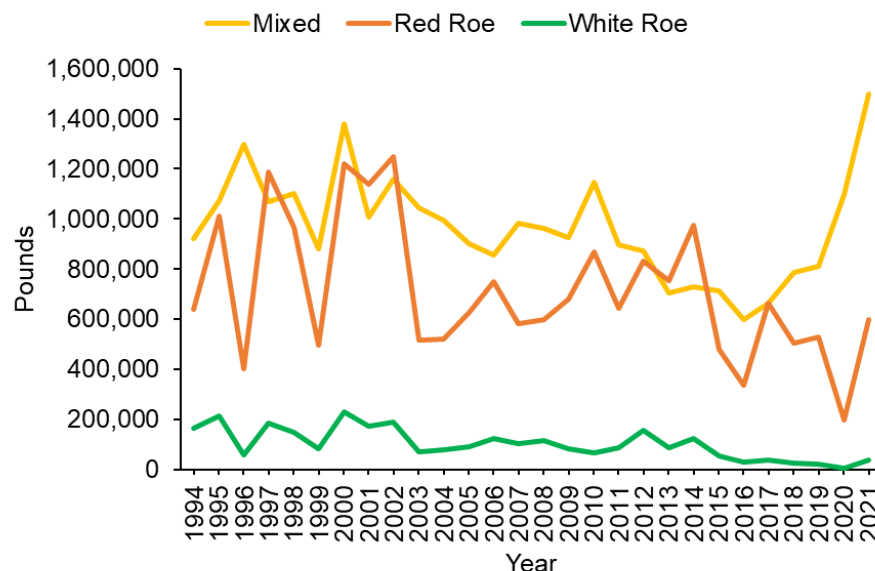


Figure 12. Annual landings by major market grade in the North Carolina striped mullet commercial fishery for 1994 to 2021. Landings reported as extra small, small, medium, large, jumbo, and mixed were combined into the “Mixed” market grade category. Landings reported as roe or red roe were combined into the “Red Roe” market grade category.

*LANDINGS BY GEAR TYPE*

Beach Seines and gill nets have been the two primary gear types used in the striped mullet commercial fishery since the earliest landings were documented in 1887. The beach seine fishery accounted for most commercial harvest for nearly 100 years, from 1887 to 1978. Gill nets replaced beach seines as the dominant gear type in the fishery in 1979 and the yearly proportion of total commercial striped mullet landings harvested by gill nets steadily increased until 1995 (Figure 15). Since then, gill net landings have averaged around 91% of striped mullet landings through 2021. Please refer to the Small Mesh Gill Net Characterization Information Paper (Appendix 1) for more information about gear classifications and small mesh gill nets in the North Carolina striped mullet fishery.

*RUNAROUND GILL NETS*

The contribution of runaround gill nets to total commercial harvest of striped mullet each year has steadily increased since 1972, and experienced a large increase in the 1990s, possibly resulting from the gill net closure in Florida state waters at the time. Anecdotal reports from North Carolina fishermen indicate an influx of Florida striped mullet fishermen into North Carolina and subsequent improvements in harvesting methods. More jet drive boats, spotting towers, night fishing, and runaround gill netting were reported by the mid-1990s. Additionally, expanded fishing regulations requiring gill net attendance for anchored small mesh gill nets (less than 5 inch stretched mesh) in North Carolina began in 1998, which may have further prompted a shift from set nets to runaround gill net fishing for striped mullet. (Figure 16).



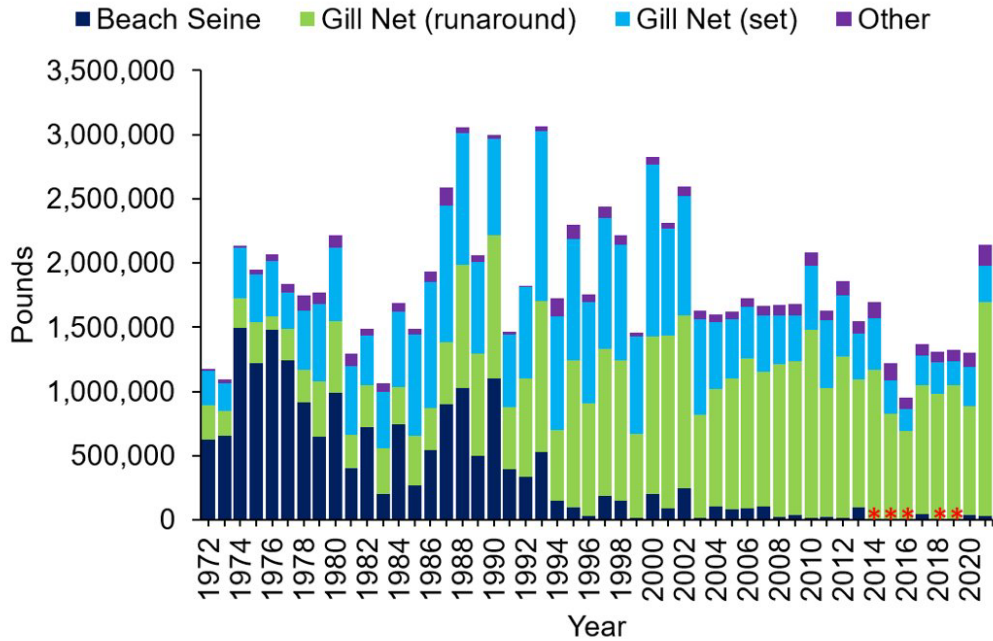


Figure 15. Total landings in pounds by dominant gear type in the North Carolina striped mullet commercial fishery for 1972 to 2021. Beach seine landings for 2014 through 2016 and 2018 through 2019 are confidential and therefore not presented, indicated by asterisks.

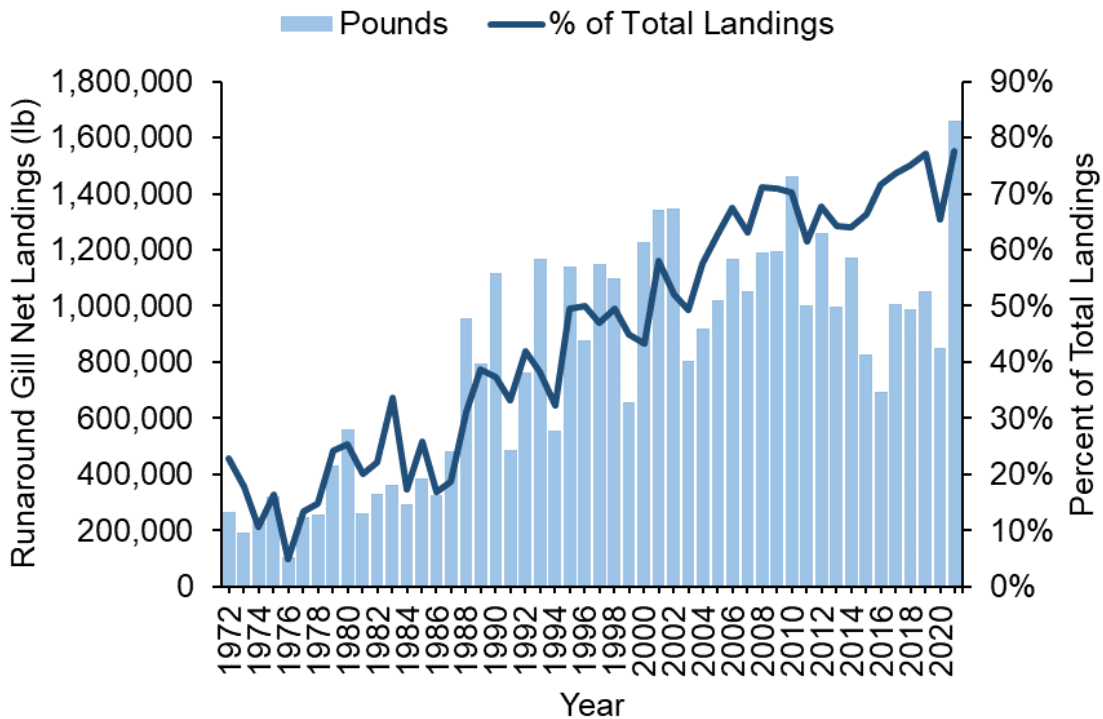


Figure 16. Pounds harvested by runaround gill nets by year and percent of total landings harvested by runaround gill nets by year in the North Carolina striped mullet commercial fishery for 1972 to 2021.



*SET GILL NETS*

Set gill nets have also become increasingly important in the striped mullet commercial fishery since 1972, although the proportion of total landings has not increased since the mid-1980s (Figure 17). Set gill net trips in North Carolina do not usually target striped mullet, but they do harvest marketable striped mullet incidentally. Small mesh anchored gill nets have accounted for most of the striped mullet landings harvested using set gill nets. Since peaking in 1993 and 2000, annual striped mullet landings from set gill nets have generally declined with the increasing contribution of runaround gill nets to the fishery (Figure 17). Most striped mullet harvested using set gill nets are landed in October and November, coinciding with the roe fishery. Landings from set gill nets at other times of the year tend to be small, reflecting the incidental capture of striped mullet in other fisheries. For more information about the small mesh set gill net fishery for striped mullet in North Carolina, please refer to the Small Mesh Gill Net Fishery Characterization Information Paper (Appendix 1).

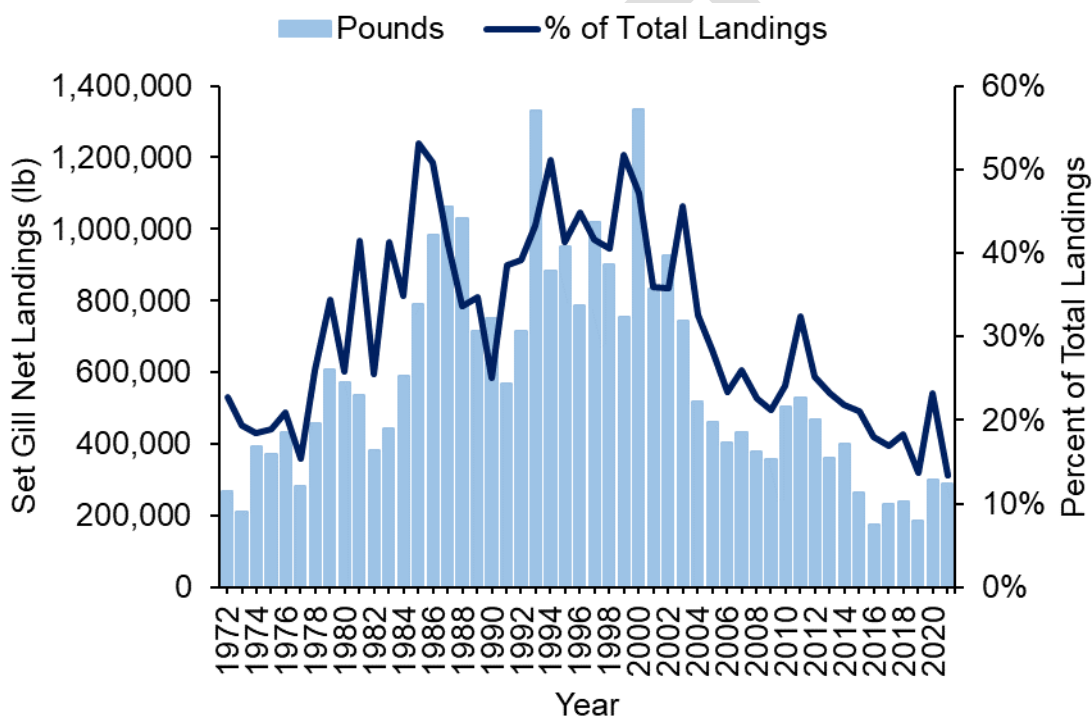


Figure 17. Pounds harvested using set gill nets and percent of total landings harvested using set gill nets by year in the North Carolina striped mullet commercial fishery for 1972 to 2021.

*BEACH SEINES*

The historic striped mullet beach seine fishery was predominantly composed of beach crews scattered among established territories along the central coastline of North Carolina, from Ocracoke Island and along Core, Shackleford, and Bogue banks (Simpson and Simpson 1994). Spotters along the beach would alert boat crews of southwestward, ocean migrating striped mullet schools. A long seine was deployed by small boat or skiff to intercept the oncoming school. Striped mullet were hauled in by manpower, horses, oxen, or tractors in later years. Stop nets (stationary nets not intended to gill fish but used to impede the movement of schooling fish so that they can be harvested with a seine) were employed in Bogue Banks.

The proportion of annual striped mullet harvest from the beach seine fishery has dwindled since 1972 and landings have fluctuated but declined greatly since 1994 (Figure 18). Beach seine

landings of striped mullet occur almost exclusively in October and November due to the restricted stop net fishery season. Extremely poor landings throughout the 1990s and 2000s may have resulted from fall hurricanes and strong weather conditions, which can have a particularly profound effect on stop net harvest because of its limited fishing season. The majority of striped mullet landings from beach seines are landed in the Ocean (93%) in the stop net fishery along Bogue Banks in Carteret County. The stop net fishery has operated under fixed seasons, and net and area restrictions since 1993. Stop nets are limited in number (four), length (400 yards), and mesh sizes (minimum eight inches – outside panels, six inches – middle section). Stop nets are only permitted along Bogue Banks (Carteret County) in the Atlantic Ocean from October 1 to November 30.

Landings from the other, smaller seine fisheries are harvested in ocean waters (0-3 miles), primarily in Carteret, Dare, and Hyde counties. Typically, monofilament gill nets (200-300 yards) are used to intercept ocean schooling striped mullet and hauled onto the beach as functional seines. Most striped mullet landings in this fishery occur in October and November during the fall spawning migration (J. B. Bichy 2000, M. R. Collins 1985a, Leard, et al. 1995). Outside of October and November, most of this fishery does not target striped mullet. Seines for spot, spotted seatrout, kingfish, and other species along the Outer Banks account for most trips from December to September of the next year.

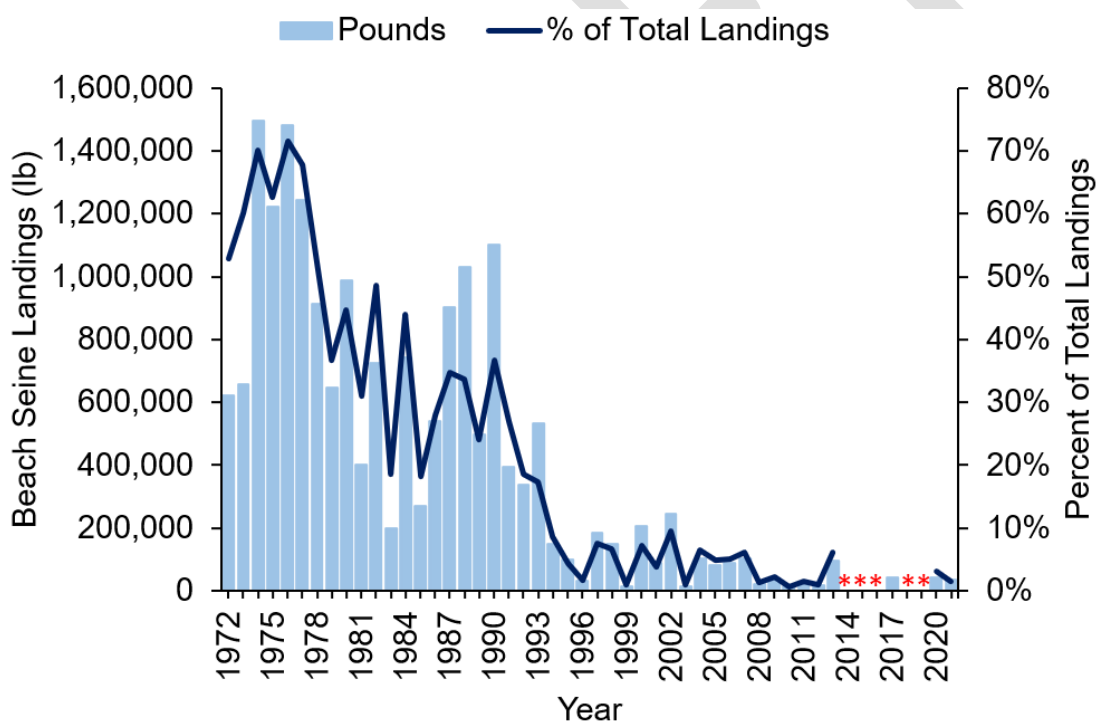


Figure 18. Pounds harvested using beach seines and percent of total landings harvested using beach seines by year in the North Carolina striped mullet commercial fishery for 1972 to 2021. Values for 2014 through 2016 and 2018 through 2019 are confidential and therefore not presented, indicated by asterisks.

**CAST NETS**

Cast net harvest of striped mullet is predominantly sold as bait. Cast net landings only represent 3% of the total striped mullet landings from 1994 to 2021 and increased from 1994 through 2015 before declining over recent years (Figure 19). In 2015, cast net landings contributed 8% of all

striped mullet landings that year, the highest proportion since 1994, when seafood dealers began reporting cast net landings on trip tickets (Figure 19).

Cast net landings of striped mullet are seasonal, with 76% of the annual harvest occurring in September and October. This seasonality of landings coincides with the spawning migration of white mullet. Most of the bait fish harvested commercially using cast nets that are reported by seafood dealers (striped and white combined) are likely white mullet (NCDMF 2006). A recreational cast net bait mullet fishery characterization study in the early 2000s showed that white mullet make up the majority of commercial cast net landings in September and October, but striped mullet make up the majority of the landings in November in North Carolina (NCDMF 2006). The fall cast net fishery primarily targets mullets that will be used as bait, either as cut, whole (frozen), or live bait, in contrast to other mullet fisheries that almost exclusively target roe fish during this period. The greatest proportion of mullet landed by cast nets from 1994 to 2021 were harvested in the Ocean (0-3 miles; 58%) and the Pamlico Sound (30%).

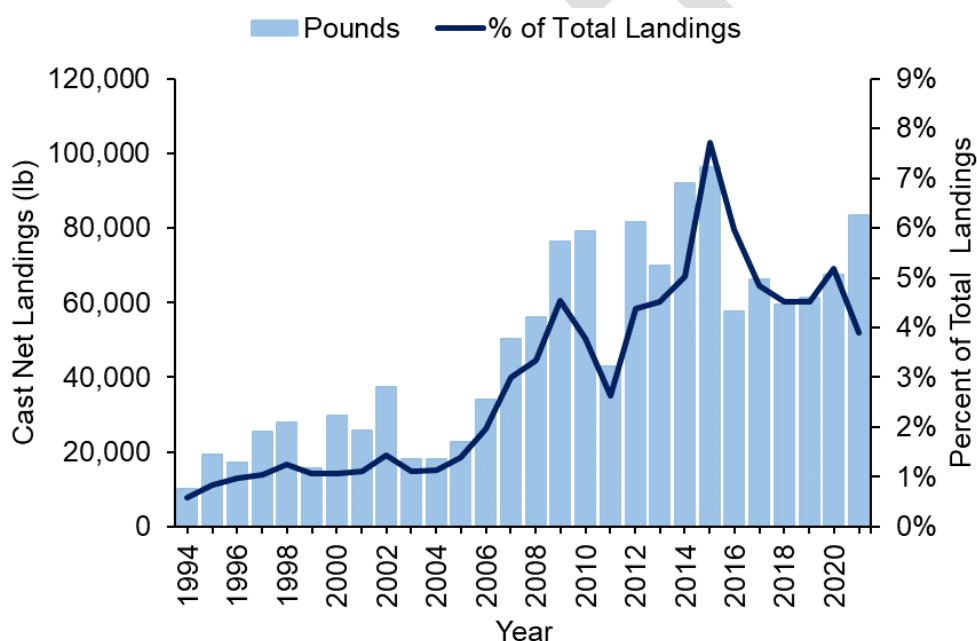


Figure 19. Pounds harvested using cast nets and percent of total landings harvested using cast nets by year in the North Carolina striped mullet commercial fishery for 1972 to 2021.

*EFFECTS OF WEATHER ON FISHERY*

Hurricanes occur frequently in eastern North Carolina, particularly in the fall during peak striped mullet fishing periods and may impact the striped mullet fishery, though impacts are inconsistent and largely influenced by timing of the hurricane. Hurricanes can damage fishing gear, prevent fishermen from fishing, and may cause striped mullet to leave the estuarine system earlier than normal (Burgess, et al. 2007). Increased migratory movement of striped mullet, sometimes referred to by fishermen as a “mullet blow”, has also been associated with north or northwest winds and cold fronts (Jacot 1920, Apekin and Vilenskaya 1979, Mahmoudi, et al. 2001). Hurricanes and unseasonably warm fall water temperatures may delay or disrupt the usual timing of spawning migrations (Thompson, et al. 1991). However, hurricanes and unusual weather conditions are not the only causes of lower striped mullet landings, and the potential reduction in fishing mortality during hurricane years could have a positive effect on spawning stock biomass of the striped mullet stock in subsequent years (Burgess et al. 2007).

## Striped Mullet Bycatch

Bycatch is the portion of the catch made up of species not being targeted on the fishing trip, captured because the gear is not selective enough or because of species and size differences. Bycatch can be divided into two categories: incidental catch and discarded catch. Incidental catch is retained, marketable catch of non-target species, while discarded catch is returned to the sea for regulatory, economic, or personal reasons. Fisheries most likely to encounter striped mullet bycatch include the set gill net and crab pot fisheries. Most striped mullet bycatch can be regarded as incidental catch and is not usually discarded unless it is unmarketable. Historically, there have not been regulations that would require striped mullet to be discarded in commercial fisheries, and striped mullet harvested incidentally can be used for food or bait, even outside of the roe fishery season.

### *SET GILL NET FISHERY*

From 2011 to 2021, there were 1,150 anchored small mesh gill net trips observed by DMF of which 389 trips caught striped mullet (35% of observed trips). From these trips, a total of 7,874 striped mullet were caught and 46 were discarded (0.6% of mullet). During the same period, there were 4,439 anchored large mesh gill net trips observed of which 120 trips caught striped mullet (3% of observed trips). From these trips, a total of 166 striped mullet were caught and 25 were discarded (15% of mullet). From 2011 to 2021, there were no commercial harvest restrictions for striped mullet, so most striped mullet caught incidentally in set gill nets were kept and sold. Discarded fish are usually unmarketable. Set gill nets do not appear to be a source of significant striped mullet discarded bycatch.

### *CRAB POT FISHERY*

From 2011 to 2021, annual landings of finfish bycatch (excluding crabs, shrimp, shellfish, and squids) from hard crab pots have averaged at about 1,800 pounds per year. Striped mullet are the eighth most common species overall and third most common finfish (not mollusk or crustacean) landed in crab pots by total weight. Striped mullet make up 11% of total finfish bycatch from hard crab pots by weight yet make up less than 1% of total hard crab pot landings. Annual total landings of striped mullet from hard crab pots averaged 6,054 pounds per year from 2011 to 2021. Striped mullet landings in peeler pots averaged 533 pounds per year during the same time period and are the seventh most common species overall by weight landed in peeler pots. Striped mullet are the fourth most common finfish bycatch species by weight in peeler pots and make up about 4% of total finfish bycatch in peeler pots. Striped mullet make up less than 1% of total peeler pot landings.

### *BYCATCH IN TARGETED STRIPED MULLET FISHERIES*

The two most important commercial fisheries in North Carolina that target striped mullet are the runaround gill net fishery and the stop net component of the beach seine fishery that occurs in Carteret County. From 2011 to 2021, Striped mullet have made up most landings by weight in both the runaround gill net fishery (70%) and the in the stop net fishery (89%). Other species harvested incidentally in the runaround gill net fishery include spotted seatrout (10% of total landings by weight), spot (4%), bluefish (4%), menhaden (2%) and red drum (2%). The remaining 8% of total runaround gill net landings from 2011 to 2021 were made up of 83 other species. Other species harvested incidentally in the stop net fishery include spotted seatrout (4% of total landings by weight), bluefish (2%), spot, (2%), and kingfishes (1%). The remaining 2% of total stop net landings from 2011 to 2021 were made up of 16 other species. The stop net component of the beach seine fishery that targets striped mullet has declined in importance over the past 30 years and striped mullet no longer make up the majority of beach seine landings in North Carolina. In both targeted striped mullet fisheries, the species most commonly harvested as bycatch are

## DRAFT

marketable and not likely to be discarded unless regulations or the condition of the fish require them to be discarded.

### *RECREATIONAL CAST NET FISHERY*

The 2006 Striped Mullet FMP (NCDMF 2006) examined the issue of large amounts of bait mullet harvested recreationally by cast net being discarded at the end of fishing trips, and the additional issue of fishermen harvesting large amounts of bait mullet in North Carolina and selling them in other states. Effective July 1, 2006, Marine Fisheries Commission Rule 15A NCAC 03M .0502 was amended to include section (b), which implemented a 200 mullet (white mullet and striped mullet in aggregate) per person per day recreational bag limit for striped mullet. This rule limited the number of bait mullet that may eventually be discarded at the end of fishing trips by recreational fishermen and addressed the issue of large amounts of bait mullet being sold in other states.

### **Recreational Fishery**

Few anglers target striped mullet using hook and line gear; however, striped mullet and white mullet are popular bait fish for anglers targeting a variety of inshore and offshore species. Mulletts are used as live, cut, and trolling baits (Nickerson Jr. 1984) and are commonly used by anglers fishing in the surf recreationally. Anglers using cast nets often catch young of the year mulletts, commonly known as finger mullet. At the end of each fishing trip, anglers typically discard dead and unused bait mullet. Cast netting for mullet generally occurs during the summer and fall, with the majority caught in September and October, coinciding with the southward migration of young of the year striped and white mullet. For more information about the North Carolina recreational striped mullet fishery and how recreational data are collected, please see the Recreational Harvest Information Paper (Appendix 3).

### **SUMMARY OF ECONOMIC IMPACT**

Commercial landings and effort data collected through the DMF trip ticket program were used to estimate the economic impact of the commercial striped mullet fishery. For commercial fishing output, total impacts were estimated by incorporating modifiers from the NOAA Fisheries Economics of the United States report (NMFS 2021), which account for proportional expenditures and spillover impacts from related industries. By assuming the striped mullet fishery contribution to expenditure categories at a proportion equal to its contribution to total commercial ex-vessel values, estimates were generated of the total economic impact of the commercial striped mullet fishery statewide. Modeling software, IMPLAN, was used to estimate the economic impacts of the industry to the state at-large, accounting for revenues and participation. For a detailed explanation of the methodology used to estimate the economic impacts please refer to the latest [DMF License and Statistics Annual Report](#).

From 2011 to 2021 striped mullet economic ex-vessel value has been about \$1 million dollars, impacting about 9,000 jobs annually (Table 1). Annual sales impacts have varied over the described decade but have averaged \$3.5 million from 2011 to 2021 (Table 1). It is estimated that the striped mullet fishery contributes to about 1% of commercial fishing sales impact.

The striped mullet commercial fishery is driven by seasonal changes in availability of the stock to commercial fisheries, coinciding with the migration of spawning adult fish from inshore waters through the inlets and into the ocean. Estimated changes in job impacts and sales impacts reflect the accessibility of the population to fishing throughout the year. Most of the economic impacts



## DRAFT

are concentrated in October and November of each year when annual commercial harvest levels peak (Table 2).

Table 1 Annual commercial estimates of annual economic impact to the state of North Carolina from striped mullet harvest for 2011 to 2021.

Year	Pounds Landed	Ex-Vessel Value	Job Impacts	Income Impacts	Value-Added Impacts	Sales Impacts
2021	2,135,952	\$ 1,273,639	12,106	\$ 1,869,008	\$ 3,521,559	\$ 4,024,260
2020	1,299,464	\$ 651,104	9,100	\$ 1,357,820	\$ 2,320,755	\$ 2,968,469
2019	1,362,212	\$ 940,747	7,539	\$ 1,402,513	\$ 2,629,596	\$ 3,022,280
2018	1,312,121	\$ 982,925	7,421	\$ 1,539,201	\$ 2,842,970	\$ 3,324,933
2017	1,366,338	\$ 1,095,476	8,602	\$ 1,557,537	\$ 2,964,234	\$ 3,348,036
2016	965,337	\$ 722,324	7,471	\$ 1,038,377	\$ 1,969,253	\$ 2,233,376
2015	1,247,044	\$ 878,666	8,005	\$ 1,259,705	\$ 2,391,057	\$ 2,709,024
2014	1,828,351	\$ 1,216,200	9,375	\$ 1,748,458	\$ 3,315,835	\$ 3,760,652
2013	1,549,157	\$ 1,558,612	10,930	\$ 2,423,011	\$ 4,485,190	\$ 5,232,261
2012	1,859,587	\$ 1,174,215	9,483	\$ 1,902,954	\$ 3,479,302	\$ 4,117,409
2011	1,627,894	\$ 1,168,822	8,443	\$ 1,912,423	\$ 3,486,877	\$ 4,139,736
Average	1,504,860	\$ 1,060,248	8,952	\$ 1,637,364	\$ 3,036,966	\$ 3,534,585

Table 2. Monthly commercial estimates of annual economic impact to the state of North Carolina from striped mullet harvest for 2017 to 2021.

Month	Pounds Landed	Ex-Vessel Value	Job Impacts	Income Impacts	Value Added Impacts	Sales Impacts
January	93,518	\$ 36,787.74	483	\$ 55,122.56	\$ 103,188.91	\$ 118,813.91
February	68,261	\$ 34,269.91	560	\$ 51,349.20	\$ 96,125.69	\$ 110,681.67
March	45,331	\$ 20,651.10	428	\$ 30,942.78	\$ 57,925.11	\$ 66,696.75
April	42,875	\$ 29,097.26	561	\$ 43,599.54	\$ 81,617.66	\$ 93,976.05
May	45,283	\$ 24,951.98	417	\$ 37,387.80	\$ 69,989.69	\$ 80,587.72
June	57,684	\$ 31,887.30	474	\$ 47,779.04	\$ 89,442.44	\$ 102,986.47
July	79,218	\$ 38,471.98	505	\$ 57,645.44	\$ 107,912.28	\$ 124,253.08
August	120,815	\$ 65,723.94	698	\$ 98,480.57	\$ 184,354.57	\$ 212,269.67
September	135,479	\$ 73,183.96	810	\$ 109,657.51	\$ 205,278.52	\$ 236,362.79
October	623,868	\$ 338,771.88	1,805	\$ 507,611.74	\$ 950,246.01	\$ 1,094,135.29
November	392,134	\$ 214,307.87	1,511	\$ 321,117.07	\$ 601,128.63	\$ 692,152.90
December	77,310	\$ 53,998.88	785	\$ 80,911.09	\$ 151,465.19	\$ 174,400.68

It is difficult to determine the economic impact and importance of the North Carolina recreational striped mullet fishery because there is a lack of data, and the data are not precise; however, striped mullet are used as bait in several economically important recreational fisheries in North Carolina. Striped mullet are a common bait species for red drum and flounder and for fishing in the surf. Bait mullet are also commonly sold in tackle shops to recreational anglers and are likely an important product for local bait and tackle businesses.

## ECOSYSTEM PROTECTION AND IMPACT

### Coastal Habitat Protection Plan

The Fisheries Reform Act statutes require that a Coastal Habitat Protection Plan (CHPP) be drafted by the NCDEQ and reviewed every five years (G.S. 143B-279.8). The CHPP is a resource

## DRAFT

and guide compiled by NCDEQ staff to assist the Marine Fisheries, Environmental Management, and Coastal Resources commissions in developing goals and recommendations for the continued protection and enhancement of fishery habitats in North Carolina. These three commissions are required by state law (G.S. 143B-279.8) to adopt and implement management strategies specified in the CHPP as part of a coordinated management approach. Habitat recommendations related to fishery management can be addressed directly by the MFC. The MFC has passed rules that provide protection for striped mullet habitat including the prohibition of bottom-disturbing gear in specific areas, and designation of sensitive fish habitat such as nursery areas and SAV beds with applicable gear restrictions. Habitat recommendations not under MFC authority (e.g., water quality management, shoreline development) can be addressed by the other commissions through the CHPP process. The CHPP helps to ensure consistent actions among these commissions as well as their supporting NCDEQ divisions. The CHPP also summarizes the economic and ecological value of coastal habitats to North Carolina, their status, and potential threats to their sustainability (NCDEQ 2016).

Striped mullet use different habitats depending on life stage, season, and location (Able and Fahay 1998, Pattillo, et al. 1999, Cardona 2000) and are found in most habitats identified in the CHPP including: water column, wetlands, submerged aquatic vegetation (SAV), soft bottom, and shell bottom (NCDEQ 2016). Striped mullet are found in almost all shallow marine and estuarine habitats such as beaches, tidal flats, lagoons, bays, rivers, channels, marshes, and grass beds (Moore 1974, Pattillo, et al. 1999, Nordlie 2000). These habitats provide striped mullet with the conditions they need for thriving and maintaining a healthy population. Growth and survival of striped mullet within the habitats they use are maximized when water quality parameters such as temperature, salinity, and dissolved oxygen are within optimal ranges. For further information about habitat use by life stage and optimal water quality parameters, see the [DESCRIPTION OF THE STOCK](#) section of this FMP. Additional information on the habitats discussed below, threats to these habitats, water quality degradation, and how these topics relate to fisheries can be found in the CHPP (NCDEQ 2016).

### Threats and Alterations

Suitable habitat is a critical element in the ecology and productivity of estuarine systems. Degradation or improvement in one aspect of habitat may have a corresponding impact on water quality. All habitats used by striped mullet are threatened in some way.

Water column habitats in warm oceanic waters are used as spawning habitat for striped mullet. Coastal inlets act as critical water column habitat corridors for adult striped mullet to pass through during their annual spawning migrations out to the ocean, and for larvae to reach estuarine nursery areas. Terminal groins may threaten striped mullet stocks by obstructing inlet passage of striped mullet, impeding recruitment (Kapolnai, Werner and Blanton 1996, Churchill, et al. 1997, Blanton, et al. 1999). Inlets are also hydraulically dredged on a regular basis to ensure safe passage for vessels of all sizes, potentially entraining marine animals, particularly eggs and larval fishes that cannot avoid the suction field of the gear due to their reduced swimming abilities (Todd, et al. 2015). The DMF recommends an in-water-work moratorium from April 1 to July 30 to minimize impacts during peak biological activity; however, most projects are given moratorium relief in favor of public safety.

Soft bottom habitats act as important nursery, refuge and feeding areas for striped mullet. These habitats support zooplankton, detritus, algae, and benthic microorganisms that mullet eat during their early life stages. Dredging threatens soft bottom habitat by impairing water quality and temporarily removing benthic infauna from the areas, reducing food availability to bottom-feeding



## DRAFT

species such as striped mullet (NCDEQ 2016). Soft bottom habitats in the surf zone of shallow ocean waters are also used by juvenile striped mullet and may act as transient habitats, orienting fish larvae into estuaries (Kinoshita, et al. 1988, Fujita, et al. 2002, Ross and Lancaster 2002). Beach nourishment projects can temporarily impact benthic prey availability in surf zone habitats, and the increased turbidity generated from beach nourishment projects can impact the growth and survival of marine organisms (Reilly and Bellis 1983, Lindquist and Manning 2001).

Submerged aquatic vegetation habitats are used by striped mullet as nursery, forage, and refuge habitats, where striped mullet feed on epiphytic algae and invertebrates that live on seagrasses and other structures (Odum 1968, M. R. Collins 1985a). Seagrass beds are threatened by physical destruction from bottom disturbing fishing gear, dredging, damage from boat use, and water quality degradation. Shell bottom habitats such as oyster reefs are used as forage habitat for striped mullet (Bliss, et al. 2010) and can be damaged by bottom-disturbing fishing gears, disease, and overfishing. Freshwater and estuarine wetlands, especially surrounding estuarine rivers and marshes, are used transiently by juvenile striped mullet for foraging, refuge, and nursery habitat (Peterson and Turner 1994). Wetlands are threatened by many human activities, including dredging for marinas and channels, filling for development, and ditching and draining for agriculture, silviculture, channelization, and shoreline stabilization.

For more information about these habitats and how they are managed, please refer to the CHPP (NCDEQ 2016).

### *WATER QUALITY DEGRADATION*

Good water quality is essential, both for supporting the various life stages of striped mullet and for maintaining their habitats. Naturally occurring and anthropogenic activities can alter salinity and temperature conditions or elevate levels of toxins, nutrients, and turbidity, as well as lower dissolved oxygen levels, which can degrade water quality and impact striped mullet survival. Water quality degradation through stormwater runoff, discharges, toxic chemicals, sedimentation, and changes in turbidity can threaten striped mullet survival. There are increasing concerns about declining water quality and the influence it is having on habitats such as SAV, shell bottom, and wetlands. Studies have found that macroalgal biomass is directly related to increased nutrient levels and that SAV loss is greater with increased macroalgae (Valiela, et al. 1997). Once macroalgal blooms die, they decompose rapidly, increasing nutrient levels in the water column, stimulating phytoplankton production, further reducing light, and decreasing dissolved oxygen in the water and sediments. These have all been important factors in the decline of SAV up and down the Atlantic seaboard (Hauxwell, et al. 2000).

The 2021 CHPP Amendment includes priority issues with elements of improving water quality, including “Protection and Restoration of Submerged Aquatic Vegetation (SAV) through Water Quality Improvements” and “Protection and Restoration of Wetlands through Nature-based Solutions”. Both of these priorities may benefit the North Carolina striped mullet stock. Striped mullet use all three habitats targeted in the amendment throughout their life history, especially wetlands. The recommended actions are expected to not only improve these habitats but strengthen coastal community and ecosystem resilience, bolstering the ability of these habitats to provide ecosystem services and support stocks of economically important marine species such as striped mullet. In 2023, the North Carolina Environmental Management, Marine Fisheries, Coastal Resources, and Soil & Water Conservation commissions unanimously adopted the resolution crafted by the Stakeholder Engagement for Collaborative Coastal Habitats Initiative (SECCHI) workgroup advocating for increased funding for the voluntary cost-share programs that will help landowners protect their property and significantly reduce nutrient loading in North Carolina's coastal waters.

## DRAFT

More detailed information on water quality degradation, including the topics of hypoxia, toxins, and temperature in North Carolina and effects on fish stocks can be found in the NCDWQ guides on the NCDWQ website: [NCDWQ Water Quality Information](#) (NCDWQ 2000, NCDWQ 2008) and in the CHPP (NCDEQ 2016). More information about the water quality requirements for striped mullet can be found in the [DESCRIPTION OF THE STOCK](#) section of this FMP.

### **Gear Impacts on Habitat**

Bottom disturbing fishing gear can impact ecosystem function through habitat degradation. Static (non-mobile) gears tend to have a lesser impact on habitat compared to mobile gears, as the amount of area affected by static gears tends to be insignificant when compared to that of mobile gears (Rogers, Kaiser and Jennings 1998). Both bottom disturbing and static gears can result in bycatch while in operation and can have negative impacts if the gear is abandoned or lost.

The primary gears used in the striped mullet commercial fishery are gill nets (runaround, and set), beach seines, and cast nets. In the recreational fishery, cast nets are the primary gear. Other gears that may harvest striped mullet as incidental catch include pounds nets, crab pots, drift gill nets, and fyke nets. Many gears that interact with striped mullet are static (Barnette 2001, NCDEQ 2016) and generally have minimal impact on habitat.

Beach seines and runaround gill nets are both mobile and may disturb local habitats. Impacts from mobile bottom-disturbing fishing gears such as seines and runaround gill nets include changes in community composition from the removal of species and physical disruption of the habitat (Barnette 2001). Gears may damage or uproot SAV as they are dragged across the seafloor, potentially reducing productivity of these habitats and destroying the structures that provide feeding surfaces and shelter for striped mullet (NCDEQ 2016). Gears that drag across the seafloor may also suspend sediments, temporarily increasing turbidity (Corbett, et al. 2004) and reducing clarity, SAV growth, productivity, and survival (NCDEQ 2016). Sediment suspended by bottom disturbing fishing gears and boat propeller wash may also bury SAV (Thayer, Kenworthy and Fonseca 1984), degrading habitat quality and reducing productivity.

Despite the potential impacts, it has been determined that the bottom impact from actively fished gill nets represent a low disturbance and that impacts from boat propellers during side-setting are likely more significant (Kimmel, Corbett and Thorpe 2010). Beach seines are used to encircle schools of fish and may scrape the seafloor with a lead line as they are fished along the beach. The impact of beach seines on habitat is unknown but is likely minor due to the high-energy nature and typical sediment disruption of the surf zone where beach seines are used. Bottom impacts from active gill net fishing and seining are likely to be greater in low energy environments such as bays and creeks than in open high energy areas such as rivers, large sounds, and the surf zone of the ocean. Cast nets do not usually disturb habitat as they are fished in the water column. Crab pots are weighted and rest on the bottom, so they can smother SAV and are capable of ghost fishing if lost or abandoned.

### *PROTECTED SPECIES INTERACTIONS*

Protected species include a variety of animals that are protected by federal or state statutes because their populations are at risk or vulnerable to risk of extinction. Several protected species occur in North Carolina, including diamondback terrapins (*Malaclemys terrapin*), migratory birds, five species of sea turtles, bottlenose dolphins (*Tursiops truncatus*), and two species of sturgeon. Entanglement gears such as the gill nets used in some commercial striped mullet fisheries are size-selective; however, gill nets are capable of unintentionally capturing larger, non-targeted species. For more information about protected species in North Carolina, their interactions with

## DRAFT

fishing gear, and how the DMF monitors interactions between protected species and commercial fisheries, please refer to the DMF [Observer Program website](#). Interactions between protected species and the stop net fishery in Bogue Banks that targets striped mullet are monitored by the National Oceanic and Atmospheric Administration (NOAA).

### Climate Change and Resiliency

Extreme weather events have always occurred, but scientists anticipate that changes this century to North Carolina's climate will be larger than anything historically experienced (Kunkel, et al. 2020). It is predicted that average annual temperatures will continue to increase, sea level will continue to rise, the intensity of hurricanes will increase, total annual precipitation from hurricanes and severe thunderstorms will increase resulting in increased flooding events, while severe droughts will also likely increase due to higher temperatures (Kunkel, et al. 2020). Flood events can flush contaminated nutrient-rich runoff into estuaries causing degraded water quality. Runoff from flood events can cause eutrophication resulting in fish kills due to hypoxia, algal blooms, and alteration of the salinity regime. Flood events can also cause erosion of shorelines resulting in loss of important coastal habitats, such as SAV, soft bottom, and wetlands, that are critical to striped mullet throughout their life history. Potential increases in extreme weather events could have an adverse effect on the recruitment and survival of striped mullet in the estuarine system.

Increasing temperatures could also impact the distribution of finfish and invertebrate populations and the coastal habitats they use. It has been predicted that hundreds of finfish and invertebrate species will be forced to move northward due to increasing temperatures caused by climate change (Morley, et al. 2018). North Carolina already exhibits one of the greatest northward shifts in commercial fishing effort, with average vessel landings occurring 24 km further north each year (Dubik, et al. 2019).

The repeated impacts and compounding losses from the effects of climate change can be catastrophic not only to coastal communities, but to coastal habitats and the fisheries they support. While the risks and hazards associated with climate change and extreme weather events cannot be completely eliminated, the effects can be decreased by improving coastal resilience, which can be broken down into two parts: 1) community resiliency – the ability of a community to withstand, respond to, and recover from a disruption, and 2) ecosystem resiliency – the ability of the natural environment to withstand, respond to, and recover from disruption, such as hurricanes, tropical storms, and flooding. A resilient ecosystem can bounce back from disturbances over time compared to resistant ecosystems, which may not be able to recover their full functionality in face of repeated disturbances. Building a more resilient coastal community and ecosystem will help ensure the persistence of coastal habitats critical to the life history of striped mullet and many other species (NCDEQ 2020).

### FINAL AMENDMENT TWO MANAGEMENT STRATEGY

*\*\*\*Section will be completed when the MFC selects preferred management prior to DEQ secretary and legislative committees review\*\*\**

### RESEARCH NEEDS

The research recommendations listed below are offered by the division to improve future management strategies of the striped mullet fishery. They are considered high priority as they will help to better understand the striped mullet fishery and meet the goal and objectives of the FMP.

## DRAFT

A more comprehensive list of research recommendations is provided in the Annual FMP Review and DMF Research Priorities documents.

- Explore effects of offshore and nearshore environmental conditions and climate change on the North Carolina striped mullet stock, including potential changes in recruitment and sex ratios.
- Explore effects of modified shorelines (e.g., beach renourishment projects, hardened shorelines, and development) on striped mullet food sources and habitats.
- Conduct a striped mullet tagging study, including acoustic and satellite tags, to explore movement patterns and range of striped mullet found in North Carolina.
- Repeat and expand the cast net study conducted by the Division in the early 2000s, including use of various net and mesh sizes to characterize cast net effort and catch by net size, mesh size, and user group in the recreational fishery.
- Explore market price drivers for striped mullet in North Carolina, including exploration of the link between fishing target species, market prices, and fisher behavior.





## DRAFT

### Appendix 1: SMALL MESH GILL NET CHARACTERIZATION IN THE NORTH CAROLINA STRIPED MULLET FISHERY

#### Issue

The estuarine small mesh gill net fishery in North Carolina is managed and regulated by North FMPs and numerous MFC rules and North Carolina DMF proclamations. However, concerns about biological impacts from the use of small mesh gill nets remain. The primary issues to be addressed concern greater flexibility with constraining harvest in the striped mullet fishery, reducing bycatch, and to the greatest extent practical reducing conflict between gill net users and other stakeholders. Specific management options for gill net regulations can be found in [Appendix 2: Sustainable Harvest Issue Paper](#).

#### Origination

The North Carolina Marine Fisheries Commission.

#### Background

At their August 2021 business meeting, the MFC passed a motion to not initiate rulemaking on small mesh gill nets but refer the issue through the FMP process for each species, and any issues or rules coming out of the species-specific FMP to be addressed at that time. In North Carolina, small mesh gill nets are the predominant gear used to harvest striped mullet. Most striped mullet are harvested commercially using runaround or other actively fished gill nets. Per direction from the MFC, small mesh gill nets must be addressed during review of the striped mullet FMP.

North Carolina General Statutes authorize the MFC to adopt rules for the management, protection, preservation, and enhancement of the marine and estuarine resources within its jurisdiction (G.S. 113-134; G.S. 143B-289.52). The MFC has authority to adopt FMPs and the DMF is charged with preparing them (G.S. 113-182.1; G.S. 143B-289.52). Further, the MFC may delegate to the DMF director in its rules the authority to issue proclamations suspending or implementing MFC rules that may be affected by variable conditions (G.S. 113-221.1; G.S. 143B-289.52). Variable conditions include compliance with FMPs, biological impacts, bycatch issues, and user conflict, among others (15A NCAC 03H .0103). The estuarine gill net fishery in North Carolina is managed and regulated by FMPs and numerous MFC rules and DMF proclamations. Rules are periodically amended to implement changes in management goals and strategies for various fisheries and are the primary mechanism for implementing FMPs under the Fisheries Reform Act of 1997 (FRA).

In recent years, modifications to gill net management resulting from the adoption of FMPs or other circumstances have largely been implemented through the DMF director's proclamation authority, not through rulemaking. This is primarily due to the need to implement management changes in a timely fashion and to accommodate variable conditions. Over time, this has resulted in incongruent restrictions between rules and proclamations. Additionally, many of the rules related to small mesh gill nets were first developed prior to the FRA and have not been thoroughly evaluated since the addition of more recent rules developed through the FMP process.

The striped mullet small mesh gill net fishery operates year-round, but the type of gill net used varies by season and area (NCDMF 2018). Multiple species may be landed during a single trip; however, the target species usually dominates the catch (NCDMF 2008). In North Carolina, gill nets are restricted to a minimum mesh size of 2.5 inches stretched mesh (ISM) (15A NCAC 03J .0103 (a)). The DMF categorizes gill nets with ISM from 2.5 to less than 5 inches as small mesh (Daniel 2013). Although the rule uses "mesh length" and not "mesh size", their meanings are

## DRAFT

identical for the purpose of this document; this helps to demarcate the discussion of “mesh size” from “net length” throughout the document. Small mesh gill nets are generally classified into three categories based on how the net is deployed and fished: set gill nets, runaround gill nets, and drift gill nets (Figure 1.1; Table 1.1; (Steve, et al. 2001)). For the purpose of this document, “set” gill nets, or “set nets”, includes anchored, fixed, and stationary nets.

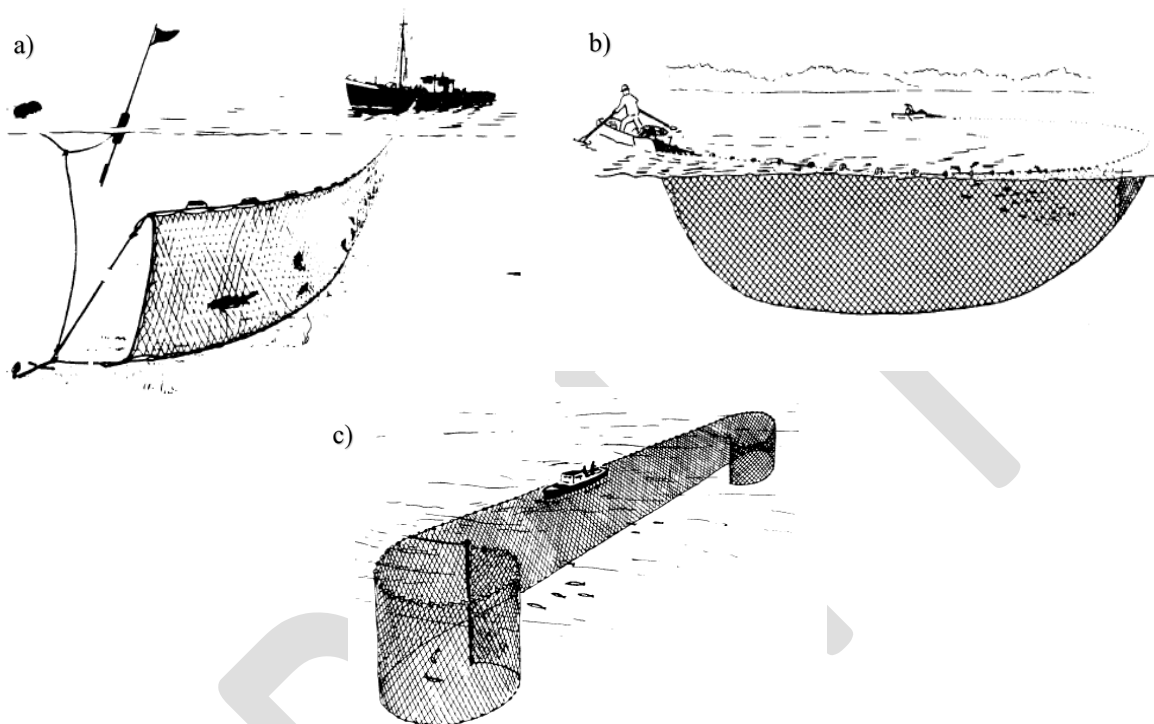


Figure 1.20. Illustrations of (a) set, (b) runaround, and (c) drift gill nets extracted from Steve et al. (2001).

Set nets (Figure 1.1a) are the second most common gill net method used for commercial striped mullet harvest in North Carolina. They are kept stationary with the use of anchors or stakes attached to the bottom or attached to some other structure attached to the bottom, at both ends of the net (15A NCAC 03I .0101). Set nets can be further classified as sink or float gill nets (Steve et al. 2001). A sink gill net fishes from the bottom up into the water column a fixed distance by having a lead line (bottom line) heavy enough to sink to the bottom. Depending on the height of the net and the depth of the water, the float line (top line) may or may not be submerged below the surface of the water. A float gill net may fish the entire water column by having the top line with buoys sufficient for floating on the surface of the water, or a portion of the water column depending on the depth of the net (number of meshes deep). Set nets are deployed by dropping one end of the net and running out the rest of the length of net usually in a line. Once deployed, soak times for fishing set nets vary depending on factors such as target species, water temperature, season, waterbody, and regulations (NCDMF 2018).

A runaround gill net is the most common gill net method used for commercial striped mullet harvest in North Carolina. It is an actively fished gear used to encircle schools of fish (Figure 1.1b). They are deployed with a weight and a buoy at one end that enables the rest of the net to be fed out, creating a closed circle around the school of fish due to the vessel's path. Runaround gill nets tend to be deep nets capable of fishing the entire water column. Mesh sizes and net lengths vary depending on the size of the targeted species (Steve et al. 2001). Another form of

**DRAFT**

runaround gill net is the strike net or drop net. Rather than deploying the net in a circle, the net is set parallel to shore, often with one end anchored to the bank. Once the net is set, the boat is driven between the net and the shore to drive fish into the net (NCDMF 2018). Soak times for all types of runaround gill nets are almost always an hour or less.

Table 1.3. Small mesh gill net gear categories with descriptions and capture method descriptions.

Small Mesh Gill Net Gear Categories	Sub-Categories	Gear Description	Capture Method
Anchored/Fixed /Stationary/Set	Sink	Attached to bottom or some other structure by anchors or stakes at both ends. Sink nets are fished from the bottom up into the water column.	Passively Fished - For both sink and float set nets the gear is left in place for a period of time. Fish, if appropriately sized, swim into the net and are gilled.
	Float	Attached to bottom or some other structure by anchors or stakes at both ends. Float nets are fished from the top down into the water column. Depending on target species nets fish part of the water column or the entire water column.	
Runaround	Circle	Attached to the bottom at one end. Once the end is set, the rest of the net is then fed out of a boat creating a circle and meeting back at the original set point. Generally, these nets fish the entire water column.	Actively Fished - Used to encircle a school of fish. Primary target species for this gear is striped mullet.
	Strike/Drop	Attached to the bottom at one end. Deployed along shore with the terminal end finishing at another point along the shore. The boat is driven into the blocked section to “drive” the fish into the net and are then retrieved.	Actively Fished - Used to corral or intercept a school of fish and then immediately retrieve. Primary target species for this gear is striped mullet, and spotted seatrout to a lesser extent.
Drift		Attached to boat or free-floating with close attendance. Lighter leadlines and no anchors allow the net to drift. Depending on target species and water depth, nets fish part of the water column or the entire water column. Primarily used in Pamlico Sound to target Spanish mackerel and bluefish.	Actively Fished - Drift with the water current with continuous attendance.

Drift gill nets are unanchored, non-stationary nets that are actively attended (i.e., remain attached to the vessel or the fishing operation remains within 100 yards of the gear) (Figure 1.1c) and tend to have shorter soak times than set nets. They are constructed with lighter lead lines to allow for the net to drift with the current. The small mesh drift gill nets currently employed in North Carolina estuaries are primarily used to target Spanish mackerel and bluefish in Pamlico Sound. This gear can also be used to target spot (as a sink net) and striped mullet (typically fishing the entire water



## DRAFT

column) in areas primarily from Core Sound and south (Steve et al. 2001). Drift nets account for less than 0.5% of striped mullet landings.

## METHODS

Information specific to the North Carolina estuarine gill net fishery was gathered from two DMF sampling programs briefly described below:

### N.C. Trip Ticket Program

The N.C. Trip Ticket Program began in 1994. This program requires licensed commercial fishermen to sell their catch to licensed fish dealers, who are then required to complete a trip ticket for every transaction. Data collected on trip tickets include gear type, area fished, species harvested, and total weights of each species. Information recorded on trip tickets for gear type and characteristics is self-reported by the dealer. This information may be verified by DMF fish house staff after the fact, but the potential exists that some trips may be mischaracterized by dealers. In 2004, trip tickets included mesh size categories for gill nets: small mesh = <5 inch ISM, and large mesh = >5 inch ISM. However, the use of this new field was not prevalent until about 2008 because dealers were still using old trip tickets they had on hand.

### Commercial Fish House Sampling

Commercial fishing activity is monitored through fishery dependent (fish house) sampling. Sampling occurs dockside as fish are landed. Commercial fishermen and/or dealers are interviewed by DMF staff, and the catch is sampled. Samplers collect data on location fished, effort (soak time, net length, etc.), gear characteristics (net type, net depth, mesh size, etc.), and the size distribution of landed species.

### Commercial Observer Program

On board observations of commercial estuarine gill nets, primarily set nets, occur through Program 466. Observers collect data on effort (soak time, net length, etc.), location fished, gear characteristics, size, and the fate (harvest, discard, etc.) of captured species. The Observer Program was born out of the need to estimate incidental takes of protected species such as sea turtles and Atlantic sturgeon in estuarine set nets per the Endangered Species Act Section 10 Incidental Take Permits (NMFS 2013, 2014). As a result, observations of runaround or drift gill nets are rare.

The following analysis and information are presented to characterize the striped mullet small mesh gill net fishery in North Carolina relative to time, area, configuration, and species composition of the harvested and discarded catch:

Data from 1994 through 2021 or 2017 through 2021 for these three programs were used to characterize the North Carolina striped mullet small mesh gill net fisheries depending on the analysis conducted. Using trip ticket data, trips where striped mullet were the species of highest abundance in landings were considered targeted striped mullet trips. These trips were then defined as either small mesh or large mesh. Basing analysis on trips where striped mullet are the presumed target species allows for results that describe the gear parameters associated with the directed striped mullet fishery (see NCDMF 2008 for further description of methodology). Once targeted mullet trips were identified, the method of fishing (set net, runaround gill net, or drift gill net), mesh size, and net length were characterized based on available fish house sampling data from 1994 through 2021 or 2017 through 2021 for each of the target species depending on the analysis conducted.

Regional analysis of the striped mullet small mesh gill net fishery was investigated by county of landing. The coastal counties were grouped into regions using distinct area boundaries or clear differences in fishing practices (Figure 1.2). All other counties within the state with landings were grouped into the “other” region.

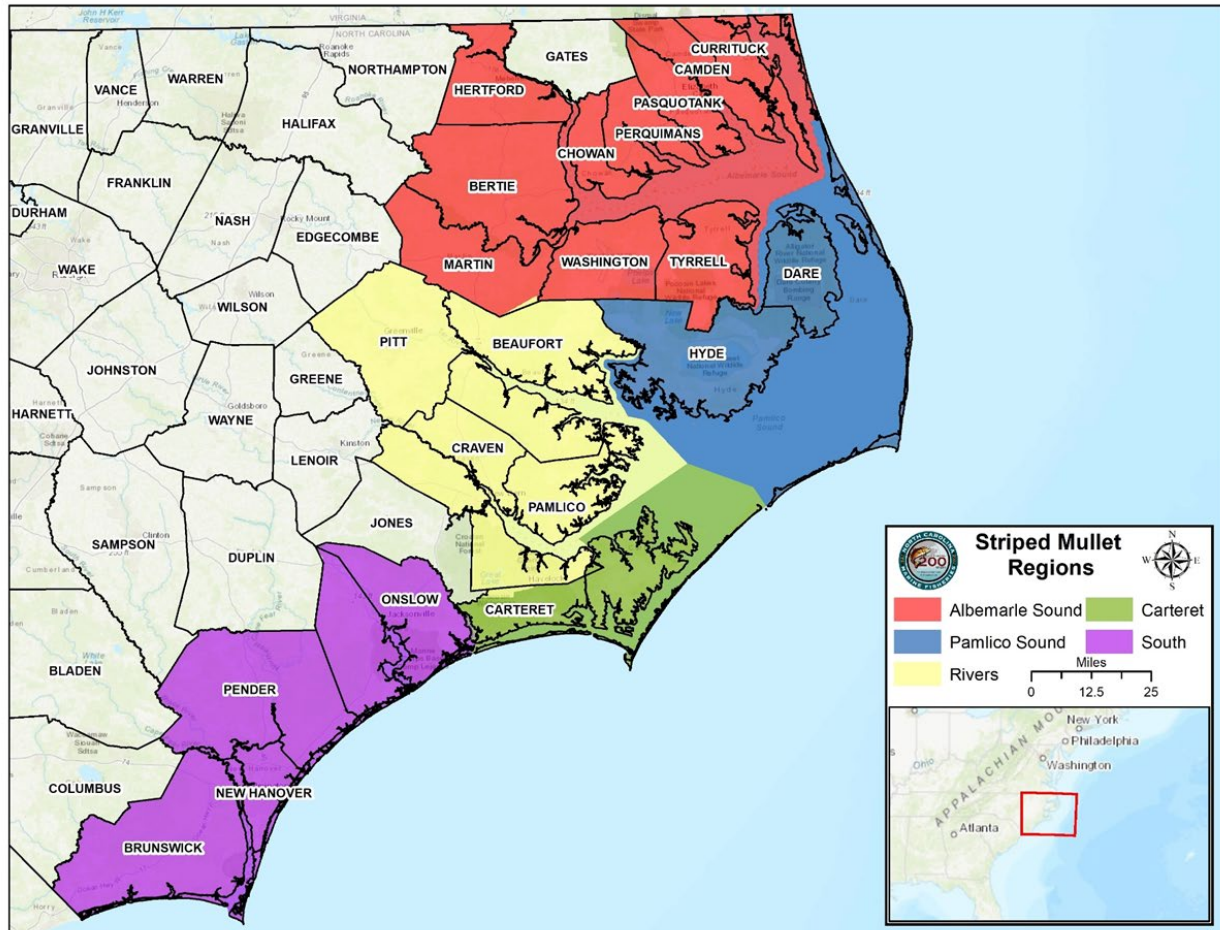


Figure 1.2. Map of defined regions used for regional characterization of the striped mullet small mesh gill net fishery.

## RESULTS

For information regarding characterization of small mesh gill nets across all fisheries in North Carolina please refer to the [Small Mesh Gill Net Rule Modifications Information Paper](#) presented to the MFC at its August 2021 business meeting.

### Striped Mullet Fishery General Characterization

Historically, beach seines and gill nets were the two primary gear types used in the striped mullet commercial fishery, with most commercial landings prior to 1978 coming from the beach seine fishery. Gill nets (runaround, set, and drift) replaced seines as the dominant commercial gear type in 1979 and since 2017 runaround gill nets have accounted for most (>70%) striped mullet commercial landings (Figure 1.3). Since the trip ticket program was initiated in 1994, the striped mullet fishery has shifted from a fairly even mix of set gill net and runaround gill net landings, to one strongly dominated by runaround gill net landings (Figure 1.4).

Because the commercial fishery primarily targets striped mullet for roe, the fishery is seasonal with the highest demand and landings occurring in October and November when large schools form during their spawning migration to the ocean and females are ripe with eggs (Figure 1.5). During this time, runaround gill nets are the primary gear used to harvest striped mullet. After the spawning migration striped mullet are no longer found in large aggregations, making runaround gill nets a less effective gear for harvest. Subsequently, from December through April set gill nets become a much more important gear used in the fishery (Figure 6). During this time, striped mullet may be harvested in set gill nets targeting the species, or as incidental catch in other targeted small mesh gill net fisheries such as white perch in the Albemarle Sound.

Mesh size is the most important gear parameter that affects the size of striped mullet caught in small mesh gill nets. As stretched mesh size increases, the average size of the striped mullet increases (Figure 7). Fishermen use stretched mesh sizes ranging from 2.75 ISM to 4.5 ISM to target striped mullet in North Carolina. This relationship between mesh size and size of striped mullet captured makes it feasible to use mesh size restrictions to protect or select for different sized striped mullet. Mesh size restrictions would be best used in conjunction with striped mullet size restrictions to ensure minimal discards. For more information on possible management applications of mesh size restrictions, see [Appendix 2. Sustainable Harvest Issue Paper](#).

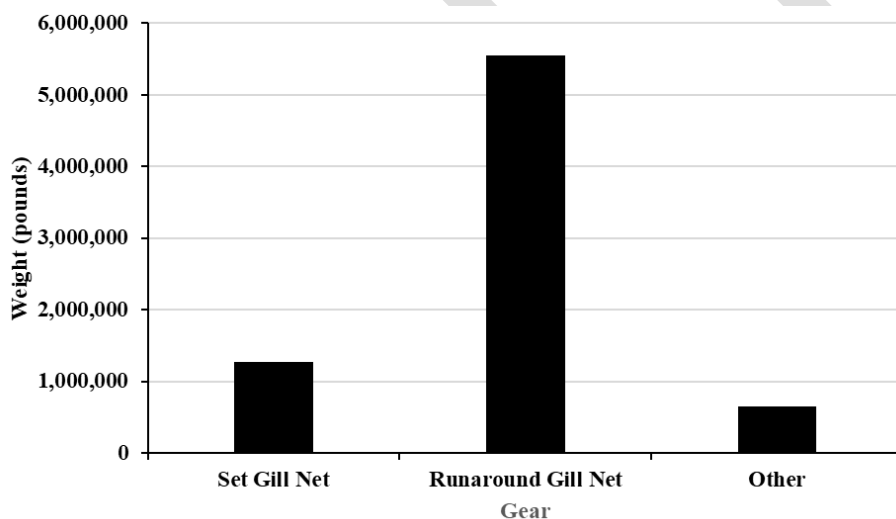


Figure 1.3. Percent of striped mullet commercial landings reported through the North Carolina Trip Ticket Program by gear, 2017–2021.

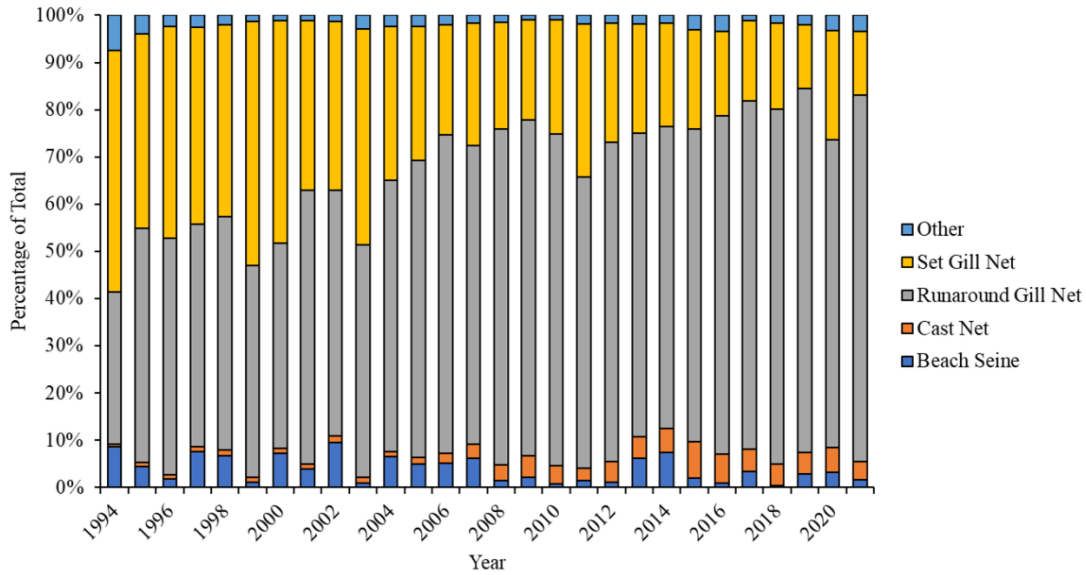


Figure 1.4. Percentage of striped mullet commercial landings by year and gear reported through the North Carolina Trip Ticket Program by gear, 1994–2021.

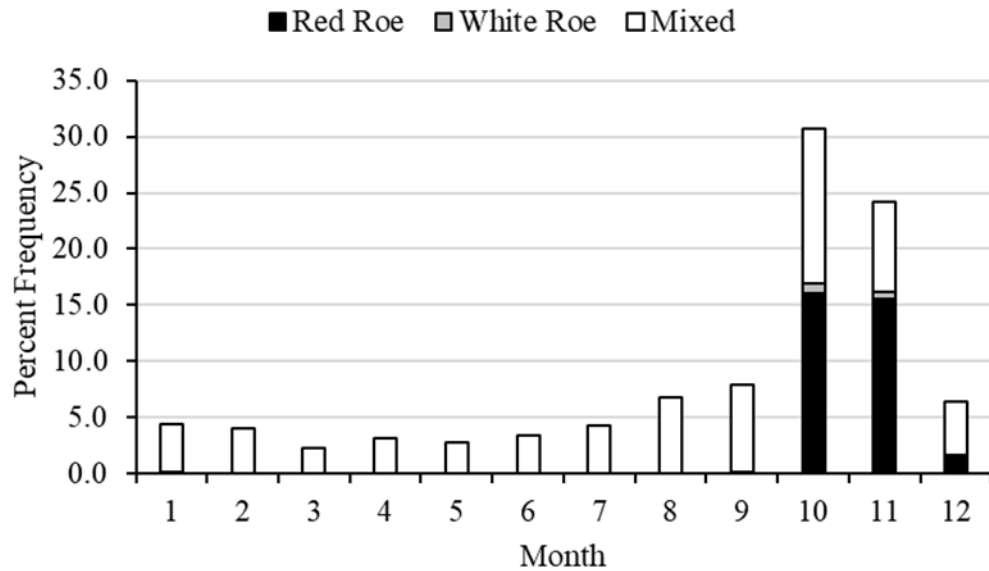


Figure 1.5. Percent frequency of striped mullet commercial landings by market grade and month, 2017-2021. Red Roe includes striped mullet graded as Red Roe and Roe. White Roe includes striped mullet graded as White Roe. Mixed includes striped mullet graded as Jumbo, Large, Medium, Mixed, Small, and X-Small.

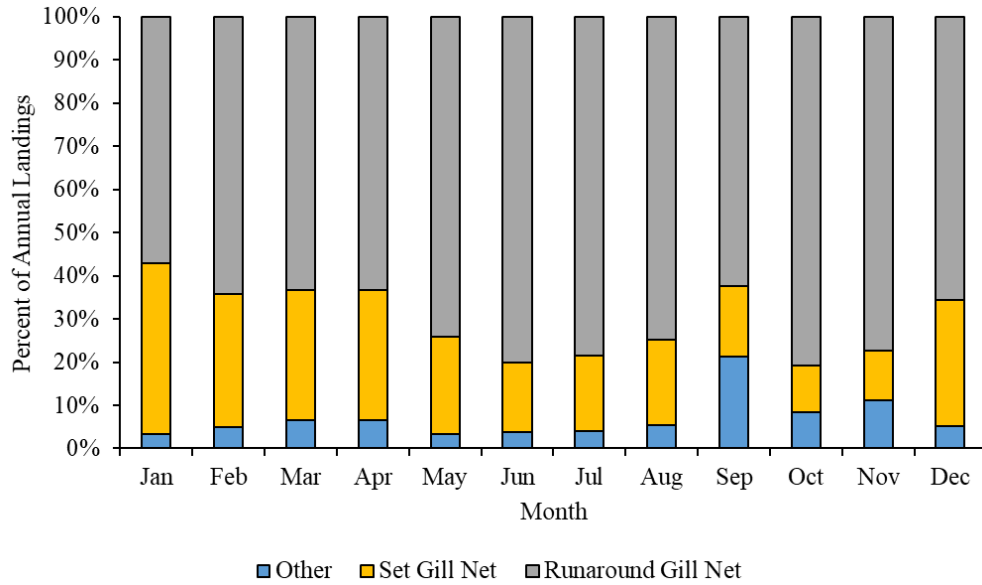


Figure 1.6. Percentage of striped mullet commercial landings by month and gear reported through the North Carolina Trip Ticket Program by gear, 2017–2021.

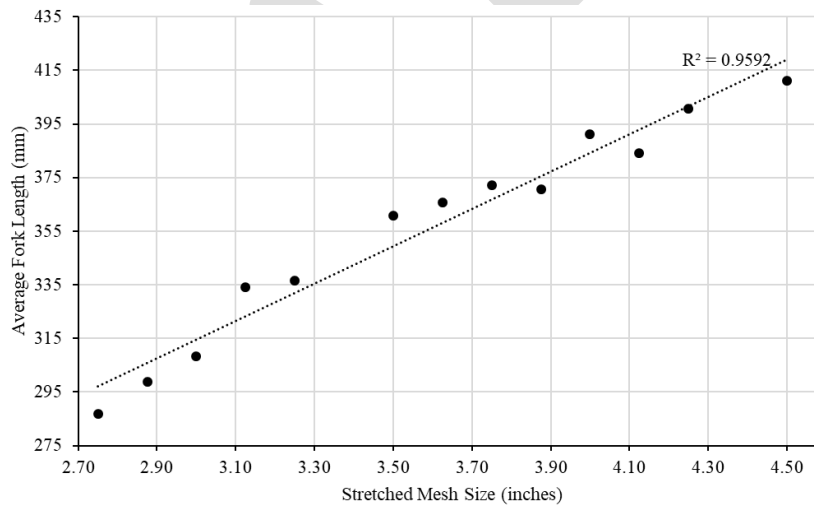


Figure 1.7. Relationship of stretched mesh size versus average fork length of striped mullet captured using data from the commercial fish house sampling program (1991-2021). A trendline and R squared value are provided for reference.

### Regional Characterization

In the mid-1990s, the striped mullet small mesh gill net fishery was split between the Pamlico Sound, Carteret, and South regions (Figure 1.8). Since then, the fishery has experienced an expansion and retraction in the Rivers region, a contraction in the South region, and a small expansion in the Albemarle Sound region. These shifts in regional contribution have led to a fishery that is currently dominated by the Pamlico Sound and Carteret regions. These two regions have made up over 70% of the total striped mullet small mesh gill net fishery since 2017. The expansion of the fishery in the Albemarle region has been largely driven by the development of a small mesh set gill net fishery for white perch where striped mullet are primarily captured

incidentally. Set gill nets make up over 80% of striped mullet landings in this region (Figure 9). Runaround gill nets strongly dominate the fishery in the rest of the state.

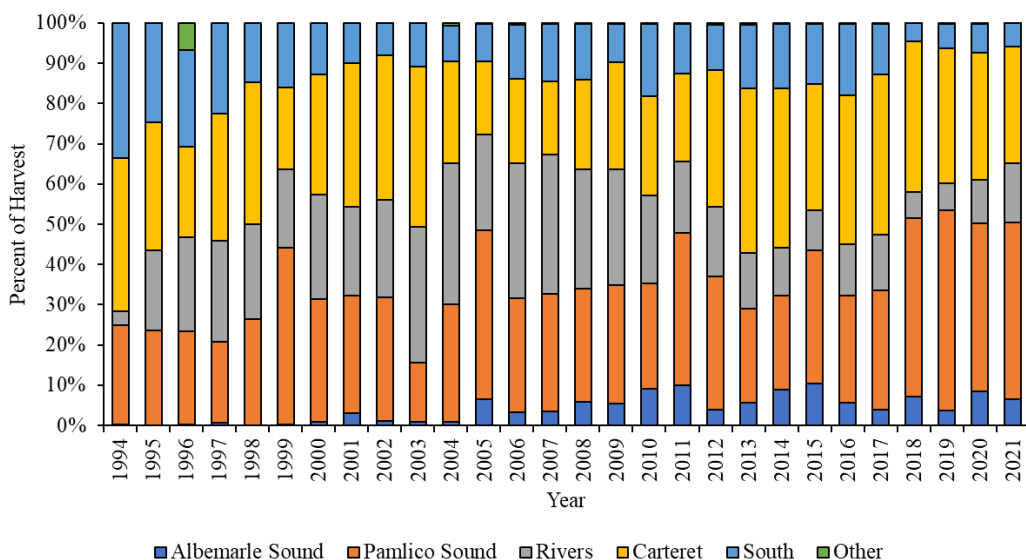


Figure 1.8. Percentage of striped mullet commercial landings by region and year reported through the North Carolina Trip Ticket Program, 1994–2021.

### Set gill nets

Striped mullet are the third most important species targeted in the North Carolina small mesh set gill net fishery behind bluefish and spotted seatrout (Figure 1.9). They make up the largest proportion of monthly set gill net trips in November and December.

Set small mesh gill nets are the second most common gear used to capture striped mullet (Figures 1.3 - 1.4) in North Carolina and are the dominant gear in the Albemarle Sound region (Figure 1.10). Striped mullet are primarily landed incidentally in the set gill net fishery. They are typically not targeted with set gill nets as they move around in schools that are more easily targeted with runaround gill nets. Since 1994 use of set gill nets to target striped mullet has declined as both trips made and participants in the fishery have waned (Figure 1.11). This decline in participants and trips matches well with the decreased landings and increase in runaround gill net dominance in the striped mullet fishery over the same time period.

Set gill nets tend to be a low volume fishery for striped mullet. The average trip lands just over 76 pounds of striped mullet (Figure 1.12). Nearly 60% of set gill net trips that target striped mullet land less than 100 pounds. However, the 42% of trips that land more than 100 pounds account for over 80% of the total set gill net landings (Figure 1.13). The modal mesh size used to catch striped mullet in the set gill net fishery was 3.5 ISM (Table 1.2). Average total net length was 567 yards, with a maximum of 3,000 yards. Over 45% of all set gill net trips fished more than 500 yards (Figure 1.14). For reference, small mesh gill nets are currently restricted to a maximum of 800 yards. Yardage restriction could be an effective way to reduce harvest in this fishery. Yardage restrictions would be best used in conjunction with trip limits to ensure minimal discards. For more information on possible management applications of set gill net yardage restrictions, see [Appendix 2](#).

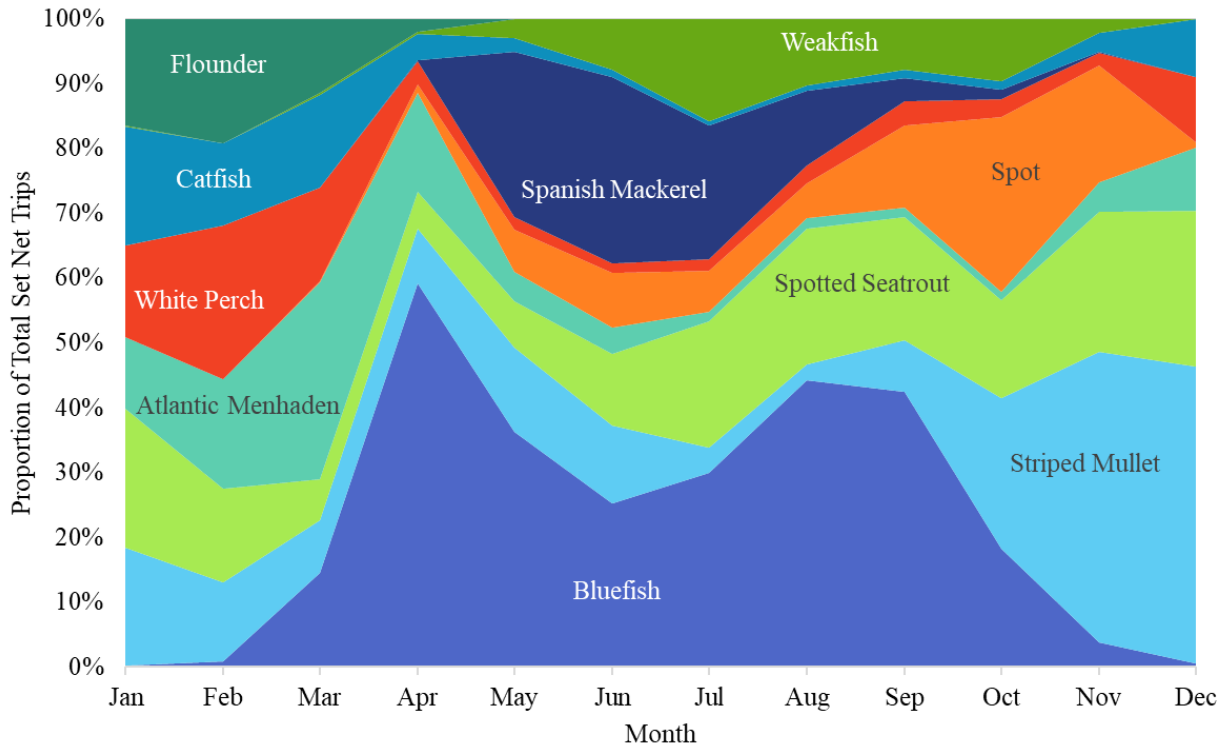


Figure 1.9. Percentage of total set gill net trips for each of the 10 primary target species across months in N.C. waters during 2017-2021.

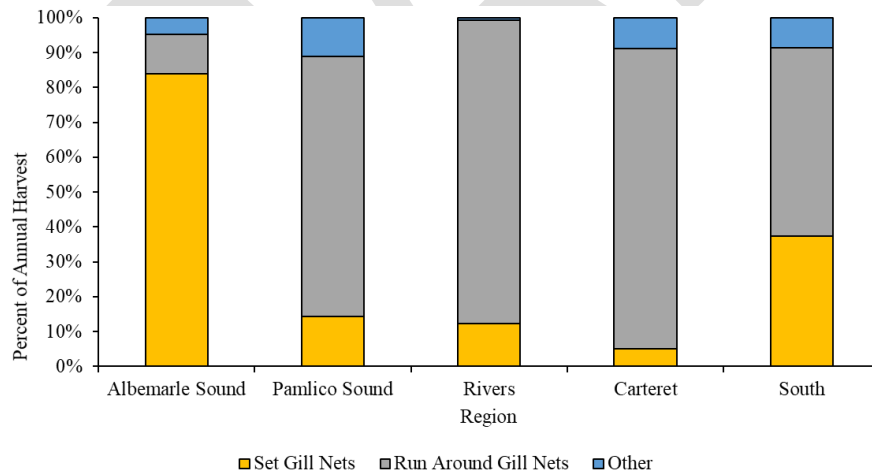


Figure 1.10. Percentage of annual striped mullet commercial landings by gear and area reported through the North Carolina Trip Ticket Program by gear, 2017-2021.



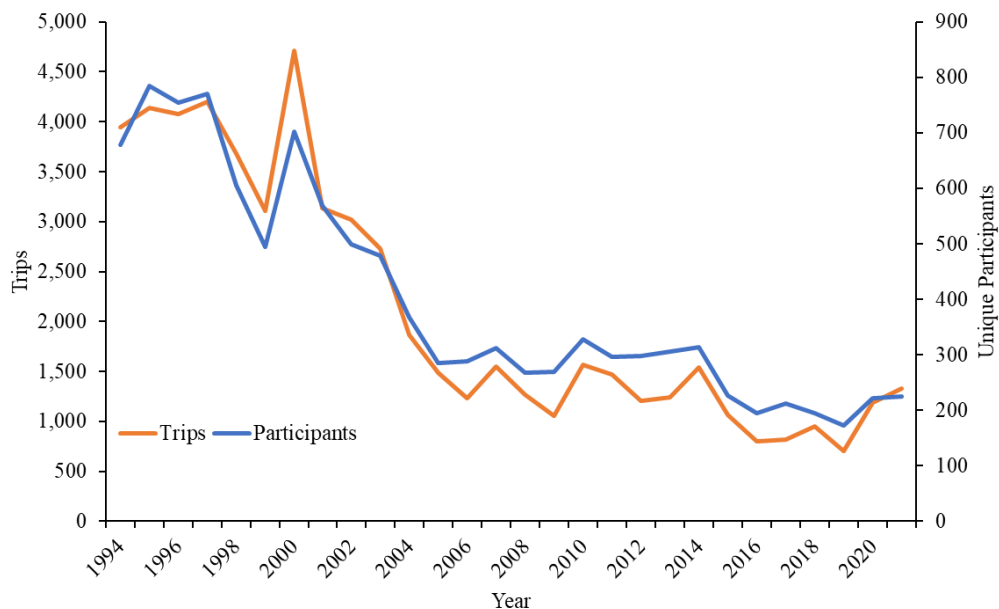


Figure 1.11. Targeted trips and participants in the set small mesh gill net striped mullet fishery by year reported through the North Carolina Trip Ticket Program by gear, 1994–2021.

Table 1.2. Small mesh (<5 inch ISM) set net trips in North Carolina using data from the N.C. Trip Ticket Program with associated gear characteristics from fish house, 2017–2021.

Species	Trips	Avg/Yr	Modal Mesh	Avg Yds	Max Yds
Striped mullet	14,282	2,856	3.5	567	3,000

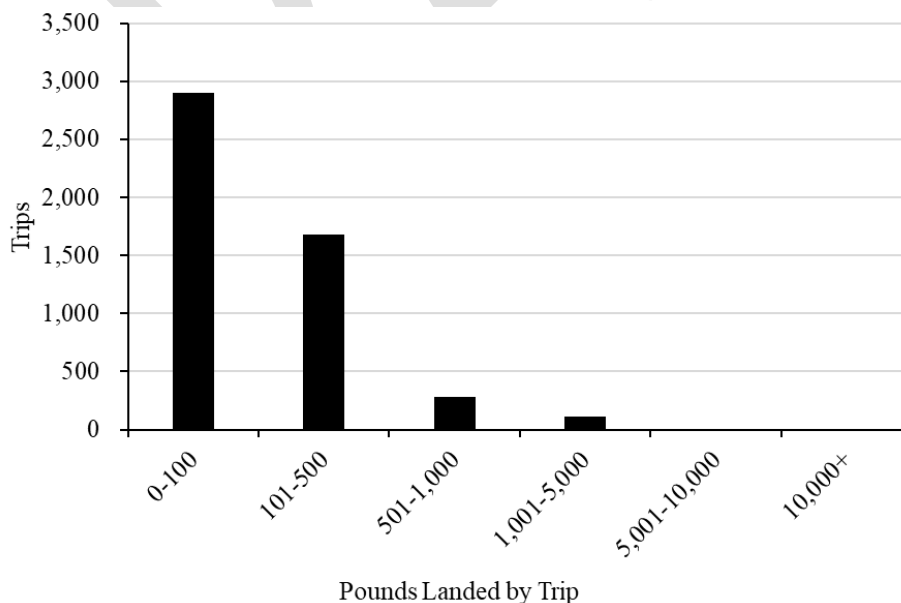


Figure 1.12. Number of targeted Trips grouped by pounds landed per trip in the set small mesh gill net striped mullet fishery reported through the North Carolina Trip Ticket Program by gear, 2017–2021.

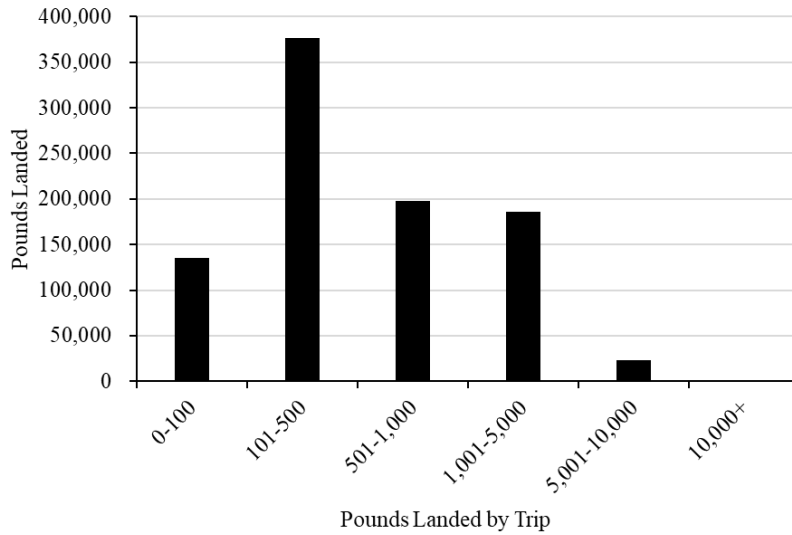


Figure 1.13. Total pounds landed grouped by pounds landed per targeted trip in the set small mesh gill net striped mullet fishery reported through the North Carolina Trip Ticket Program by gear, 2017–2021.

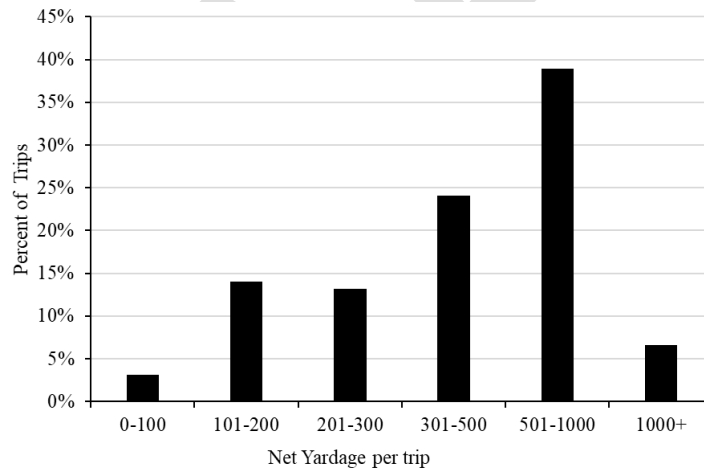


Figure 1.14. Percent of total trips grouped by yards fished per trip in the set small mesh gill net striped mullet fishery using data from the commercial fish house sampling program 2017–2021.

When targeting striped mullet with small mesh set gill nets, it is common to catch other species incidentally. The most common species landed incidentally when targeting striped mullet in set gill nets are spotted seatrout, red drum, catfish, bluefish, white perch, and gizzard shad (Figure 1.15). Conversely, striped mullet are most commonly caught incidentally when set gill net fishermen are targeting spotted seatrout, bluefish, and white perch (NC trip ticket data). This overlap between the striped mullet and spotted seatrout, bluefish, and white perch set gill net fisheries could have management implications for all these fisheries if gear restrictions are put in place to restrict striped mullet harvest.

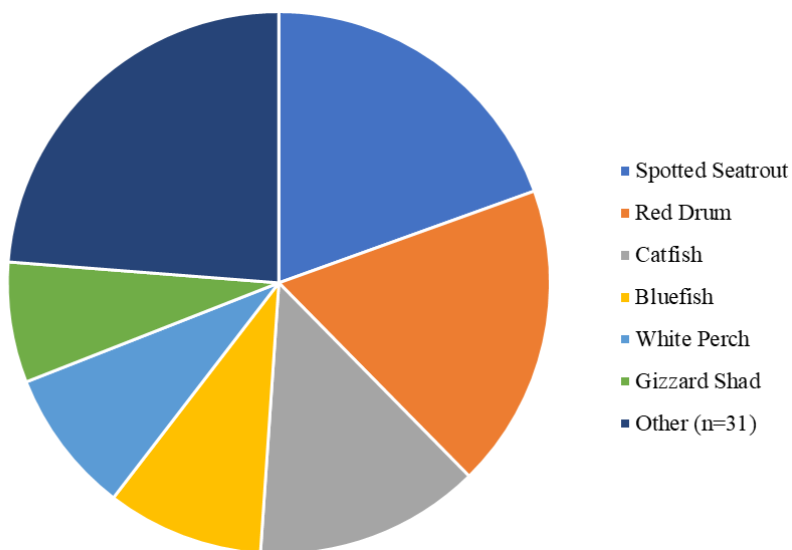


Figure 1.15. Proportion of incidental catch landed by species in the set small mesh gill net striped mullet fishery reported through the North Carolina Trip Ticket Program, 2017–2021.

Striped mullet discards in the set gill net fishery are difficult to characterize due to limited data but appear to be minimal based on observations from the commercial observer program. Of the over 9,500 striped mullet observed in set small mesh nets (2003-2021), only 49 fish were discarded. A discard rate of only 0.5%. The low rate of striped mullet discards in the set small mesh fishery is likely due to there being no restrictions on their commercial harvest. Increased restrictions on striped mullet harvest could increase discards in this fishery. For more information on striped mullet bycatch in the set gill net fishery, please refer to the Striped Mullet Bycatch section of the Base Plan.

Discards of other species from striped mullet targeted small mesh set gill net trips could not be characterized due to limited data. Of the over 1,500 observed small mesh set net trips observed from the commercial observer program (2003-2021), only 35 striped mullet targeted trips have been observed. In those trips, eight managed species were discarded, including sheepshead, Atlantic menhaden, blue crab, horseshoe crab, croaker, bluefish, striped mullet, and red drum.

### Runaround Gill Nets

Striped mullet are the most important species targeted in the North Carolina runaround gill net fishery (Figure 1.16). Striped mullet make up the largest proportion of monthly runaround gill net trips from April to November and are second to spotted sea trout the rest of the year.

Runaround gill nets are the predominant gear used to catch striped mullet in North Carolina (Figures 1.3 - 1.4) and the dominant gear in every region except the Albemarle Sound (Figure 1.9). The runaround gill net fishery is much more targeted than the set net fishery and is the main gear used to catch striped mullet when they form their spawning aggregations in October and November. During this time, catches from runaround gill nets can be very high as fishermen target striped mullet for their valuable roe. Over 50% of the average yearly landings of striped mullet come from this two-month period. Since 1994 effort and participation in this fishery have remained relatively consistent until 2021 when a significant spike in both trips and participants was observed (Figure 1.17). This sudden increase could be due to fishermen shifting to the fishery from other more restricted fisheries.

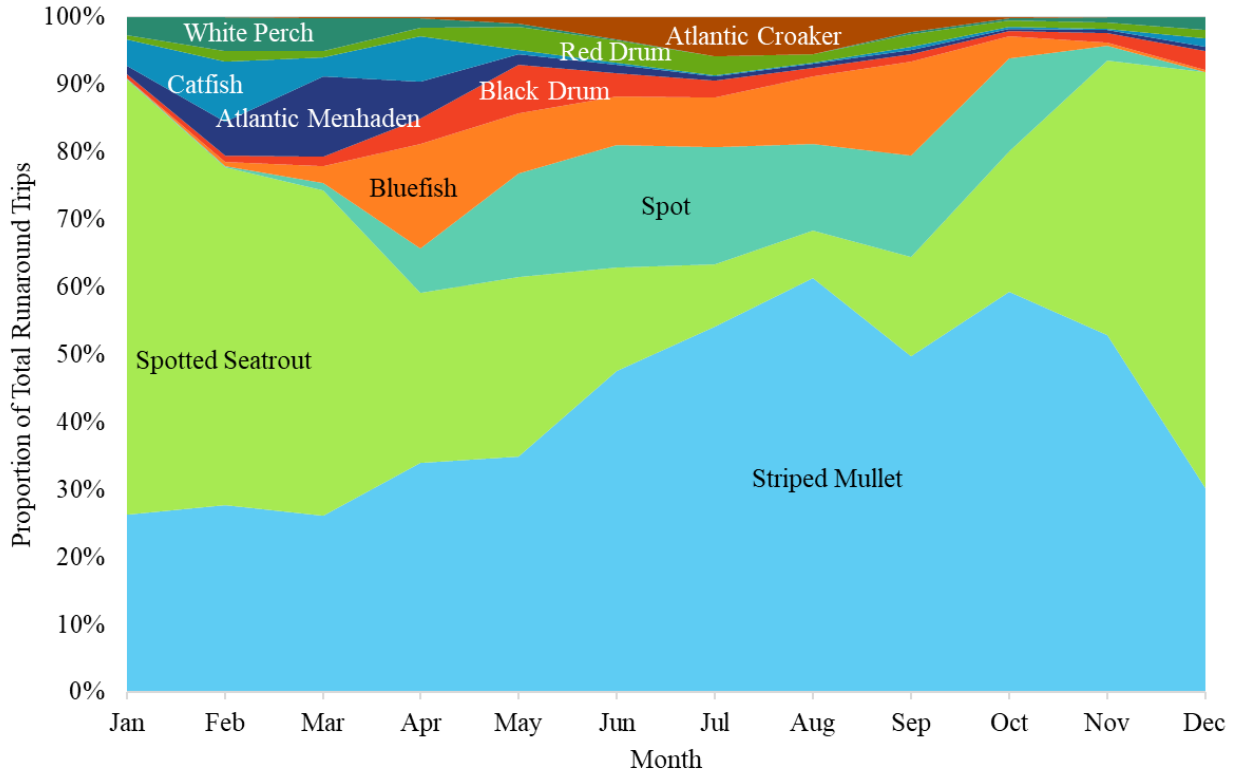


Figure 1.16. Percentage of total runaround gill net trips for each of the 10 primary target species across months in N.C. waters during 2017-2021.

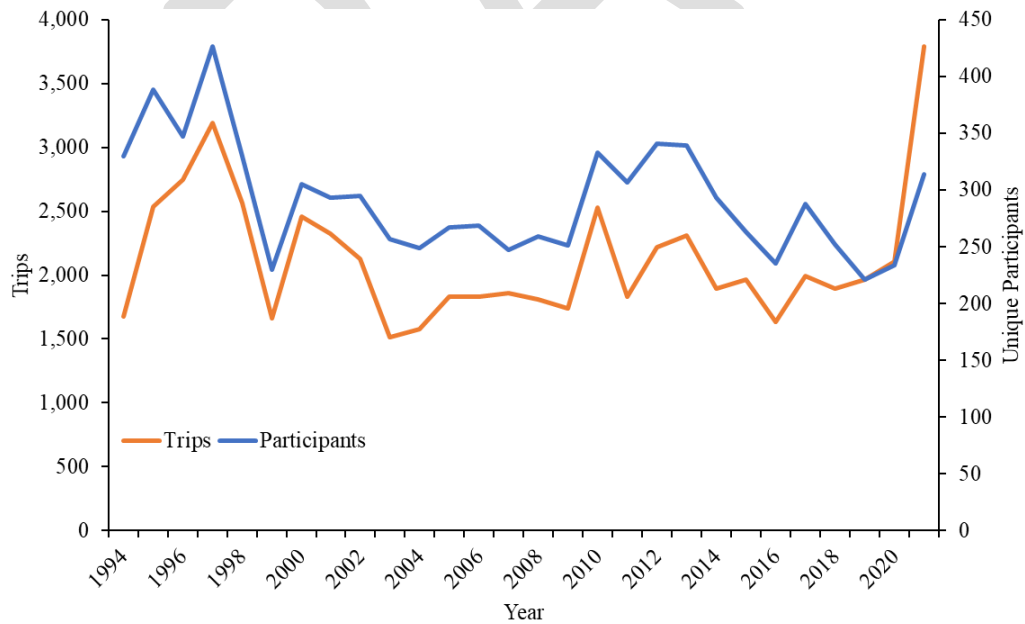


Figure 1.17. Targeted trips and participants in the runaround gill net striped mullet fishery by year reported through the North Carolina Trip Ticket Program by gear, 1994-2021.

Runaround gill nets are a higher volume fishery than set nets, with the average trip landing over 450 pounds (Figure 1.18). This is likely due to runaround gill nets being a more targeted gear for striped mullet. Most trips that target striped mullet land less than 500 pounds of mullet. However, the 12% of trips that catch over 1,000 pounds account for over 50% of total landings from runaround gill nets (Figure 1.19).

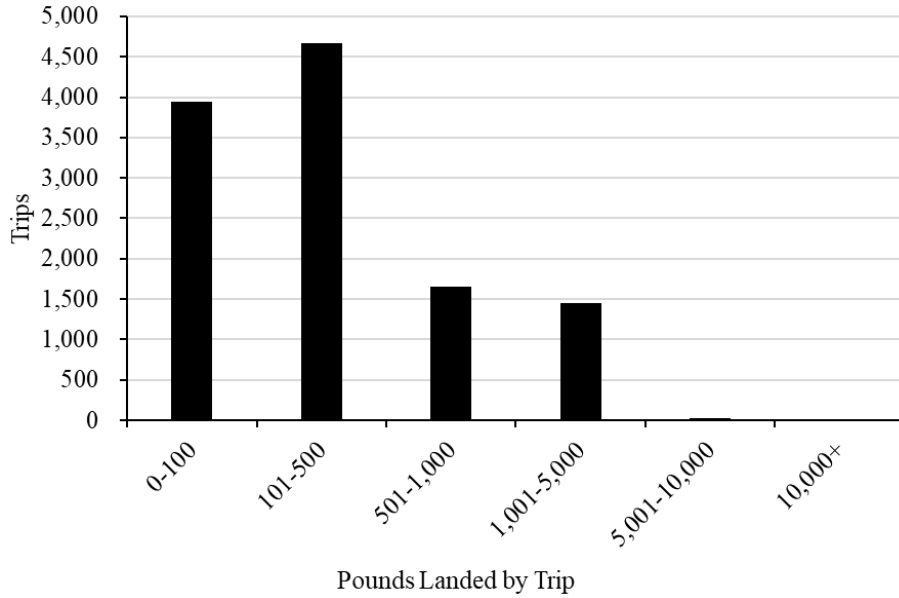


Figure 1.18. Number of targeted trips grouped by pounds landed per trip in the runaround gill net striped mullet fishery reported through the North Carolina Trip Ticket Program by gear, 2017–2021.

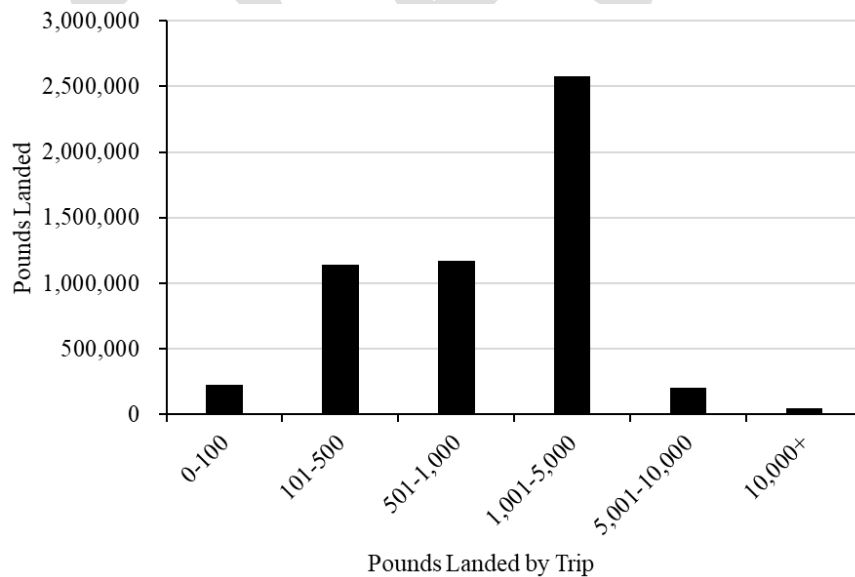


Figure 1.19. Total pounds landed grouped by pounds landed per targeted trip in the runaround gill net striped mullet fishery reported through the North Carolina Trip Ticket Program by gear, 2017–2021.

Runaround gill nets have a higher modal mesh size (3.75 ISM) than set small mesh gill nets (3.5 ISM; Table 1.3). This is likely due to most runaround gill net trips occurring in October and

**DRAFT**

November during the roe season when fishermen are targeting larger females. The average net length is 366 yards with a maximum of 1,000 yards, with nearly half of all trips setting less than 300 yards of net (Figure 1.20). Runaround gill nets tend to be much shorter than set gill nets because runaround gill nets are actively fished to encircle schools of striped mullet. This allows for much less yardage needed to catch the fish than the passively fished set gill nets. Since the gill nets are already significantly shorter, and nets can be fished several times consecutively, maximum yardage restrictions may not be effective in managing harvest in this fishery. For more information on possible management applications of runaround gill net yardage restrictions, see [Appendix 2](#).

Table 1.3. Small mesh (<5 inch ISM) runaround gill net trips in North Carolina using data from the N.C. Trip Ticket Program with associated gear characteristics from fish house, 2017-2021.

Species	Trips	Avg/Yr	Modal Mesh	Avg Yds	Max Yds
Striped mullet	20,763	4,153	3.75	366	1,000

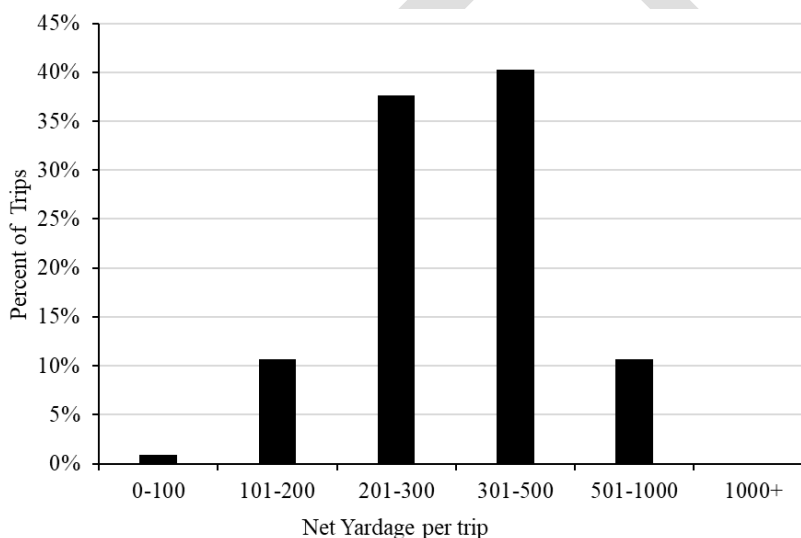


Figure 1.20. Percent of total trips grouped by yards fished per trip in the set small mesh gill net striped mullet fishery using data from the commercial fish house sampling program 2017–2021.

When targeting striped mullet with runaround gill nets, it is common to catch other species incidentally. The most common species landed incidentally when targeting striped mullet in set gill nets are spotted seatrout, red drum, bluefish, spot, black drum, and blue crab (Figure 1.21). Conversely, striped mullet are most commonly caught incidentally when runaround gill net fishermen are targeting spotted seatrout, bluefish, and spot (NC trip ticket data). This overlap between the striped mullet and spotted seatrout, bluefish, and spot runaround gill net fisheries could have management implications for all these fisheries if gear restrictions are put in place to restrict striped mullet harvest.

No data is available to characterize discards in this fishery because the commercial observer program does not observe runaround gill net trips.

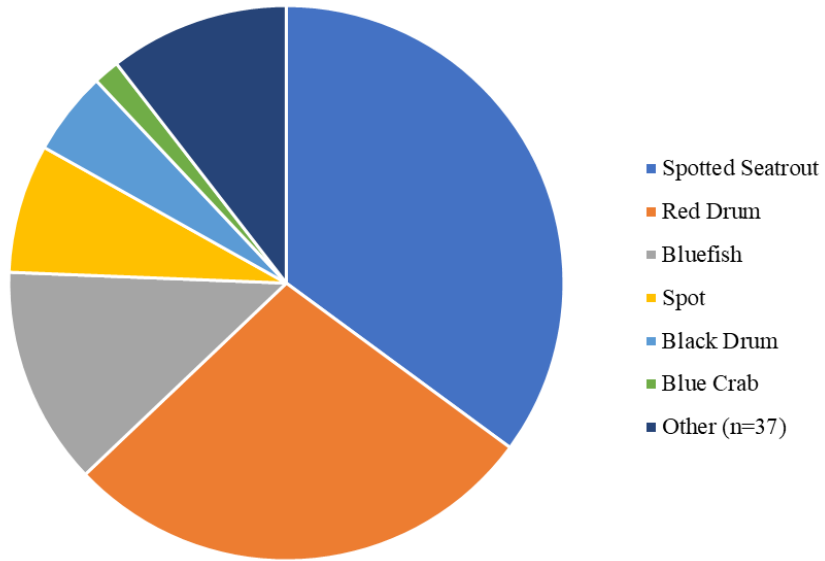


Figure 1.21. Proportion of incidental catch landed by species in the runaround net striped mullet fishery reported through the North Carolina Trip Ticket Program, 2017–2021.

DRAFT



## DRAFT

### Appendix 2: Achieving Sustainable Harvest in the North Carolina Striped Mullet Fishery

#### Issue

Implement management measures to achieve sustainable harvest in the North Carolina striped mullet fishery.

#### Origination

DMF

#### Background

The North Carolina striped mullet stock is overfished with overfishing occurring in 2019, the terminal year of the [stock assessment](#) (NCDMF 2022a). The observed data and model predictions suggest a decreased presence of larger, older striped mullet in the population. The model estimated declining trends in age-0 recruitment and female SSB over the last several decades. Model results also indicate consistent overestimation of biomass and the greatest risk for overfishing.

The stock assessment model estimated a value of 0.37 for the  $F_{25\%}$  threshold and a value of 0.26 for the  $F_{35\%}$  target. In 2019  $F$  was 0.42, greater than the  $F_{25\%}$  threshold, indicating overfishing is occurring (Figure 5). The model estimated a value of 1,364,895 pounds for the  $SSB_{25\%}$  threshold and a value of 2,238,075 pounds for the  $SSB_{35\%}$  target. Female SSB in 2019 was estimated at 579,915 pounds, lower than the  $SSB_{25\%}$  threshold, indicating the stock is overfished (Figure 6).

North Carolina General Statute 113-182.1 states that fishery management plans shall: 1) specify a time period not to exceed two years from the date of adoption of the plan to end overfishing, 2) specify a time period not to exceed 10 years from the date of adoption of the plan for achieving sustainable harvest, and 3) must also include a standard of at least 50% probability of achieving sustainable harvest for the fishery. Sustainable harvest is defined in North Carolina General Statute 113-129 as “the amount of fish that can be taken from a fishery on a continuing basis without reducing the stock biomass of the fishery or causing the fishery to become overfished”.

Stock recovery is highly dependent on age-0 recruitment. The 2022 stock assessment indicates recruitment has not only declined but has been below average since 2009 (Figure 2.1). Stock projections based on the stock assessment indicate a conservative, 21.3-35.4% reduction in total removals is needed to rebuild spawning stock biomass to a sustainable level. If low recruitment continues, female SSB is never projected to reach the SSB target at a 21.3-35.4% harvest reduction. A 21.3-35.4% reduction in total removals is projected to, at a minimum, rebuild SSB to the threshold even if low recruitment continues (Figures 2.2-2.3). Assuming average recruitment, a 21.3% reduction in total removals rebuilds SSB to the target in eight years with a 78% probability of success and a 35.4% reduction in total removals rebuilds SSB to the target in four years with a 100% probability of success (Table 2.1). Either reduction scenario meets the statutory requirement to achieve sustainable harvest with at least a 50% probability of success. A 9.9% reduction in total removals reduces  $F$  to the  $F$  threshold and a 33% reduction reaches the  $F$  target.

In response to stock assessment results the MFC adopted [Supplement A to Amendment 1 to the Striped Mullet FMP](#) in May 2023 to end overfishing (NCDMF 2023). Supplement A established season closures for the striped mullet commercial and recreational fisheries with the goal of achieving a 21.7% reduction in harvest relative to 2019 commercial landings, ending overfishing and beginning to rebuild the stock (see Season Closure section of this issue paper for additional

information). Supplement A management will remain in place until adoption of Amendment 2 to the Striped Mullet FMP.

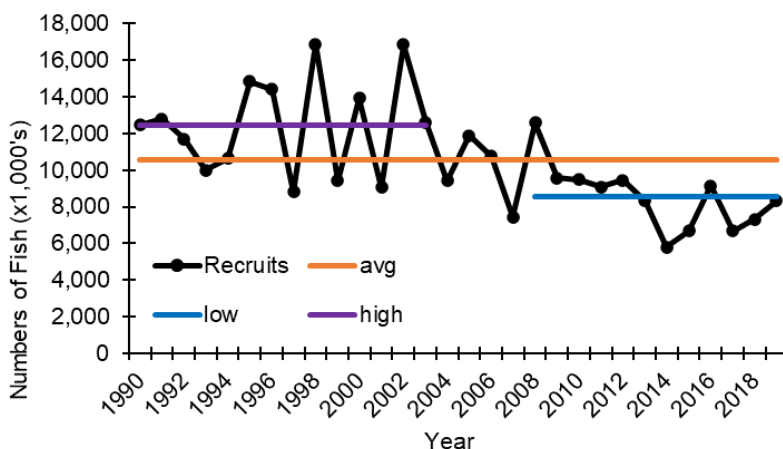


Figure 2.1. Estimates of striped mullet recruitment from the 2022 striped mullet stock assessment (NCDMF 2022). Average recruitment is the average number of recruits from 1990 to 2019, high recruitment is the average number of recruits from 1990 to 2003, and low recruitment is the average number of recruits from 2008 to 2019.

Table 2.1. Number of years to reach the  $SSB_{Target}$  and  $SSB_{Threshold}$  with probability of success in parentheses at 21.3% and 35.4% reduction in total removals assuming low and average recruitment. Removals assumed are in comparison to removals in 2019. Both reduction scenarios end overfishing.

Reduction	Recruitment Assumption	number Years from 2024		Removals Assumed (lb)
		Reach Target	Reach Threshold	
21.3%	Low	Never (0%)	7 (68%)	1,072,538
	Average	8 (78%)	2 (100%)	1,072,538
35.4%	Low	Never (0%)	3 (99%)	880,418
	Average	4 (100%)	2 (100%)	880,418

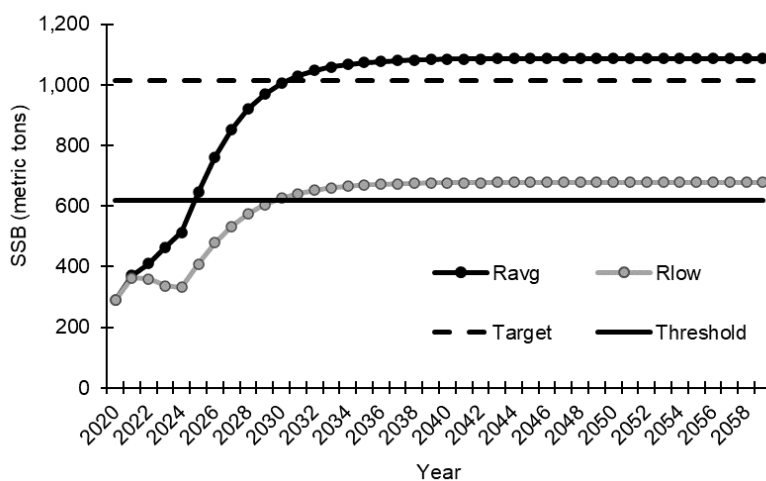


Figure 2.2. Projected striped mullet spawning stock biomass at various recruitment levels (average and low) compared to the  $SSB_{Target}$  (dashed line) and  $SSB_{Threshold}$  (solid line) assuming a 21.3% reduction in total removals.

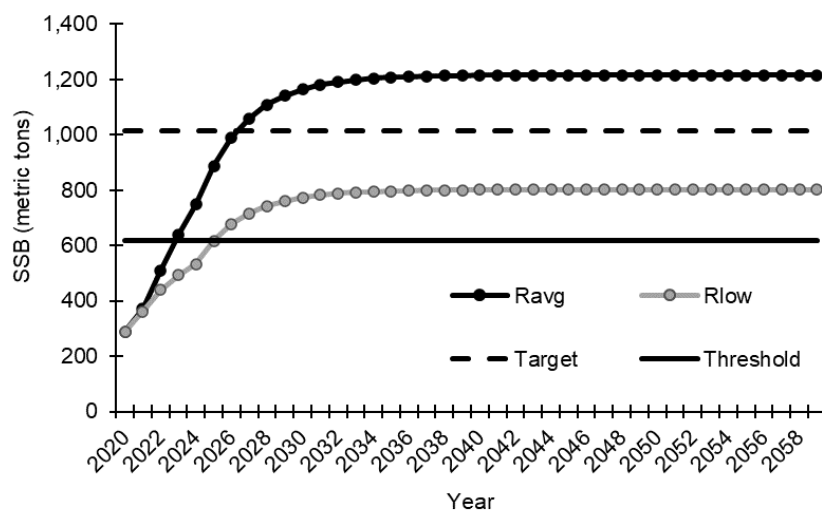


Figure 2.3. Projected striped mullet spawning stock biomass at various recruitment levels (average and low) compared to the  $SSB_{Target}$  (dashed line) and  $SSB_{Threshold}$  (solid line) assuming a 35.4% reduction in total removals.

Several management tools are available to achieve sustainable harvest in the striped mullet fishery. This discussion includes specific quantifiable management measures projected to meet the required harvest reductions to rebuild the striped mullet stock and fulfill the statutory requirements. Several management tools, including combinations of management measures, were explored including size limits, seasonal closures, day of week closures, trip/creel limits, gear restrictions, and seasonal catch limits. To establish context for small mesh gill net management options to support sustainable harvest options, [Appendix 1: Small Mesh Gill Net Characterization in the North Carolina Striped Mullet Fishery](#) provides a comprehensive review of the small mesh gill net fishery for striped mullet.

Discussion of sustainable harvest primarily focuses on reductions in the commercial fishery, where most striped mullet harvest occurs. Because of recreational harvest data limitations, harvest reductions from any specific management measure cannot be calculated. In 2019, recreational striped mullet harvest accounted for 1.7% of total harvest and accounted for 4.2% of total harvest from 1994-2019. While recreational harvest is not expected to have significant impacts on stock status (NCDMF 2022), management measures discussed in this issue paper could apply to the recreational sector. Additional information about the recreational fishery for striped mullet and potential recreational specific management measures can be found in the [2022 stock assessment](#) (NCDMF 2022) and [Appendix 3: Characterization and Management of the North Carolina Recreational Striped Mullet Fishery](#).

Because recreational harvest reductions cannot be quantified due to data limitations, sustainable harvest reduction calculations are based solely on commercial striped mullet landings (Table 2.2). All management options represent the percent reduction to commercial harvest relative to commercial landings in 2019 (terminal year of the stock assessment). While a 9.3% reduction does end overfishing, it does not rebuild SSB to the threshold and cannot be considered for long-term management of the stock.

## DRAFT

Table 2.2. Harvest reduction, and commercial only harvest reduction necessary to end overfishing and rebuild the stock. Target landings are 2019 commercial landings reduced by the given percentage.  
\*Does not meet statutory requirement to rebuild stock.

Commercial Harvest Reduction (%)	Target Landings (pounds)
9.9*	1,227,358*
21.3	1,072,065
35.4	879,992

### Authority

N.C. General Statute  
G.S. 113-134 RULES  
G.S. 113-182 REGULATION OF FISHING AND FISHERIES  
G.S. 113-182.1 FISHERY MANAGEMENT PLANS  
G.S. 113-221.1. PROCLAMATIONS; EMERGENCY REVIEW  
G.S. 143B-289.52 MARINE FISHERIES COMMISSION-POWERS AND DUTIES

N.C. Rule  
15A NCAC 03M .0502 MULLET  
15A NCAC 03H .0103 PROCLAMATIONS, GENERAL

### Discussion

The discussion below includes specific management measures that were both quantifiable and projected to meet the striped mullet harvest reduction. Reductions are based on the terminal year of the stock assessment (2019) and achieve sustainable harvest within 10 years with at least a 50% probability of success. Several management tools explored include: size limits, season closures, trip limits, day of week closures, combinations of measures, stop net management, seasonal catch limits, area closures, limited entry, and adaptive management.

#### Size Limits

Throughout this section, unless otherwise stated, all lengths are fork length (FL), which is a measurement of the fish from tip of snout to the fork in the tail.

Size limits are a common management tool to focus harvest on specific size and age classes of a fish stock. Management objectives and species life histories help managers determine what size limits should be implemented. By setting a minimum size limit based on length at maturity, managers can ensure a portion of the females in the stock have a chance to spawn at least once before harvest. In North Carolina, the length at 50% maturity (L50) for female striped mullet is 319 mm (12.6 inches; NCDMF 2021), and the length where 100% of the females are mature is 367 mm (14.4 inches; Bichy 2004). Striped mullet at 367 mm are as young as age-1 but more commonly are age-2. Other states with striped mullet fisheries, including Florida and Texas, use some form of a size limit to restrict harvest. Florida has an 11-inch minimum size in their commercial fishery with an allowance for 10% of the total weight possessed to be undersized. Texas has a 12-inch maximum size limit in both their recreational and commercial striped mullet fisheries during October, November, December, and January. A maximum size limit during the fall and early winter prevents harvest of the largest spawning fish.

Increasingly, minimum size limits are being re-evaluated as a conservation measure for fish stocks (Ahrens et al. 2019; Coggins et al. 2007; Garcia et al. 2012; Gwinn et al. 2013). While

**DRAFT**

minimum size limits are considered a good strategy for meeting some management objectives, sustainability may not be met through minimum size limits alone because minimum size limits often create additional discards and larger, older fish typically contribute disproportionately more to spawning success. For striped mullet, fish in the 300-350 mm size range (11.8-13.8 inches) are estimated to produce 551,105 to 984,000 eggs per individual whereas fish greater than 400 mm (15.7 inches) can produce upward of 2 million eggs (Table 2.3; Leard et al. 1995).

In North Carolina all sizes of striped mullet are targeted commercially and recreationally. Recreational and commercial fisheries use cast nets to target small striped mullet, or “finger mullet”, for use as live bait. “Finger mullet” typically range from 70-140 mm (2.8-5.5 inches; NCDMF 2006, 2022a). Commercial fisheries harvest larger striped mullet ranging from 229-508 mm FL (9-20 inches; Figure 2.4). These fish are typically harvested for use as food, cut bait, or for roe. All sizes of striped mullet are targeted by commercial fisheries throughout the year to meet market demand for food and bait, but the size of striped mullet harvested begins to increase in September, with the largest striped mullet consistently captured in October and November as larger fish become available to the fishery and demand for roe increases (Tables 2.4-2.5; Figure 2.5). During October and November, the largest striped mullet are targeted by the roe fishery because larger fish have a higher roe content than smaller fish and a narrower size range of fish are harvested.

Table 2.3. Striped mullet fecundity estimates by size from Leard et al. (1995).

Fork Length (mm)	Fork Length (inches)	Average Fecundity (number of eggs)	
		Mahmoudi (1990)	J. Render (personal communication)
300-350	11.8-13.8	984,000	551,104
350-400	13.8-15.7	1,493,000	913,456
400-450	15.7-17.7	2,152,000	1,077,163
450-500	17.7-19.7	2,979,000	2,960,897 <sup>1</sup>
500-550	19.7-21.7	3,992,000	2,269,251

<sup>1</sup>Figure may be overestimated because average was obtained from only two samples, 491 and 495 mm FL.

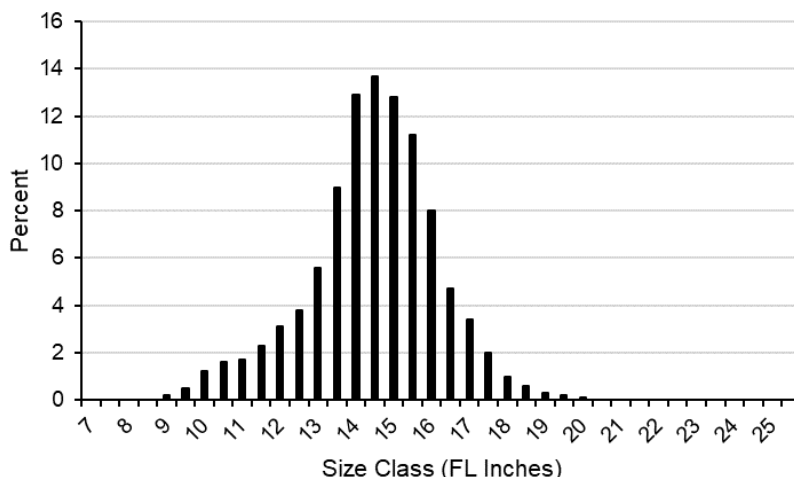


Figure 2.4. Length-frequency of striped mullet harvested in North Carolina commercial fisheries based on commercial fish house sampling, 2017-2021.

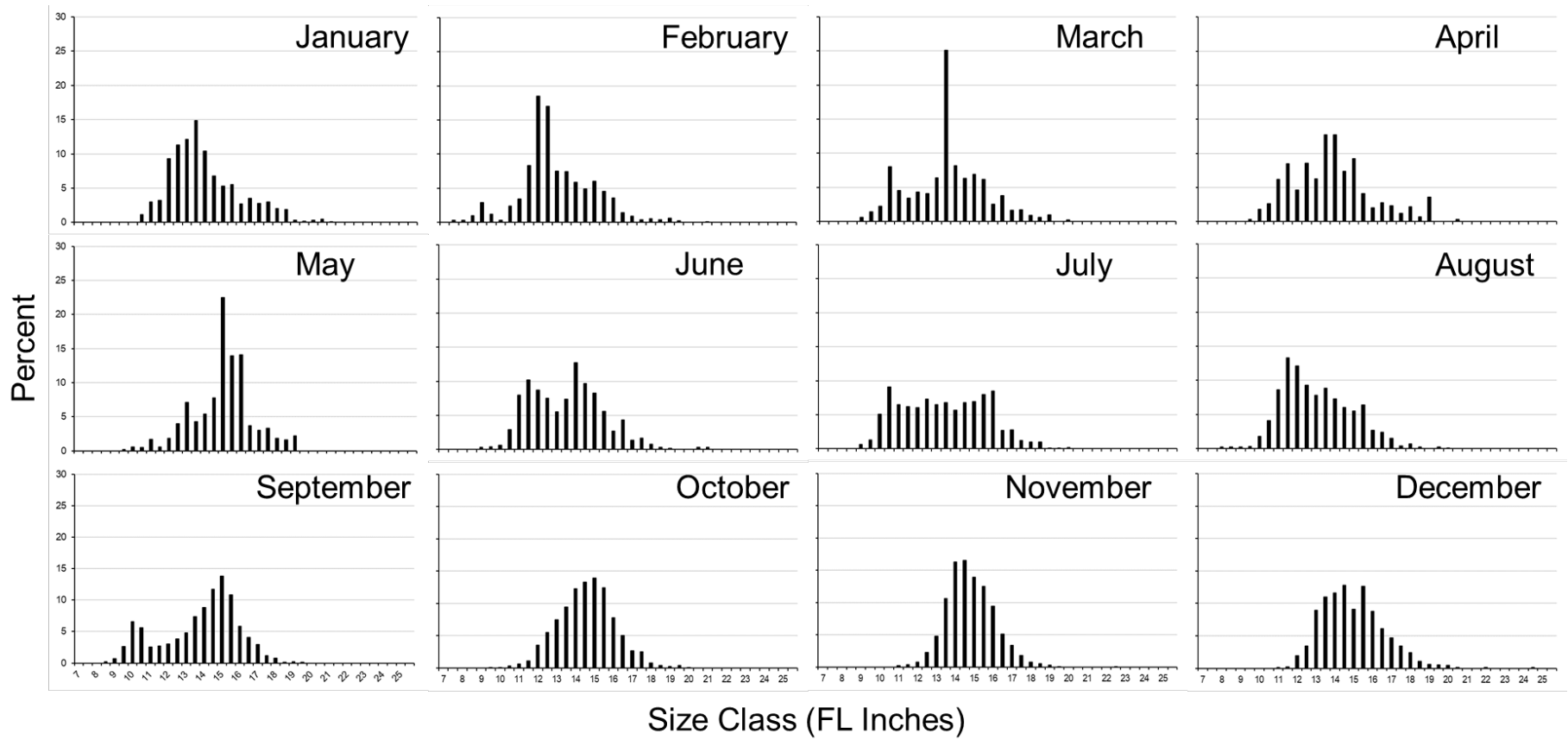


Figure 2.5. Length-frequency (inches) of striped mullet harvested in North Carolina commercial fisheries by month based on commercial fish house sampling, 2017-2021.

**DRAFT**

Table 2.4. Length-frequency (inches) of striped mullet harvested in North Carolina commercial fisheries by month based on commercial fish house sampling, 2017-2021. Shaded area represents modal length.

Size Class (inches)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
8.5	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0
9.0	0.0	2.9	0.6	0.0	0.0	0.3	0.6	0.2	0.7	0.0	0.0	0.0
9.5	0.0	1.2	1.4	0.3	0.2	0.4	1.3	0.3	2.6	0.1	0.0	0.0
10.0	0.0	0.3	2.2	1.8	0.6	0.6	5.1	1.8	6.6	0.1	0.0	0.0
10.5	1.1	2.4	8.0	2.6	0.5	2.9	9.1	4.1	5.6	0.3	0.0	0.0
11.0	3.0	3.4	4.5	6.2	1.7	8.0	6.5	8.6	2.5	0.6	0.2	0.1
11.5	3.2	8.3	3.4	8.5	0.6	10.2	6.2	13.3	2.7	1.1	0.4	0.2
12.0	9.3	18.5	4.3	4.6	1.8	8.7	6.0	12.1	3.0	3.5	0.8	1.9
12.5	11.3	17.0	4.1	8.6	4.0	7.5	7.3	9.3	3.8	5.5	2.3	3.4
13.0	12.1	7.5	6.4	6.3	7.1	5.5	6.5	7.8	4.8	7.5	4.8	8.9
13.5	14.9	7.4	25.1	12.7	4.3	7.4	6.8	8.8	7.4	9.4	10.6	11.0
14.0	10.4	5.9	8.2	12.7	5.4	12.7	5.7	7.3	8.8	12.3	16.3	11.6
14.5	6.8	4.9	6.3	7.4	7.8	9.7	6.8	6.0	11.7	13.3	16.5	12.8
15.0	5.3	6.0	6.9	9.2	22.5	8.3	6.9	5.5	13.8	13.9	13.9	9.1
15.5	5.5	4.5	6.2	4.1	13.9	5.6	8.0	6.4	10.8	12.4	12.5	12.6
16.0	2.7	3.6	2.5	2.0	14.1	2.7	8.5	2.7	5.8	7.8	9.4	8.8
16.5	3.5	1.4	3.8	2.8	3.7	4.3	2.7	2.4	4.1	5.0	5.1	6.1
17.0	2.8	0.9	1.6	2.3	3.0	1.4	2.8	1.5	2.9	2.7	3.4	4.7
17.5	3.0	0.4	1.7	1.2	3.3	1.7	1.2	0.4	1.2	2.5	1.8	3.4
18.0	2.0	0.5	0.9	2.2	1.8	0.8	1.0	0.7	0.8	0.8	0.8	2.4
18.5	1.9	0.4	0.6	0.7	1.6	0.3	1.0	0.2	0.1	0.4	0.5	1.1
19.0	0.3	0.6	1.0	3.6	2.2	0.2	0.1	0.0	0.2	0.2	0.3	0.6
19.5	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.4	0.1	0.5
20.0	0.3	0.0	0.2	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.4
20.5	0.5	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
21.0	0.1	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
23.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



**DRAFT**

Table 2.5. Length-frequency (inches FL) of striped mullet harvested in North Carolina commercial fisheries by month based on commercial fish house sampling, 2019. Shaded area represents modal length.

Size Class (inches)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.1	0.2	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.2	0.3	0.0	0.0	0.0
10.5	0.0	0.0	0.0	0.0	0.0	0.0	3.9	4.0	0.1	0.0	0.0	0.0
11.0	0.0	0.0	0.0	0.1	0.0	0.0	3.0	12.7	0.5	0.1	0.0	0.0
11.5	0.0	0.0	0.0	0.5	0.0	0.0	6.9	22.3	0.1	0.1	0.1	0.0
12.0	0.0	0.0	0.0	1.0	0.0	0.5	3.5	21.5	1.9	0.2	0.1	0.6
12.5	0.0	0.0	0.0	2.7	0.0	4.2	9.2	14.0	6.6	1.0	1.4	0.7
13.0	2.3	0.0	0.0	6.1	0.0	0.9	6.8	6.6	7.6	4.0	3.7	8.7
13.5	19.7	4.1	100.0	15.2	0.0	9.1	11.9	2.1	10.5	8.4	7.8	9.4
14.0	30.2	16.9	0.0	11.4	0.0	11.0	8.8	2.7	10.7	15.4	15.4	12.0
14.5	12.9	8.7	0.0	9.3	0.0	19.8	5.6	1.0	14.0	14.9	15.1	12.3
15.0	9.1	33.1	0.0	18.0	50.0	9.7	5.7	2.4	22.0	13.1	15.4	16.6
15.5	6.1	20.7	0.0	7.6	25.0	10.3	11.6	2.4	14.3	15.7	15.9	12.9
16.0	2.7	8.3	0.0	3.1	25.0	4.0	9.4	2.2	4.2	8.6	11.1	10.6
16.5	1.5	8.3	0.0	7.9	0.0	20.3	3.7	2.0	5.0	8.2	6.0	4.5
17.0	1.5	0.0	0.0	4.7	0.0	3.1	2.1	2.0	0.9	3.7	2.8	1.6
17.5	2.7	0.0	0.0	4.4	0.0	3.9	3.6	1.1	0.0	3.4	2.5	3.1
18.0	2.7	0.0	0.0	4.0	0.0	3.1	0.0	0.4	0.7	1.4	0.7	1.4
18.5	3.1	0.0	0.0	3.1	0.0	0.0	0.0	0.2	0.0	0.6	0.8	2.4
19.0	1.1	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.8
19.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.6	0.1	1.2
20.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
20.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
21.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
22.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
23.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

On its own, implementation of a minimum size limit set at the L50 for striped mullet would be unlikely to meet sustainability objectives and would eliminate the bait fishery for finger mullet. Striped mullet less than L50 size (12.6 inches) are captured in commercial fisheries during every month, and in some months make up significant portions of the commercial catch. Generally, striped mullet reach length at maturity in the estuary before migrating offshore to spawn. If a minimum size limit based on the L50 was implemented, striped mullet would reach harvestable size before spawning, resulting in little conservation benefit. As an example, implementing a minimum size limit of 12.5 inches would appear to reduce harvest by around 14.5% (Table 2.6). However, overall harvest would likely not be reduced by that amount because harvest would likely be delayed until those fish reach harvestable size, preventing achieved harvest reductions and

## DRAFT

minimizing conservation benefit. In addition, minimum size limits would likely increase discards if gear modifications and changes in fishery behavior did not also occur.

Implementing a maximum size limit or seasonal maximum size limit, like what is done in Texas, would reduce harvest and provide additional non-quantifiable benefits to the stock. Unlike minimum size limits, a maximum size limit would not cause delayed harvest or recoupment of catch, once a fish reached the maximum size limit it could not be harvested. While there is little information to inform an ideal maximum size limit (Texas has a 12-inch maximum size limit during October-January), as an example, a 15-inch maximum size limit could reduce harvest by 39.8% compared to commercial landings from 2017-2021 (Table 2.6) and would have reduced commercial landings by 49% in 2019.

A maximum size limit, focused on the spawning season (October-December), would have a more direct impact on the spawning stock. As an example, implementing a 15-inch maximum size limit during the spawning season could reduce overall commercial harvest by 27.0% compared to landings from 2017-2021, while continuing to allow significant harvest of smaller roe size striped mullet (Table 2.6). An October-November 15-inch maximum size limit would have reduced harvest up to 33% in 2019. This type of harvest control would likely result in quantifiable harvest reductions and have nonquantifiable benefits to the stock by allowing larger females, that produce more eggs, to spawn while allowing the roe fishery to occur. While discards would likely occur during the spawning season, discards would be lower outside of the spawning season. In addition, because of market demands the largest striped mullet are generally not targeted outside of the spawning season so it is unlikely effort would shift to larger fish earlier in the season. However, a seasonal maximum size limit during the fall would negatively affect the roe fishery, which targets large fish with a high roe content.

Slot limits should not be considered in the striped mullet fishery. Implementation of a harvest slot would exclude “finger mullet” and large roe mullet from harvest. This type of measure would not allow for the fish to be used in the same way they are used currently and may have little conservation benefit because peak harvest already occurs on a narrow range of sizes. A protected slot would direct more harvest to larger fish and would likely prevent significant amounts of harvest resulting in excessive discards.

Implementing a minimum or maximum size limit would need to be accompanied by corresponding changes to minimum or maximum mesh sizes used in gill nets to reduce dead discards. As illustrated in Appendix 1, the primary method for harvesting striped mullet is runaround gill nets with the most common mesh size of 3.75 inches stretched mesh (ISM; Table 1.3), but mesh sizes ranging from less than 3.0 ISM up to 4.5 ISM are used in the fishery. As an example, if a minimum size limit of 12.5 inches was implemented, a minimum mesh size of around 3.25 ISM would need to be adopted to minimize discards (Figure 1.7). If a maximum size limit of 15 inches was implemented, a maximum mesh size of around 4.0 ISM or 3.75 ISM would need to be adopted to minimize discards. If a maximum size limit is seasonal, the associated mesh size restrictions could also be seasonal and could apply to runaround gill nets only, all small mesh gill nets, or just gill net trips landing mullet. However, if additional mesh size restrictions are adopted there would likely be some impact to small mesh gill net fisheries targeting other species.

The striped mullet FMP Advisory Committee (AC) was not supportive of any type of size limit because striped mullet of all sizes are marketable. In addition, the AC cautioned that setting minimum or maximum mesh sizes in response to a size limit may increase overall harvest because of annual, seasonal, and regional variation in the size of striped mullet available to the fishery.

Table 2.6. Example minimum, maximum and seasonal maximum size limit options (inches) and associated percent commercial harvest reduction based on fish house sampling, 2017-2021. Options that meet the needed 21.3-35.4% reduction in commercial harvest on their own are shaded in gray.

Size Limit Options (Inches FL)	
Minimum	Percent Reduction
12.5	14.5
13.0	20.4
13.5	27.2
14.0	37.2

Maximum	Percent Reduction
15.0	39.8
15.5	28.4
16.0	18.2
16.5	11.4
17.0	7.1
17.5	4.4
18.0	2.5
18.5	1.5
19.0	0.9
19.5	0.4

Oct-Dec Maximum	Percent Reduction
14.5	51.4
15.0	27.0
15.5	19.3
16.0	12.2
16.5	7.4
17.0	4.5
17.5	2.6
18.0	1.3
18.5	0.8
19.0	0.4
19.5	0.3

**Option 1: Size Limit Options**

- a. *Status Quo – Manage fishery without minimum or maximum size limits*
  - + Allows for continued use of all striped mullet size classes
  - + Does not increase discards
  - No preferential protection for largest fish
  
- b. *Minimum Size Limit and 3.25 ISM Minimum Gill Net Mesh Size*
  - + Could benefit the roe fishery later in the year
  - Prevents use of smaller mullet as bait
  - Unlikely to meet sustainability objectives
  - Allows for recoupment of catch
  - Directs harvest to biggest fish
  - Would need to implement corresponding minimum mesh size requirements
  - May increase harvest
  
- c. *Maximum Size Limit and 3.75 or 4.0 ISM Maximum Gill Net Mesh Size*
  - + Preferential protection for largest fish

## DRAFT

- + Would result in quantifiable harvest reductions
- + No recoupment of catch
- Prevents harvest of valuable larger fish
- Increased discards
- Would need to implement corresponding maximum mesh size requirements
- May increase harvest

### d. *Seasonal Maximum Size Limit and 3.75 or 4.0 ISM Maximum Gill Net Mesh Size*

- + Preferential protection for largest fish
- + Would result in quantifiable harvest reductions
- + No recoupment of catch
- + More directly protects the spawning stock
- + Increased discards would not occur prior to the spawning season
- Prevents harvest of valuable larger fish
- Increased discards
- Would need to implement corresponding seasonal maximum mesh size requirements
- May increase harvest

## Seasonal Closures

Season closures, specifically end of year season closures, are considered an effective and efficient management option to end overfishing of the striped mullet stock and rebuild SSB. In May 2023, the MFC adopted [Supplement A to Amendment 1 to the North Carolina Striped Mullet FMP](#). The intent of Supplement A is to end overfishing of the striped mullet stock. The Supplement implements regional season closures to reduce harvest by 21.7% in 2023 to end overfishing by reducing  $F$  to a level between the threshold and target. The anticipated harvest reduction from the season closures also begins to rebuild the stock to the target assuming average recruitment occurs. Additional information about season closures can be found in Supplement A. Options from the supplement are presented in this paper. Only options that meet the statutory requirement to end overfishing and rebuild the stock (21.3%-35.4%) are presented.

## Statewide Season Closures

Options 2.b and 2.c (Table 2.7) reduce commercial harvest enough to end overfishing and recover the stock. Any statewide season closure must occur no sooner than October 29 and continue through the end of the year to meet needed reductions.

## Region Specific Season Closures

To better account for the difference in management impact between the two regions, options for region specific season closures were developed. Options for region specific seasons are shown in Table 2.8. The split between the northern and southern regions was designated as the Highway 58 Bridge to Emerald Isle, including a line extending from the bridge to a point three miles offshore.

Table 2.7. End of year season closure options that reduce harvest to end overfishing and recover the stock. Supplement A included a third option which cannot be considered for Amendment 2 management since it does not recover the stock.

Option	Season Closure	Reduction	End Overfishing?	Recover Stock?
2.b*	October 29 - December 31	33.7	Yes, Target	Yes
2.c	November 7 - December 31	22.1	Yes, $F$ Below Threshold	Yes

\*Adding one more closure day exceeds 35.4% statutory reduction requirement

Table 2.8. Management options to reduce commercial harvest to end overfishing and recover the stock by splitting the seasons between north and south. All reductions are calculated from 2019 commercial harvest levels (terminal year of stock assessment).

Option	Season Closure		Reduction	End Overfishing?	Recover Stock?
	North	South			
2.d	Oct. 28-Dec. 31	Oct. 30-Dec.31	35.6	Yes, Target	Yes
2.e	Nov. 7-Dec. 31	Nov. 10-Dec. 31	21.7	Yes, <i>F</i> Below Threshold	Yes

Options 2.d and 2.e (Table 2.8), which meet the reduction needed to end overfishing and recover the stock, provide up to three additional fishing days in the south without substantially reducing fishing days in the north. In 2019, there appeared to be minimal overlap in participation between the northern and southern regions. However, under a split season, where the north closes earlier than the south, effort could shift from north to south and expected harvest reductions may not be realized. The Striped Mullet FMP AC indicated the striped mullet fishery has highly mobile participants who move between regions following the fish and suggested it would be beneficial for management measures to be consistent statewide. In addition, AC members questioned the accuracy of waterbody locations recorded on trip tickets and expressed concern about using waterbody fished or county of landing to set regional specific seasons. While this concern is valid, the NC Trip Ticket Program continues to provide outreach and education to dealers about the importance of accurate trip tickets for fair and effective management. These season closure options assume an equal reduction for each region. However, additional options could be developed for scenarios where the amount of reduction is different between regions to allow the season to be extended in one region or the other.

Region specific closures were not considered using other regional splits because other splits are more likely to have overlap in participation and there is no clear delineation for different areas where the striped mullet commercial fishery operates in a different manner. The one exception may be the Albemarle Sound area, where low landings of striped mullet occur throughout the year but increase slightly in the winter. These landings occur incidentally to other small mesh gill net fisheries in the region, primarily the white perch fishery (see Appendix 1). However, most of these landings occur in January and February, months which are not being considered for striped mullet season closures. Because there is not a large directed striped mullet fishery in the Albemarle Sound region, creating a region-specific season closure in this area would likely be ineffective unless other fisheries were significantly impacted. No additional regional closure options were suggested or discussed by the AC.

The Striped Mullet FMP AC strongly disagreed with the use of statewide or regional season closures as a management measure to reduce harvest in the striped mullet fishery. AC members suggested putting a hard closure date on the fishery would result in effort shifts and participants trying to catch as much as they can before the closure. AC members also expressed concern that if the fishery were to close, roe buyers may not come to the state, eliminating the most profitable segment of the fishery. In addition, AC members felt having a complete closure would result in striped mullet discards occurring in other fisheries and suggested having a small bycatch allowance during the closed season may help prevent discards.

Option 2. Season Closure Options

a. No Season Closure

- + Short season closures
- + Does not have significant impacts on roe fishery
- + Does not have significant impacts on bait fishery
- + Landings less likely to be impacted by extreme weather events

## DRAFT

- Other measures may be more complicated to monitor and enforce
  - Other measures may be less effective
- b. Statewide Season Closure – October 29 - December 31
- c. Statewide Season Closure – November 7 - December 31
- + No additional resources required to implement
  - + No additional reporting burden on fishermen or dealers
  - + Reduces effort from current level
  - + High likelihood of ending overfishing and recovering stock
  - Weather may prevent fishing during open periods
  - Effort may increase during the open period reducing the effectiveness of the closure
  - Reduction in fishing mortality may not be achieved
  - Overfishing may still occur if recruitment is low
  - May adversely impact some fisheries and more than others
  - Create discards in the closed period
- d. Regional, North/South, Season Closure – North Oct. 28-Dec. 31 South Oct. 30-Dec.31
- e. Regional, North/South, Season Closure – North Nov. 7-Dec. 31 South Nov. 10-Dec. 31
- + No additional resources required to implement
  - + No additional reporting burden on fishermen or dealers
  - + Reduces effort from current level
  - + High likelihood of ending overfishing and recovering stock
  - Weather may prevent fishing during open periods
  - Effort may increase during the open period or open regions reducing the effectiveness of the closure
  - Reduction in fishing mortality may not be achieved
  - Overfishing may still occur if recruitment is low

May adversely impact some fisheries more than others Create discards in the closed period

### Additional Options

Several management options could be used in place of season closures or in conjunction with season closures to extend the open season, prevent excessive harvest during the open season, or prevent excessive discards. Many options, like trip limits, would likely need to be implemented in conjunction with small mesh gill net restrictions. See [Appendix 1](#) for a comprehensive review of the small mesh gill net fishery for striped mullet and information about small mesh gill net restrictions that could be implemented to support sustainable harvest.

### Trip Limits

Applying a daily trip limit or seasonal daily trip limit to striped mullet commercial catches could be used to limit harvest during the open season. Early in the year, commercial catches are smaller, but during the peak season in October and November landings per trip increase substantially (Tables 2.9 and 2.10). Striped mullet are primarily targeted with actively fished gear, like runaround gill nets, with smaller landings amounts coming from anchored gill nets (see [Appendix 1](#)). In high volume fisheries, daily trip limits would typically be expected to result in higher levels of discards. However, in a fishery like striped mullet where landings volume is seasonal, and trips are highly targeted, daily trip limits could be used to limit landings by discouraging participants from targeting large numbers of fish. The Striped Mullet FMP AC expressed some concern with using daily trip limits as a management tool, particularly when catch volume is high, but did suggest participant behavior would likely change to reduce effort and waste if daily trips limits are implemented. A lower daily trip limit could be applied early in the year when the fishery lands less and a larger daily trip limit could be applied during the peak fall season to allow for the typical

**DRAFT**

high-volume trips during the peak of landings. Restrictive daily trip limits may cause increased discards if participant behavior does not change, and trips continue to target the highest volume of striped mullet possible. It is also possible implementation of daily trip limits, particularly early season daily trip limits, may just delay harvest and necessary harvest reductions may not be realized. For this reason, combining daily trips limits with other management measures may be beneficial for reducing total harvest.

Table 2.9. Percentage of commercial trips landing striped mullet by landings bin (lb), 2017-2021.

Month	0-100	101-500	501-1,000	1,001-5,000	5,001-10,000	10,000+
Jan	75.3	18.2	4.4	2.1	<0.1	.
Feb	81.3	13.6	3.2	1.9	.	.
Mar	83.5	13.8	1.9	0.8	.	.
Apr	81.5	14.3	3.2	1.0	.	.
May	78.4	17.2	2.8	1.6	.	.
Jun	75.9	19.0	3.3	1.8	.	.
Jul	70.8	23.5	4.0	1.7	.	.
Aug	68.5	23.7	5.5	2.3	.	.
Sep	70.9	21.2	5.1	2.8	.	.
Oct	63.8	23.4	6.4	6.2	0.2	.
Nov	66.7	22.4	5.6	5.0	0.2	<0.1
Dec	76.5	17.4	4.4	1.7	.	<0.1
Total	71.7	20.2	4.8	3.3	0.1	<0.1

Table 2.10. Percent harvest reduction from 2019 commercial landings based on various daily trip limits and time periods.

Trip Limit (lb)	Reduction (%)		
	Jan-Sept, Dec	Oct-Nov	Total
50	33.1	50.4	83.4
75	30.3	47.8	78.1
100	27.9	45.5	73.5
150	24.3	41.7	66.0
200	21.3	38.5	59.8
300	16.8	33.3	50.2
400	13.6	29.4	42.9
500	11.0	26.1	37.2
600	9.0	23.4	32.4
1,000	3.8	15.5	19.3
1,100	3.0	14.1	17.1
1,250	2.1	12.3	14.4
1,500	1.2	10.0	11.2
1,750	0.7	8.2	9.0
2,000	0.4	6.8	7.2
2,500	0.1	4.8	4.9

Any daily trip limit option would need to be implemented in tandem with yardage limits on runaround gill nets. [Appendix 1](#) provides a review of gear characteristics in the small mesh gill net fishery. To effectively limit landings and prevent excessive discards, daily trip limit options should be implemented with restrictions limiting runaround gill nets to 300-500 yards. Members of the Striped Mullet FMP AC were not in favor of reducing the maximum yardage allowed for small mesh gill nets and thought the 800-yard maximum currently in place was restrictive enough.



## DRAFT

However, AC members also suggested commercial fishery participants would likely reduce the yardage they used to limit landings within a lower daily trip limit, essentially self-regulating. They did not suggest what a likely yardage reduction might be.

### Option 3: Trip limits

- + No additional resources required to implement
- + No additional reporting burden on fishermen or dealers
- + Reduces length of season closures
- + Limits impacts on roe fishery
- + Limits impacts on bait fishery
- Unlikely to meet sustainability objectives
- Increased discards

### Day of Week Closures

Day of week closures could be used to reduce effort and harvest. Generally, the highest landings occur early in the week (Monday and Tuesday) and drop as the week goes on (Table 2.11). However, late in the summer, a higher percentage of landings occur on Friday, likely to supply bait markets, and early in the roe season a higher percentage of landings occur on Saturday (Table 2.12). Typically, the lowest landings occur on Saturday and Sunday.

Table 2.11. Percent of harvest by day of week or combination of days, 2019 and 2017-2021.

Day(s) of Week	2019 Landings	Landings (%)	2017-2021 Landings	Landings (%)
Sunday	162,709	11.9	780,061	10.4
Monday	209,707	15.4	1,201,290	16.1
Tuesday	247,756	18.2	1,273,991	17.0
Wednesday	190,343	14.0	1,148,997	15.4
Thursday	191,313	14.0	1,038,243	13.9
Friday	173,090	12.7	1,048,743	14.0
Saturday	187,294	13.7	984,763	13.2
Saturday-Sunday	350,003	25.7	1,764,823	23.6
Friday-Sunday	523,093	38.4	2,813,566	37.6
Saturday-Monday	559,710	41.1	2,966,113	39.7
Friday-Monday	732,800	53.8	4,014,856	53.7

Table 2.12. Percent of commercial landings by day of week for each month, 2017-2021.

Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January	8.5	18.2	18.7	16.4	15.2	13.5	9.5
February	8.6	14.7	20.6	13.8	15.2	14.1	13.1
March	9.7	20.2	15.8	15.8	17.1	14.2	7.1
April	11.0	13.7	15.1	17.6	16.2	12.0	14.4
May	11.7	10.4	17.4	19.0	14.0	13.1	14.3
June	10.9	16.3	15.4	14.4	12.8	17.0	13.2
July	10.1	16.0	15.5	15.9	16.8	15.3	10.4
August	9.1	19.6	14.4	13.4	15.4	17.4	10.7
September	14.3	14.3	14.2	15.1	13.2	12.5	16.4
October	10.8	16.7	19.1	15.0	11.4	11.4	15.5
November	9.7	14.7	17.9	16.0	15.1	15.3	11.4
December	10.2	18.1	10.0	14.8	15.2	19.3	12.5

Striped mullet are most available to the fishery during the fall as they aggregate in schools and migrate through the estuary to the ocean to spawn. Conventional thinking suggests striped mullet migration increases, and they become most susceptible to the fishery ahead of cold fronts. Day

## DRAFT

of week closures could be effective at reducing harvest by preventing fishing during periods of ideal fishing conditions, particularly given the runaround gill net fishery is largely dependent on good weather days. For example, prohibiting fishing for striped mullet on Saturday and Sunday would have reduced 2019 landings by 25.7% (Table 2.11). This percentage reduction is relatively consistent from 2017-2019. There is the possibility prohibiting fishing on one day shifts effort to other days or that potential catch from one day can be recouped another day. However, given most of the striped mullet commercial landings occur during a brief period from October 15-November 15 limiting the number of days participants can fish is likely to reduce landings. The Striped Mullet FMP AC shared concerns about recoupment of catch but generally supported day of week closures, particularly weekend closures, as a method to reduce harvest. AC members further suggested allowing some limited bycatch on closed days as a method to reduce discards. In addition, the AC members felt weekend closures may reduce user group conflict and preferentially benefit full-time fishery participants.

### Option 4: Day of week closures

- + No additional resources required to implement
- + No additional reporting burden on fishermen or dealers
- + Reduces length of season closures
- + Limits impacts on roe fishery
- + Limits impacts on bait fishery
- + Could meet sustainability objectives
- + May prevent user group conflicts
- +/- May preferentially benefit full time participants
- +/- Weather could prevent fishing on open days
- Possibility for recoupment of catch
- Landings reduction highly dependent on external factors

### Combination of Measures

Fisheries are commonly managed using a combination of management measures rather than relying on a single, all-encompassing measure. Using a combination of management measures allows for more comprehensive management to address multiple objectives in addition to sustainability. From 1990-1992, the state of Florida required gill nets to have a minimum mesh size of three inches and striped mullet fishery weekend closures of 36 hours and 54 hours from October-January (Leard et al. 1995). In 1993, in response to a stock assessment indicating overfishing was occurring on the Florida striped mullet stock, the state adopted additional management measures including an extension of the 54-hour weekend closure to 72 hours from July to January, a pre-roe season (July-September) trip limit of 500 pounds, and a reduction of the maximum gill net yardage allowed to 600 yards. These additional measures were intended to reduce catch, increase escapement of spawners during the roe season, increase SPR to the 35% target in 5-7 years, and increase SSB by 90%. However, before success of these measures could be evaluated the state implemented a ban on gill nets, the primary gear used to harvest striped mullet, significantly reducing harvest in an absolute manner that did not preserve traditional fisheries and precluded determination of the effectiveness of the combination of management measures initially implemented.

Management measures directly limiting commercial harvest of striped mullet have never been implemented in North Carolina. Stock assessment results suggest some stock-recruit relationship for striped mullet, and projections indicate if average or higher recruitment occurs the stock recovers quickly even at moderate harvest reduction levels. A combination of management measures including end of season closures, day of week closures, and daily trip limits may be suitable to reduce harvest while allowing traditional fisheries and uses to continue. Some form of

## DRAFT

all these measures, except for end of season closures, were supported by the Striped Mullet FMP AC. However, given the life history of striped mullet and nature of the fishery, management measures should focus on reducing harvest during the peak of the fishery in the fall. The fall fishery accounts for most striped mullet commercial landings and is primarily composed of females because the fishery specifically targets roe mullet during their spawning migration. As an example, implementing a December closure, a year-round weekend closure (Saturday-Sunday), and a 1,000 lb daily trip limit from January-September would result in a 31.8% reduction (Option 5.h; Table 2.13). In this example there would be minimal discarding of fish from the daily trip limit early in the season allowing for catch to supply bait markets, the roe fishery would remain relatively unaffected except for the weekend closure, and the December closure would prevent expansion of the roe fishery later in the year.

The Striped Mullet FMP AC supported the combination management measure strategy to reduce striped mullet harvest. Specifically, the AC supported using a combination of day of week closures and daily trip limits to reduce harvest and minimize discards while avoiding extended end of year closures. The FMP AC recommended options 5.a, c, and f which would reduce harvest by 24.0% to 27.7% using combinations of seasonal daily trip limits, day of week daily trip limits, and day of week closures (Table 2.13). All options supported by the FMP AC meet statutory requirements by, at a minimum, rebuilding SSB to the threshold with a 50% probability of success. The FMP AC also supported an option that would implement a 1,000 lb daily trip limit from January 1 to September 30 and a year-round Saturday and Sunday daily trip limit of 100 lb. and an option that would implement a 1,000 lb daily trip limit from January 1 to October 15 and a year-round Saturday and Sunday daily trip limit of 100 lb. However, when a 30,000 lb stop net catch cap is factored into these options; they do not meet statutory requirements for recovering the stock and cannot be considered (see stop net section of this paper for additional details).

Following examples endorsed by the FMP AC, the DMF supports option 5.n which would implement seasonal and day of week daily trip limits to achieve a 35.5% commercial harvest reduction after accounting for a 30,000 lb. stop net catch cap. This option is projected to rebuild SSB to the target with a 99% probability of success and prevents any complete closure which might result in excessive discards. The seasonal and day of week daily trip limits are low enough that targeting high volumes of striped mullet should be prevented during these times. Implementing a 500 lb daily trip limit from February 1 through October 15 prevents high volume harvest early in the roe season and implementing a November 16 through January 31 50 lb daily trip limit essentially “freezes the footprint” of the roe fishery not allowing for expansion of the roe mullet season which historically occurs from approximately October 15 through November 15. The year-round 50 lb weekend trip limit will serve a similar purpose to a day of the week closure while still allowing a small incidental catch allowance to minimize discards. While complete end of year season closures are considered to be an effective conservation measure, the DMF took into consideration the request of the FMP AC to minimize discards and avoid extended end of season closures when making a recommendation. Recommending a higher reduction level than the FMP AC creates a buffer to account for uncertainty in behavior changes by participants in the fishery and allows for a greater probability of the stock rebuilding to the target.

**DRAFT**

Option 5: Combination of Measures  
See Table 2.13 for all options

Table 2.13. Management measure combinations to end overfishing and achieve sustainable harvest, compared to 2019 commercial landings. Unless otherwise specified all options for day of week closures or day of week reduced trip limits are applied year-round. All trip limit options are applied to a commercial fishing operation regardless of the number of persons, license holders, or vessels involved.

Option	Season Closure	Daily Trip Limit (lb.)	Day of Week Closure	% Reduction	% Reduction with 30k Stop Net Cap
5.a*	.	.	Sat-Sun	25.7	24.0
5.b	Dec 1-Dec 31	Jan-Sep 1,000; Sat-Sun 50 lb	.	28.1	26.4
5.c*	.	Jan-Sep 1,000	Sat-Sun	28.5	26.9
5.d	Dec 1-Dec 31	Jan-Oct 15 1,000; Sat-Sun 50 lb	.	28.9	27.3
5.e	Nov 12-Dec 31	1,000	.	29.1	27.5
5.f*	.	Jan-Oct 15 1,000 lb	Sat-Sun	29.3	27.7
5.g	.	Jan-Oct 15 and Dec 500; Sat-Sun 50 lb	.	31.3	29.8
5.h	Dec 1-Dec 31	Jan-Sep 1,000	Sat-Sun	31.8	30.2
5.i	.	Jan-Dec 100 lb; Feb-Sep 500 lb; Sat-Sun 50 lb	.	32.4	30.9
5.j	Dec 1-Dec 31	Jan-Oct 15 1,000	Sat-Sun	32.6	31.1
5.k	Nov 8-Dec 31	1,000	.	34.6	33.1
5.l	.	Jan-Dec 50 lb; Sat-Sun 50 lb; Feb-Oct 15 500 lb	.	34.6	33.2
5.m	.	Jan-Oct 15 and Dec 500	Sat-Sun	35.4	33.9
5.n <sup>+</sup>	.	Jan1-31 and Nov16-Dec31 50 lb., Sat-Sun 50 lb, Feb1-Oct15 500lb	.	36.9	35.5
5.o	.	Jan-Dec 100 lb; Feb-Sep 500 lb	Sat-Sun	36.5	36.0
5.p	Nov 12-Dec 31	1,000	Sat	38.6	37.2

\*Endorsed by Striped Mullet FMP AC

<sup>+</sup>DMF Recommendation

## DRAFT

### Stop Nets

The striped mullet beach seine fishery is a historically and culturally important fishery occurring primarily in conjunction with the Bogue Banks stop net fishery (See [Striped Mullet FMP](#) and [Amendment 1](#) for review of historical significance of stop net fishery). The stop net fishery has operated under fixed seasons and net and area restrictions since 1993. Currently, stop nets are limited to 4 nets, 400 yards in length, and minimum mesh size of eight inches outside panels and six inches middle section. Stop nets have typically been allowed along Bogue Banks (Carteret County) in the Atlantic Ocean from October 1 to November 30. However, the stop net season was extended to include December 3 to December 17 in 2015 due to minimal landings of striped mullet (Proclamation M-28-2015). In 2020 and 2021, the stop net fishery was open from October 15 through December 31 (Proclamations M-17-2020 and M-21-2021). Due to the schooling nature of striped mullet, the beach seine fishery is a high-volume fishery with the ability to land thousands of pounds during a single trip.

From 2017 to 2021 the beach seine/stop net fishery accounted for 2.1% of the total commercial striped mullet harvest. In these years the fishery has primarily operated in November with a few trips occurring in October and December, and minimal landings after November 15.

Current management of the stop net fishery has focused on [limiting interactions with protected species, primarily bottlenose dolphins](#), and limiting [conflict with the ocean gill net fishery and recreational pier fisheries](#). There are no management measures in the stop net fishery to directly limit harvest of striped mullet. A detailed review of current stop net management measures can be found in the [Striped Mullet FMP](#) (NCDMF 2006). Additional management of the stop net fishery is addressed in the [Spotted Seatrout FMP](#) (NCDMF 2012). The spotted seatrout management strategy grants the DMF Director latitude to reconcile the potentially high-volume catch of spotted seatrout with the 75 fish commercial trip limit. An agreement was reached between the Director, the Fisheries Management Section Chief, and the stop net fishery participants to manage the fishery at a 4,595 lb season quota for spotted seatrout. The agreement required the stop net fishery participants to report spotted seatrout harvest daily and remove the stop nets from the water when the quota is met.

Because commercial harvest reductions are necessary to end overfishing and recover the striped mullet stock, it may be necessary to consider additional stop net management measures. Stop nets could be considered with all other commercial gears and have the same restrictions applied as any other sector of the fishery. However, given the limited extent and seasonality of the fishery some restrictions may disproportionately impact the stop net fishery. For example, extended season closures would likely eliminate all harvest from stop nets (Table 2.14). In addition, restrictive trip limits may create excessive discards in the fishery. Setting a specific season resulting in proportional harvest reductions may be a more equitable management option. Alternatively, the stop net fishery could operate on a sector specific striped mullet catch cap, as is done with spotted seatrout. Given minimal participation and effort in the stop net fishery, along with the already required daily reporting of spotted seatrout landings, requiring additional daily reporting of striped mullet landings could be accomplished.

The Striped Mullet FMP AC supported the strategy to manage the stop net fishery under a sector specific catch cap but did not suggest any specific harvest or reduction level to achieve. After reviewing recent striped mullet commercial landings from stop nets, DMF recommends an annual catch cap for the stop net fishery of 30,000 lbs. This harvest level is in line with recent landings and prevents increasing harvest above those recent levels. DMF recommends the stop net season open annually on October 15 and be allowed through December 31 or whenever the 30,000 lb catch cap is reached. Consistent with requirements for spotted seatrout, this will require

## DRAFT

daily reporting of landings by the stop net crew and notification of when the net will be struck. Combination option reductions including a 30,000 lb. stop net fishery catch cap are presented in Table 2.13. With the addition of a set aside for the stop net fishery, reduction levels change only minimally.

Table 2.14. Percent reduction of striped mullet landings in the stop net fishery at various season closure options, 2017-2021.

Season Closure	Percent Reduction				
	2017	2018	2019	2020	2021
October 28-December 31	100.0	100.0	100.0	100.0	69.1
October 29-December 31	100.0	100.0	100.0	100.0	69.1
November 6-December 31	88.3	100.0	100.0	98.4	35.9
November 7-December 31	88.3	100.0	100.0	98.4	35.9
November 13-December 31	81.6	99.2	45.1	98.4	1.5

### Option 6: Stop net fishery management

a. Status Quo – Manage stop net fishery with management measures applied to the rest of the fishery

- + Prevents confusion
- + Minimizes user group conflict
- Some measures may completely eliminate stop net fishery
- May not meet sustainability objectives
- Could increase discards

b. Stop Net Specific Catch Cap

- + Allows continuation of fishery
- + Likely to meet sustainability objectives
- + Easy to monitor and enforce with minimal participation
- + Already being done in fishery for other species
- Could create user group conflict
- Daily reporting necessary

### Seasonal Catch Limits

Seasonal catch limits, otherwise known as a harvest quota or total allowable landings (TAL), is a management measure used to set harvest levels for a stock to end overfishing, recover the stock, or to maintain  $F$  and SSB at a specified management target. The intent of implementing a seasonal catch limit on any fishery is to prevent expansion and reduce or stabilize harvest. The benefit of managing harvest through a seasonal catch limit is the harvest level is directly set and controlled.

To calculate the seasonal catch limit, a reduction percentage must be established (21.3-35.4%). The selected reduction percentage is calculated based on 2019 commercial landings (1,362,212 pounds). The simplest method for seasonal catch limit implementation is a single statewide seasonal catch limit starting at the beginning of the year and running until the limit is met. The seasonal catch limit would be between 879,992 and 1,072,065 pounds depending on the reduction percentage. On average, from 2017 to 2021, the season would close between October 23 (35.4% reduction) and November 6 (21.3% reduction).



**DRAFT**

While implementing a seasonal catch limit with multiple allocations makes monitoring and enforcement more difficult, allocations could be divided by region, gear, or fishery segment. Most commercial landings come from the northern part of the state (north of the Highway 58 Bridge to Emerald Isle) with minimal contributions from the southern part of the state. More specifically, most commercial landings come from Dare and Carteret counties. From 1994 to 2021, 88.5% of commercial striped mullet landings have come from the northern region, and 11.5% of commercial landings have come from the southern region (Onslow, Pender, New Hanover, Brunswick). If this historical allocation is maintained, an example of a region-specific seasonal catch limit, at various reduction levels that end overfishing and recover the stock, is shown in Table 2.15. A region-specific seasonal catch limit could also be implemented using allocations from a more recent period to better reflect the current fishery, for example 2017-2021 (Table 2.16), or use allocations from 2019 which is the year reductions are calculated from (Table 2.17).

Table 2.15. Regional seasonal catch limit, split at the Highway 58 bridge to Emerald Isle, based on 1994-2021 allocation.

Region	1994-2021 Contribution	2019 Landings Contribution	Reduction and TAL	
			21.3	35.4
North	88.5	1,205,558	948,774	778,790
South	11.5	156,654	123,287	101,199
Total	100	1,362,212	1,072,061	879,989

Table 2.16. Regional seasonal catch limit, split at the Highway 58 bridge to Emerald Isle, based on 2017-2021 allocation.

Region	2017-2021 Contribution	2019 Landings Contribution	Reduction and TAL	
			21.3	35.4
North	92.8	1,264,133	994,872	816,630
South	7.2	98,079	77,188	63,359
Total	100	1,362,212	1,072,061	879,989

Table 2.17. Regional seasonal catch limit, split at the Highway 58 bridge to Emerald Isle, based on 2019 allocation.

Region	2019	2019 Landings	Reduction and TAL	
			21.3	35.4
North	94.1	1,281,870	1,008,832	828,088
South	5.9	80,342	63,229	51,901
Total	100	1,362,212	1,072,061	879,989

Most striped mullet commercial landings come from gill nets, specifically runaround gill nets. Minimal contributions come from other gears, but the stop net fishery has the potential to be a high-volume fishery. If a seasonal catch limit is implemented, it is possible the limit could be reached before the stop net fishery has a chance to operate. Accounting for stop net landings separately may be necessary to allow the fishery the chance to operate. See the stop net section of this issue paper for additional information and discussion.

A seasonal catch limit could be implemented specifically for the striped mullet roe fishery. This fishery occurs predominantly in October and November and typically accounts for up to 50% of the striped mullet commercial landings each year. This fishery is the most valuable portion of the



## DRAFT

striped mullet fishery and specifically targets large female striped mullet during the spawning migration. A seasonal catch limit could be developed and applied to October-November commercial landings and other measures could be used to limit harvest early in the year (e.g., trip limits, day of week closures, etc., see additional discussion in this paper). Once the roe fishery seasonal catch limit was met, the fishery would be closed through the end of the year. This would allow the most valuable segment of the fishery to operate independent of other fishery segments and have direct conservation benefits to the stock. However, shortening the fishery in this manner would likely create a “derby” fishery, where intensive fishing effort is focused during a short period, which is unpopular with the fishing industry and may create conflict.

To successfully manage harvest using a seasonal catch limit, the ability to accurately monitor harvest in a timely manner and have the flexibility to quickly implement management changes or close fishing sectors when the seasonal catch limit is being approached is essential. Currently, striped mullet commercial landings are reported by the North Carolina Trip Ticket Program, a fishery-dependent program initiated by NCDMF in 1994. A trip ticket is the form used by fish dealers to report commercial landings information. Trip tickets collect information about the fisherman, the dealer purchasing the product, the transaction date, crew number, area fished, gear used, and the quantity of each species landed for each trip. Each month dealers are required to send these [forms](#) to the NCDMF for processing.

If a seasonal catch limit is used to manage striped mullet harvest, changes to reporting requirements would need to occur. Daily striped mullet harvest reporting by dealers would be necessary during at least part of the year. Because the striped mullet fishery is highly seasonal, requiring daily reporting during the peak season in October-November until the seasonal catch limit is reached would be necessary. Prior to daily reporting, regular monthly, or weekly, reporting could be sufficient, but an accurate accounting of commercial landings would need to be finalized prior to a period of daily reporting. Implementation of daily or weekly reporting would require development of a permit with conditions requiring time of reporting.

If a seasonal catch limit is implemented, the use of other management measures to limit harvest would likely still be necessary to either extend the fishing season or ensure the catch limit is not exceeded. Specifically, trip limits and gill net yardage limits have been used to constrain harvest for fisheries managed using seasonal catch limits, but day of week closures may also have the same effect. See discussion about trip limits and day of week closures (this paper) for additional information.

If a seasonal catch limit were implemented for striped mullet, restrictions on the use of small mesh gill nets may be needed to prevent excessive discards. The use of anchored small mesh gill nets has been extensively reviewed as part of North Carolina FMPs for red drum ([NCDMF 2001](#); [2008](#)) and striped bass ([NCDMF 2004](#); [2013a](#)). Further restrictions would add additional management complexity to a gear that is already heavily regulated. Appendix 1 summarizes the small mesh gill net fishery in North Carolina including seasonality, gear characteristics and species targeted. If the use of small mesh gill nets is restricted to prevent excessive discards of striped mullet, other fisheries like spotted seatrout (*Cynoscion nebulosus*), bluefish (*Pomatomus saltatrix*), kingfish/sea mullet (*Menticirrhus* spp.), white perch (*Morone americana*), and spot (*Leiostomus xanthurus*) would likely be impacted.

It should be noted previous management has not directly limited the commercial harvest of striped mullet in North Carolina. In many cases, implementation of a seasonal catch limit has been a “last resort” measure when other methods of controlling harvest have been ineffective. At this point, there are no clear models for how participant behavior may change under various management

## DRAFT

scenarios. Implementation of seasonal catch limits in other fisheries has resulted in “derby fisheries” which are unpopular with participants. Implementation of a seasonal catch limit is the most definitive and blunt method for directly limiting harvest because if the limit is effectively monitored and enforced landings cannot exceed a set level even if variable fishery or stock conditions occur. However, seasonal catch limits are also the most resource intensive to monitor and enforce because of the necessity of daily reporting. Stock projections indicate if average or above average recruitment occurs the striped mullet stock recovers quickly even at moderate harvest reduction levels. If a seasonal catch limit is implemented, updates to the limit could only occur following stock assessment updates, which may constrain harvest excessively even when it is no longer necessary.

While the Striped Mullet FMP AC felt a seasonal catch limit would effectively limit harvest, members were concerned about how low the limit would be set initially, lack of flexibility in adjusting the limit, the potential of a “derby” fishery, the potential for a short season, and the need for a complete closure once the limit is reached. AC members did suggest using a seasonal catch limit but allowing some bycatch limit after the limit was reached. While this could be done, it would require lowering the catch limit to account for limited bycatch, further reducing the limit. While implementing a seasonal catch limit for striped mullet would be effective, given the characteristics of the striped mullet fishery, management objectives could be met using other management strategies that are much less resource intensive for monitoring and that would be less restrictive or constraining to this multi-faceted fishery.

### Option 7: Seasonal Catch Limit

- a. Status Quo – Manage fishery without Seasonal Catch Limit
  - + Other measures may be effective in reducing harvest
  - + Less impact to other fisheries
  - + No derby fishery
  - No hard cap on commercial landings
  
- b. Implement Statewide Seasonal Catch Limit
  - + Hard cap on landings
  - + Should meet sustainability objectives
  - As stock grows, TAL cannot be adjusted without stock assessment update
  - Will likely impact other fisheries
  - Increased discards
  - Unpopular with fishery participants
  - Resource intensive to monitor and enforce
  - Would need to establish new reporting requirements
  - Could disadvantage certain areas of the state
  
- c. Implement Regional (North/South) Seasonal Catch Limit
  - + Hard cap on landings
  - + Should meet sustainability objectives
  - + Equitable between areas of the state
  - As stock grows, TAL cannot be adjusted without stock assessment update
  - Will likely impact other fisheries
  - Increased discards
  - Unpopular with fishery participants
  - Resource intensive to monitor and enforce
  - Would need to establish new reporting requirements

## DRAFT

### Area Closures

Area closures are a management measure that could be used to achieve nonquantifiable harvest reductions in the striped mullet fishery in support of sustainability objectives. From 1997 to 2001, DMF conducted a striped mullet tagging study to examine movements and migration of striped mullet in North Carolina (Wong 2001). Of approximately 15,000 tagged fish, 384 were recaptured, indicating limited movement prior to the spawning season in October and November (Bacheler et al. 2005). Other than a generally southward movement, tag returns provide little information to inform potential area closures (Figure 2.6). Striped mullet are catadromous, migrating from freshwater to offshore marine waters in the fall to spawn. Because of this life history, striped mullet can be found in nearly all common habitat types including the water column, wetlands, submerged aquatic vegetation, soft bottom, and shell bottom with variation in preference due to location, season, and life stage (see base plan Biological Profile and Ecosystem Protection and Impact sections for further description and NCDMF 2022a). In addition, striped mullet nursery areas and spawning locations, habitats that would benefit most directly from area closures, are considered at a broad level (e.g., estuarine areas serve as nursery areas, spawning occurs in the ocean), therefore, identifying discrete areas for potential closures is difficult.

One recent example of an area closure impacting the striped mullet commercial fishery is the prohibition of all gill nets above the ferry lines in the Pamlico and Neuse rivers (Proclamation [M-6-2019](#); Figure 2.7). During an emergency meeting on March 13, 2019, the N.C. Marine Fisheries Commission directed the DMF Director to issue proclamation M-6-2019 pursuant to N.C. General Statute 113-221.1 (d). The Director has no legal authority to modify or change a proclamation when the proclamation is specifically directed by the Commission under this statute. The intent of the proclamation was to reduce dead discards of striped bass (*Morone saxatilis*) in support of a striped bass harvest moratorium in these rivers. The gill net closure was implemented with little supporting data and potential benefits to striped bass stocks will be evaluated in the future (NCDMF 2022b). However, recreational fishing groups have touted the gill net closure as a conservation success, particularly for striped mullet. Striped mullet are common above the ferry lines in each river and commercial fishery participants have expressed frustration that the closure prevents harvest of striped mullet, particularly early in the year and during the summer. However, because striped mullet migrate from estuarine waters to the ocean to spawn in the fall, the gill net closures in these rivers are not considered an effective conservation measure for striped mullet. Essentially, the gill net closure acts as a harvest delay measure, where striped mullet become available to the fishery when they cross the ferry line while moving down river to spawn.

While there may be fishery benefits to this harvest delay because harvest is delayed until the fall when demand and prices are higher, the closure prevents other components of the fishery (i.e., bait and food) from occurring in the area. Given seasonal migration patterns of striped mullet and characteristics of the fishery, area closures to effectively address sustainability objectives would likely need to be so large the fishery would have limited ability to operate. In this sense, season closures accomplish the same result as area closures with more clearly defined and obtainable objectives.

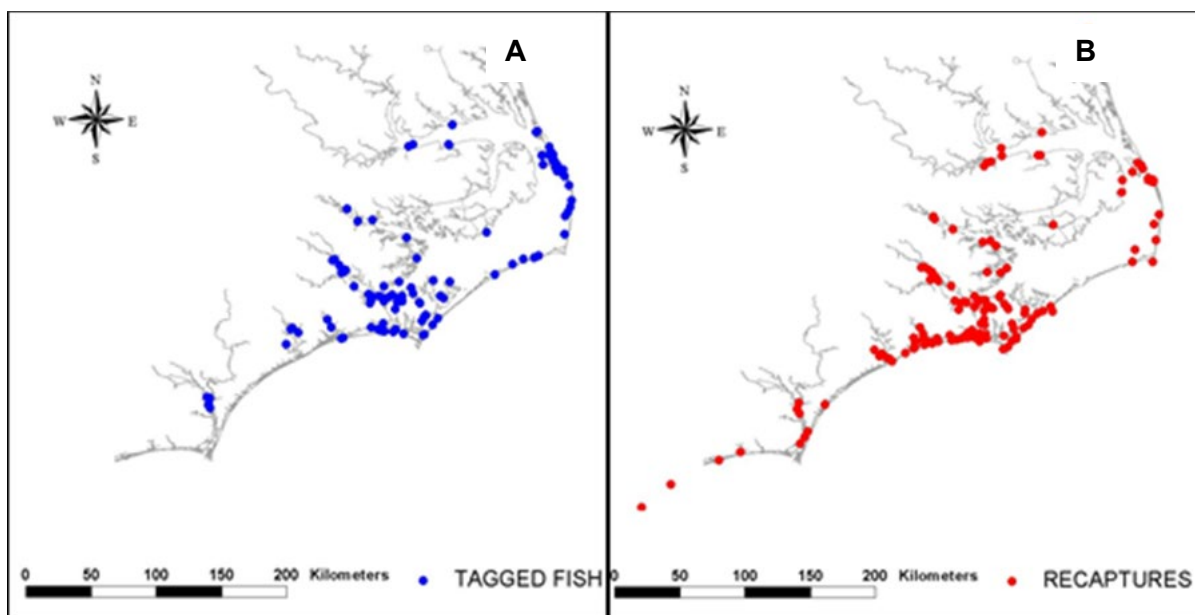


Figure 2.6. Tagging location of recaptured striped mullet (A) and recapture location for all striped mullet tag returns (B). A single dot may indicate multiple fish. From Wong (2001).

#### Option 8: Area Closures

- + No additional resources required to implement
- + No additional reporting burden on fishermen or dealers
- + Limits impacts on roe fishery
- + Limits impacts on bait fishery
- Unlikely to meet sustainability objectives
- Increased discards

#### Limited Entry

North Carolina General Statute 113-182.1 states the MFC can only recommend the General Assembly limit participation in a fishery if the commission determines sustainable harvest in the fishery cannot otherwise be achieved. The North Carolina striped mullet stock is overfished and overfishing is occurring so sustainability is a concern. However, there have never been any regulations directly limiting harvest of striped mullet in North Carolina, therefore it would be difficult to conclude limiting participation is the only way to achieve sustainable harvest. Supplement A to Amendment 1 implemented the first management measures directly limiting harvest of striped mullet in North Carolina and Amendment 2 will introduce more comprehensive measures. Success of Amendment 2 management measures can be used to gauge the need for limited entry in the future.

#### Option 9: Limited Entry

- + Likely to meet sustainability objectives
- + Limits impacts on roe fishery
- + Limits impacts on bait fishery
- Statutory requirements not met
- Additional resources required to implement
- Additional reporting burden on fishermen or dealers
- Increased discards

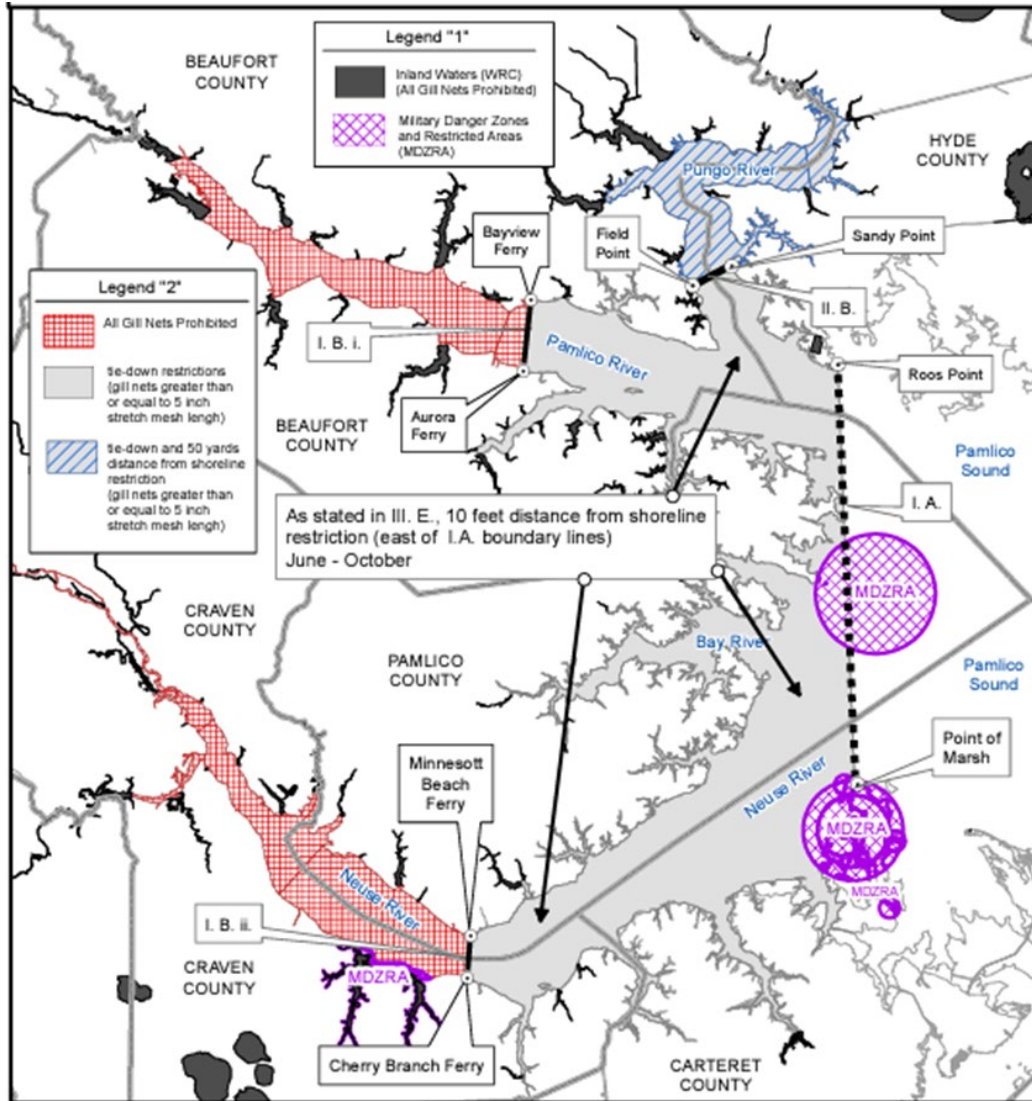


Figure 2.7. Map of the Pamlico and Neuse rivers showing existing gill net restrictions and the prohibition on the use of gill nets above the ferry line in each river.

### Adaptive Management

The current striped mullet adaptive management framework and trigger needs to be updated. Adaptive management is a structured decision-making process when uncertainty exists, with the objective to reduce uncertainty through time with monitoring. Adaptive management provides flexibility to incorporate new information and accommodate alternative and/or additional actions. The original FMP established minimum and maximum commercial landings triggers of 1.3 and 3.1 million pounds (NCDMF 2006). Amendment 1 updated the commercial landings triggers to 1.13 and 2.76 million pounds (NCDMF 2015). The triggers were set two standard deviations above or below the average commercial landings from 1994 to 2002 in the original FMP and the average commercial landings from 1994 to 2011 in Amendment 1. If annual landings fall below the minimum trigger, the DMF would investigate whether the decrease in landings is attributed to stock decline, decreased fishing effort, or both. If annual landings exceed the maximum trigger, the DMF would determine whether harvest is sustainable and what factors are driving the increase in harvest.



**DRAFT**

The commercial landings trigger has only tripped once since its adoption in 2006, when commercial landings fell below the minimum landings trigger in 2016 (Figure 2.8). Commercial landings are a poor indicator of stock abundance because they can be impacted by many factors including fishing effort and market demand. In addition, fishery efficiency could maintain higher, or consistent, commercial landings even as the stock declines. The adaptive management language in Amendment 1 was also vague, providing no specifics for determining stock status or the degree to which management measures should impact the fishery or reduce harvest. Updating the adaptive management framework for striped mullet is necessary to eliminate ambiguity and provide guidance for decision making processes.

Success or failure of any given management strategy to rebuild and sustain the stock is assessed relative to the established biological reference points and can only be determined through a stock assessment. Failure to achieve projected harvest reductions does not necessarily indicate failure of a management measure. It could indicate improving stock conditions but can only be measured with an updated stock assessment. Peer reviewed stock assessments and stock assessment updates should continue to be used to guide management decisions for the North Carolina striped mullet stock. The 2022 peer reviewed stock assessment (NCDMF 2022) should be updated, at least once between full reviews of the plan to gauge success in stock rebuilding and to monitor changes in *F*. The 2022 stock assessment had a terminal year of 2019; Supplement A management measures will be implemented in 2023, and Amendment 2 management measures will be implemented, at the earliest, in 2024. Given this timeline, the earliest a stock assessment update should be completed is during 2025 with the inclusion of data from 2024, though timing of a stock assessment update is at the discretion of the division. An update will determine if management targets are being met and allow for any adjustments to management measures via adaptive management if needed.

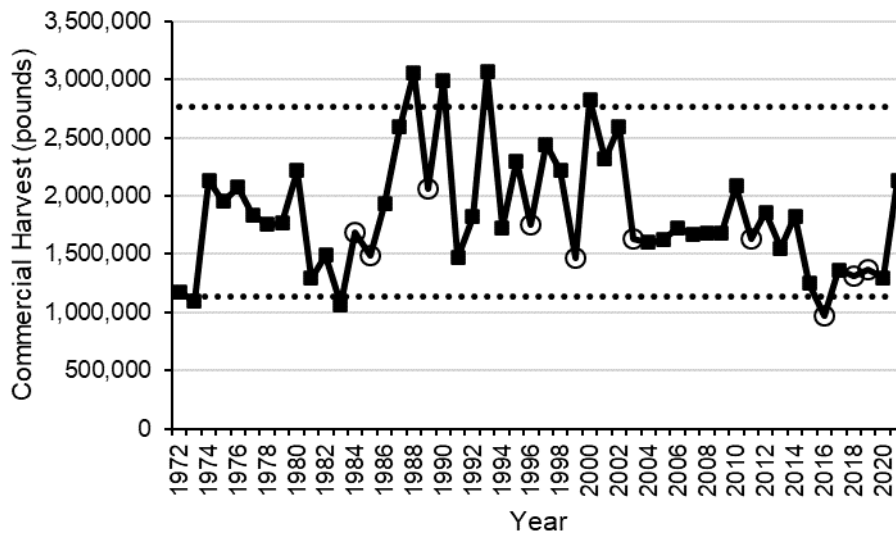


Figure 8. Striped mullet commercial landings (pounds) reported through the North Carolina Trip Ticket Program, 1972–2021 Lower dashed line (1.13 million lb.) and upper dashed line (2.76 million lb.) represent landings limits that trigger closer examination of data. Open circles represent years with significant hurricanes or storms.

The existing mullet rule, 15A NCAC 03M .0502, provides the Fisheries Director proclamation authority pursuant to 15A NCAC 03H .0103 to impose any of the following restrictions on the taking of mullet:

## DRAFT

- 1) Specify time;
- 2) Specify area;
- 3) Specify means and methods
- 4) Specify seasons
- 5) Specify size; and
- 6) Specify quantity, except as provided in Paragraph (a) of the rule.

Upon adoption of Amendment 2, the adaptive management framework will consist of the following:

### Option 10: Adaptive Management Framework

- 1) Update the stock assessment at least once in between full reviews of the FMP, timing at discretion of the division
  - a. If current management is not projected to meet management targets (management targets are SSB remaining between  $SSB_{Threshold}$  and  $SSB_{Target}$ , and  $F$  remaining between  $F_{Threshold}$  and  $F_{Target}$ ), then management measures shall be adjusted via an adaptive management update and implemented using the Fisheries Director's proclamation authority to reduce harvest to a level that is projected to meet the  $F_{Target}$  and  $SSB_{Target}$ .
  - b. If management targets are being met, then new management measures would not be needed, or current management measures could possibly be relaxed provided projections still meet management targets. When management targets are met, a striped mullet industry workgroup will be convened to discuss the possibility of "guard rail management" to maintain a sustainable harvest for the striped mullet stock.
- 2) Quantifiable management measures that may be adjusted using adaptive management include:
  - a. Season closures
  - b. Day or week closures
  - c. Trip limits
  - d. Gill net yardage or mesh size restrictions in support of the measures listed in a-c
- 3) Use of the Director's proclamation authority for adaptive management to meet management targets is contingent on:
  - a. Consultation with the Northern, Southern, and Finfish advisory committees
  - b. Approval by the Marine Fisheries Commission

Upon evaluation by the division, if a management measure adopted to achieve sustainable harvest (either through Amendment 2 or a subsequent revision) is not working as intended, then it may be revised or removed and replaced provided it conforms to steps 2 and 3 above.

### Future Monitoring

Once a stock assessment indicates the striped mullet stock has recovered and overfishing has ended the DMF will continue to monitor the stock using fishery-independent, fishery-dependent, and other data sources as part of the annual Fisheries Management Plan Review. If data indicates FMP review schedule changes are warranted, they will be recommended at the time of the annual FMP review.



## DRAFT

Table 2.18. Management measures to achieve sustainable harvest in the striped mullet fishery

Topic	Option	Description
Size Limit	1.a	Status quo – no size limit
	1.b	Minimum size limit and 3.25 ISM minimum gill net mesh size
	1.c	Minimum size limit and 3.75 or 4.0 ISM maximum gill net mesh size
	1.d	Seasonal maximum size limit and 3.75 or 4.0 ISM maximum gill net mesh size
Season Closure	2.a	No season closure
	2.b	Statewide season closure October 29–December 31
	2.c	Statewide season closure November 7–December 31
	2.d	Regional, North/South, season closure North Oct. 28–Dec. 31 South Oct. 30–Dec. 31
	2.e	Regional, North/South, season closure North Nov. 7–Dec. 31 South Nov. 10–Dec. 31
Trip Limit	3	
Day of Week Closure	4	
Combinations	5.a–q	See <a href="#">table 2.13</a>
Stop Net Fishery Management	6.a	Manage stop net fishery with same management measures applied to the rest of the fishery
	6.b	Stop Net specific catch cap
Seasonal Catch Limit	7.a	Status quo – no seasonal catch limit
	7.b	Statewide seasonal catch limit
	7.c	Regional, North/South, seasonal catch limit
Area Closures	8	
Limited Entry	9	
Adaptive Management	10	

## RECOMMENDATION

### DMF Recommendation:

The DMF recommends the following options that are projected to rebuild the striped mullet spawning stock biomass (SSB) to target:

#### Option 5n Combination of Measures

- 50 lb trip limit (Jan. 1-31 and Nov. 16 – Dec 31) (Table 2.18)
- Year-round Sat-Sun 50 lb trip limit (Table 2.18)
- 500 lb trip limit (Feb. 1 – Oct. 15) (Table 2.18)
- 30,000 lb stop net catch cap (Table 2.18)

#### Option 10: Adaptive Management Framework

## DRAFT

### APPENDIX 3. CHARACTERIZATION AND MANAGEMENT OF THE NORTH CAROLINA RECREATIONAL STRIPED MULLET FISHERY

#### ISSUE

Review available data and characterize the North Carolina recreational striped mullet fishery. Recommend potential non-quantifiable management measures in support of sustainable harvest objectives.

#### ORIGINATION

DMF

#### BACKGROUND

Striped mullet are not typically targeted by recreational anglers using hook and line though, striped mullet (*Mugil cephalus*) and white mullet (*M. curema*) are commonly used as bait fish by recreational anglers targeting a wide variety of inshore and offshore species (Nickerson 1984; NCDMF 2020). Juvenile mullet, referred to as finger mullet, caught by cast net are commonly used for bait by recreational anglers and are generally available in the summer and fall with the majority caught in July, August, September, and October (NCDMF 2020). Larger mullet are used as cut bait by anglers fishing from boats, piers, and the beach and are a popular bait used for targeting red drum (*Sciaenops ocellatus*).

The [2006 Striped Mullet FMP](#) (NCDMF 2006) characterized the cast net fishery for bait mullet and examined management measures to reduce discarding of bait mullet and prevent recreational cast netters from harvesting large amounts of bait mullet in North Carolina to sell in other states. The FMP established a possession limit of 200 mullets (white and striped in aggregate) per person per day for recreational purposes. A possession limit in the recreational fishery allows Marine Patrol to distinguish between commercial and recreational fishing operations and enforce accordingly. Marine Fisheries Commission Rule 15A NCAC 03M .0502 was amended to include section (a) “it is unlawful to possess more than 200 mullet per person per day for recreational purposes” and went into effect July 1, 2006. There are no other measures directly limiting the recreational harvest of striped mullet.

The [2022 stock assessment](#) concluded the striped mullet stock was overfished and overfishing is occurring. Development of recreational harvest estimates are described in the stock assessment report (NCDMF 2022). Briefly, annual estimates of recreational harvest (A, B1, A + B1) and associated percent standard error (PSE) values for striped mullet, white mullet, and mullet genus (striped or white mullet not identified to species) were obtained from the Marine Recreational Information Program (MRIP). Annual estimates of the average individual weight of harvested striped mullet were also obtained from MRIP. Estimates of live releases were not considered for inclusion in the stock assessment because mullet are primarily captured by recreational anglers for use as live bait and releases are assumed to have no associated post-release mortality and the assessment model only considers dead fish.

This paper further characterizes the recreational striped mullet fishery, available data, and data needs. Because estimates of recreational harvest are highly uncertain, management measures resulting in quantifiable harvest reductions cannot be recommended. Non-quantifiable management measures to support sustainable harvest and allow for recreational access to meet fishery needs are discussed.

## DRAFT

### AUTHORITY

N.C. General Statute  
G.S. 113-134 RULES  
G.S. 113-182 REGULATION OF FISHING AND FISHERIES  
G.S. 113-182.1 FISHERY MANAGEMENT PLANS  
G.S. 113-221.1. PROCLAMATIONS; EMERGENCY REVIEW  
G.S. 143B-289.52 MARINE FISHERIES COMMISSION-POWERS AND DUTIES

N.C. Rule  
15A NCAC 03M .0502 MULLET  
15A NCAC 03M .0101 MUTILATED FINFISH  
15A NCAC 03H .0103 PROCLAMATIONS, GENERAL

### DISCUSSION

#### Collection of Recreational Data

North Carolina conducts three fishery-dependent surveys to collect recreational harvest data. MRIP is the primary survey used to collect data on angler harvest from the ocean 0-3 miles from the coast and inside waters from the Virginia border south to the South Carolina border, excluding the Albemarle Sound. The Recreational Commercial Gear License (RCGL) Survey was conducted from 2002-2008 by the DMF to collect data from recreational fishermen who are licensed to harvest recreational limits of finfish using commercial gears. The third survey, which began in November 2010, is a monthly mail survey conducted to determine participation and effort of Coastal Recreational Fishing License (CRFL) holders who fish using cast nets and seines.

#### Marine Recreational Information Program

The MRIP is a national program administered through NOAA Fisheries that uses several surveys to estimate catch and effort data at a regional level. The Access Point Angler Intercept Survey (APAIS) provides the catch rates and species composition from anglers fishing in estuarine or marine waters (not freshwater). Anglers who have completed a fishing trip are intercepted and interviewed to gather catch and demographic data, including fishing mode (charter boat, private/rental boat, beach/bank, and man-made structures), area fished, and wave (each two-month sampling period). The MRIP implemented the Fishing Effort Survey (FES) in 2018, an improved methodology of the prior effort survey (Coastal Household Telephone Survey). The data from the APAIS and FES are combined to provide estimates of the total number of fish caught, released, and harvested. Additionally, information is collected on the weight of the harvest, total number of trips, and the number of people participating in marine recreational fishing. Additional information on MRIP is available through the [NOAA MRIP Website](#).

Striped mullet landings reported through MRIP are available at the species level through direct observation; however, releases are not observed and therefore are only available at the genus level, which includes both striped mullet and white mullet. Juvenile striped mullet and white mullet are not easily distinguished by recreational anglers, and harvest levels reported through MRIP at the species level are imprecise for both striped mullet and white mullet. To estimate species-level recreational harvest of striped mullet more accurately, the sum of recreational harvest reported for striped mullet and a proportion (29%) of the recreational harvest reported at the mullet genus level are used. This proportion was derived from a study by the DMF, indicating that about 29% of mullet harvested using cast nets are striped mullet (NCDMF 2006). The option to record harvest at the genus level for unobserved harvest of mullet only became available in 2002, therefore, MRIP estimates for recreational striped mullet harvest prior to 2002 are unreliable. Additionally,

**DRAFT**

recreational harvest is estimated by the number of fish harvested rather than in pounds because most mullet reported by anglers are not observed or weighed.

Estimates for recreational harvest of striped mullet peaked in 2002 and 2003 at about six million and four million fish harvested, respectively (Table 3.1). This increase coincides with an increase in commercial harvest (see Commercial Fishery section) and appears to be the result of increased striped mullet abundance. From 2004 to 2017, recreational harvest fluctuated between roughly 1 million and 1.8 million fish, then dropped to around 500 thousand fish harvested per year until 2021 when harvest increased to about 1.5 million fish (Table 3.1). The decline in harvest from 2018-2020 was likely the result of decreased striped mullet abundance and management measures that significantly shortend the recreational fishing season for southern flounder (*Paralichthys lethostigma*), a fishery where live finger mullet are a popular bait.

Table 3.1. Recreational harvest (number of fish landed) of striped mullet and mullet genus estimated from MRIP sampling for 2002 to 2021. Type A harvest is observed while Type B1 harvest is reported by the angler and never observed. Proportional standard error (PSE) values greater than 50 indicate an imprecise estimate (highlighted gray).

Year	Striped Mullet		Mullet Genus		Striped Mullet from Mullet Genus (29%)	Striped Mullet + Mullet Genus
	Harvest (A+B1)	PSE	Harvest (B1)	PSE	Harvest (B1)	Striped Mullet Total Harvest
2002	4,668,427	18.0	4,480,197	36.3	1,299,257	5,967,684
2003	3,368,881	29.6	2,487,885	20.4	721,487	4,090,368
2004	5,496	101.7	4,790,382	16.1	1,389,211	1,394,707
2005	10,795	61.5	4,487,719	21.4	1,301,439	1,312,234
2006	15,706	63.5	3,599,098	21.4	1,043,738	1,059,444
2007	301,004	81.3	5,052,995	22.3	1,465,369	1,766,373
2008	3,458	65.0	4,097,156	14.4	1,188,175	1,191,633
2009	83,480	90.6	3,736,571	14.3	1,083,606	1,167,086
2010	126,250	44.7	4,113,171	14.3	1,192,820	1,319,070
2011	80,267	28.6	3,653,514	14.3	1,059,519	1,139,786
2012	351,960	79.5	3,510,395	16.3	1,018,015	1,369,975
2013	150,020	53.9	4,493,166	20.5	1,303,018	1,453,038
2014	50,381	67.0	4,490,722	26.2	1,302,309	1,352,690
2015	142,696	64.5	4,405,800	21.5	1,277,682	1,420,378
2016	29,965	50.6	5,039,891	55.6	1,461,568	1,491,533
2017	37,791	43.9	5,170,318	55.2	1,499,392	1,537,183
2018	35,565	59.3	1,564,676	31.7	453,756	489,321
2019	324,986	52.0	817,596	25.3	237,103	562,089
2020	323,102	43.2	719,908	23.2	208,773	531,875
2021	1,194,213	73.6	1,002,195	31.6	290,637	1,484,850

Recreational striped mullet harvest increases beginning in May and June, coinciding with increasing recreational fishing effort, and peaks in September and October (Table 3.2, Figure 3.1). A cast net study conducted by the DMF in 2002 and 2003 found the composition of cast net catches was primarily white mullet but in November, striped mullet were 74% of the catch (NCDMF 2006). White mullet were a higher proportion of the catch at ocean or inlet stations compared to estuarine stations which had a higher percentage of striped mullet.

Table 3.2. Recreational harvest (number of fish landed) of striped mullet and mullet genus by wave estimated from MRIP sampling, 2002-2021. Striped mullet assumed as 29% of mullet genus.

Year	Wave	Striped Mullet	Mullet Genus	Striped Mullet from Mullet Genus (29%)	Striped Mullet + Mullet Genus
		Harvest (A+B1)	Harvest (B1)	Harvest (B1)	Striped Mullet Total Harvest
2017	Jan/Feb	.	.	.	.
2017	Mar/Apr	.	82,931	24,050	24,050
2017	May/June	27,708	284,430	82,485	110,193
2017	Jul/Aug	8,505	354,629	102,842	111,347
2017	Sep/Oct	1,579	4,432,737	1,285,494	1,287,073
2017	Nov/Dec	.	15,590	4,521	4,521
2018	Jan/Feb	.	.	.	.
2018	Mar/Apr	.	.	.	.
2018	May/June	2,239	136,595	39,613	41,852
2018	Jul/Aug	18,993	750,891	217,758	236,751
2018	Sep/Oct	13,505	457,709	132,736	146,241
2018	Nov/Dec	828	219,480	63,649	64,477
2019	Jan/Feb	.	.	.	.
2019	Mar/Apr	.	32,700	9,483	9,483
2019	May/June	11,773	86,637	25,125	36,898
2019	Jul/Aug	82,801	280,921	81,467	164,268
2019	Sep/Oct	217,317	367,020	106,436	323,753
2019	Nov/Dec	13,096	50,318	14,592	27,688
2020	Jan/Feb	1,648	1,540	447	2,095
2020	Mar/Apr	.	21,050	6,105	6,105
2020	May/June	6,308	78,303	22,708	29,016
2020	Jul/Aug	40,470	239,694	69,511	109,981
2020	Sep/Oct	274,675	370,617	107,479	382,154
2020	Nov/Dec	.	8,704	2,524	2,524
2021	Jan/Feb	.	6,340	1,839	1,839
2021	Mar/Apr	7,087	.	.	7,087
2021	May/June	1,336	144,319	41,853	43,189
2021	Jul/Aug	21,670	292,846	84,925	106,595
2021	Sep/Oct	1,164,119	558,690	162,020	1,326,139
2021	Nov/Dec	.	.	.	.

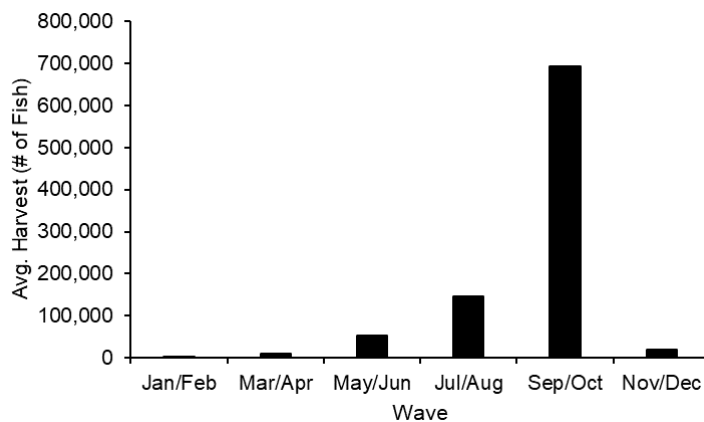


Figure 3.1. Average number of striped mullet harvested by the recreational fishery by wave based on MRIP estimates for 2017 to 2021.

The average length of striped mullet encountered in the North Carolina MRIP survey has ranged from a minimum of 7.2 inches (182 mm) in 2009 to a maximum of 13.6 inches (345 mm) in 2005 (Table 3.3). Because of small sample sizes, average lengths in almost all years of the time series are associated with high degrees of imprecision and are not considered reliable for characterizing recreational mullet harvest. Typically, only the largest mullet harvested by anglers are available

**DRAFT**

to be sampled by MRIP staff. Most mullet harvested for use as bait are released prior to returning to the dock. The cast net survey conducted by DMF found striped mullet in cast net samples ranging from 1.9-15.3 inches FL (50-390 mm) with 76% of the fish from 2.8-5.5 inches FL (70-140 mm; NCDMF 2006; Figure 3.2). White mullet from cast net samples ranged from 1.6-7.4 inches FL (40-190 mm) with 98% of the fish between 2.4-5.9 inches FL (60-50 mm). Sub-adult and adult striped mullet were occasionally caught in the independent samples, but no sub-adult or adult white mullet were captured.

Table 3.3. Average length and weight of individual striped mullet intercepted by APAIS interviewers in North Carolina, 2002–2021. Proportional standard error (PSE) values greater than 50 indicate an imprecise estimate (highlighted gray).

Year	Avg Length (in)	PSE	Avg Weight (lb)	PSE
2002	8.2	26.0	0.4	30.2
2003	9.2	44.9	0.4	48.8
2004	10.0	143.8	0.4	143.8
2005	13.6	87.2	1.3	88.1
2006	11.9	86.4	0.9	83.1
2007	10.6	113.5	0.7	110.4
2008	10.8	90.9	0.7	90.6
2009	7.2	122.9	0.2	110.1
2010	10.4	63.7	0.9	73.2
2011	10.7	41.4	0.7	48.0
2012	10.5	112.5	0.7	112.8
2013	10.8	74.9	0.9	76.8
2014	12.9	96.4	1.1	97.0
2015	12.4	91.7	1.3	94.9
2016	11.9	71.7	0.9	72.3
2017	10.8	62.3	0.7	61.8
2018	10.9	83.3	0.7	82.0
2019	12.5	73.9	1.1	77.0
2020	13.4	63.1	1.5	67.8
2021	7.8	100.6	0.2	92.1

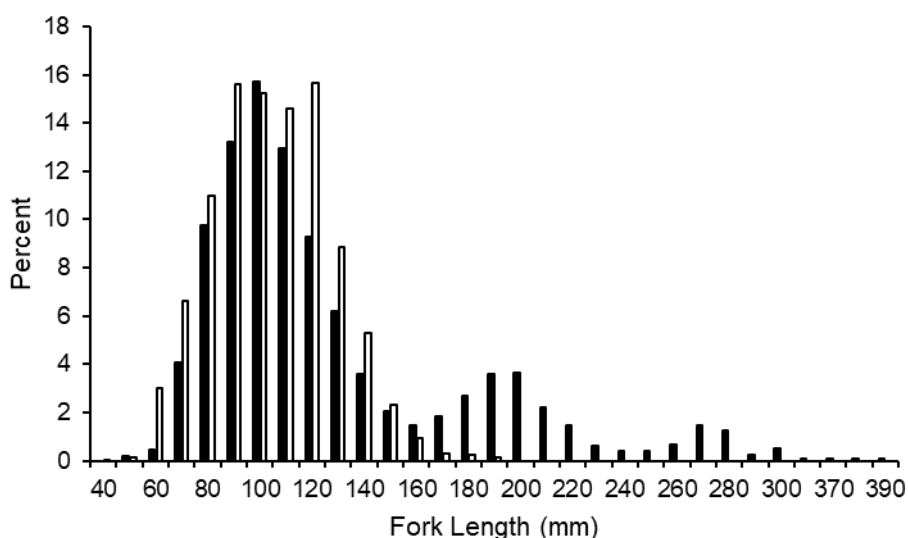


Figure 3.2. Length-frequency distributions of striped mullet (black bars) and white mullet (white bars) collected in the DMF fisheries-independent cast net study, 2002-2003.

### Recreational Commercial Gear Landings

Harvest data from the Recreational Commercial Gear License (RCGL) survey were collected from 2002 to 2008. The program was discontinued in 2009 due to a lack of funding and the minimal contributions from RCGL to overall harvest. From 2002 to 2008, it is estimated that RCGL holders harvested an average of 41,512 pounds per year (Table 3.4). Estimated landings of striped mullet by RCGL holders peaked in 2002 and 2008, the first and final years of the survey. See [Amendment 1 to the Striped Mullet Fishery Management Plan](#) for a detailed summary of RCGL landings and effort (NCDMF 2015). Since the discontinuation of the RCGL survey in 2008, the number of RCGL issued each year has declined. In 2008, 5,503 RCGL were issued and in 2021, 2,143 RCGL were issued (NCDMF 2022a). It is unlikely harvest from this license type has increased substantially, particularly as additional restrictions have been placed on the use of gill nets.

Table 3.4. North Carolina RCGL number of striped mullet harvested, pounds harvested, number released, and total number caught. Estimates are from a RCGL survey conducted from 2002-2008.

Year	Number Harvested	Pounds Harvested	Number Released	Total Number
2002	66,305	64,213	6,549	72,854
2003	28,757	24,774	3,514	32,270
2004	34,736	35,947	2,875	37,611
2005	35,888	36,314	3,492	39,380
2006	38,175	37,385	5,352	43,527
2007	35,472	40,168	7,449	42,921
2008	51,465	51,785	9,207	60,672

### Coastal Recreational Fishing License Survey

In October 2011, the DMF began a [mail survey](#) to develop catch and effort estimates for recreational cast net and seine use. The mail survey was established as a direct response to a lack of precision in MRIP estimates for difficult to sample or overlooked recreational fisheries and activities. The survey does not distinguish between striped and white mullet and all data should be interpreted with caution because the ratio of striped mullet to white mullet in the recreational catch differs between seasons and areas of the state. Estimates from the DMF CRFL mail survey vary by month but generally peak between July and October, consistent with MRIP harvest estimates. The mail survey is a good source of recreational mullet effort, catch, and harvest information because of the relatively high precision of estimates.

Between 2012 and 2021, estimated annual harvest by cast nets of striped and white mullet from the mail survey ranged from 347,187 fish in 2018 to 942,521 fish in 2015 and the estimated number of trips that harvested mullet ranged from 88,939 trips in 2018 to 206,876 trips in 2015 (Table 3.5).

Additional sampling effort should focus on better characterizing the recreational fishery for striped mullet by contextualizing data collected by the CRFL Mail Survey through fishery-independent sampling. Characterization of cast net fishery catch composition was completed by the DMF in 2002-2003. While these data have been important for understanding the recreational fishery, particularly the proportion of striped mullet in the cast net harvest, updating the study in the context of the current recreational fishery, should be completed. Further sampling should be stratified based on effort, timing and locations reported in the CRFL Mail Survey and, in addition to collecting species composition information, should focus on collecting length and age data.



DRAFT

Table 3.5. Total mullet (striped and white) harvest (numbers of fish), releases, catch and effort from the Coastal Recreational Fishing License Survey by wave, 2012-2021. Proportional standard error (PSE) values greater than 50 indicate an imprecise estimate (highlighted gray).

Year	Wave	Total Effort	PSE	Total Mullet Harvest	PSE	Total Mullet Release	PSE	Total Mullet Catch	PSE
2021	Jan/Feb	10,518	27.9	15,365	61.1	4,615	56.7	19,980	57.7
	Mar/Apr	50,726	29.9	52,766	42.7	14,592	46.4	67,358	42.0
	May/June	45,681	11.8	133,646	26.9	34,978	50.6	168,624	26.9
	Jul/Aug	41,346	15.3	254,681	22.8	69,914	24.5	324,594	20.7
	Sep/Oct	65,736	11.4	582,176	24.5	169,786	25.5	751,961	21.1
	Nov/Dec	36,335	14.6	183,488	27.2	57,966	29.4	241,453	26.9
	Total	250,379	9.3	1,222,120	14.2	351,850	15.9	1,573,970	12.8
2020	Jan/Feb	11,690	23.9	8,878	37.9	1,077	53.3	9,955	36.8
	Mar/Apr	11,799	17.5	25,426	29.9	4,549	47.5	29,975	29.7
	May/June	24,586	16.9	51,327	21.1	19,058	31.5	70,385	20.6
	Jul/Aug	64,789	14.8	152,144	21.3	78,864	25.8	231,008	19.8
	Sep/Oct	34,501	13.0	254,362	18.0	56,512	18.5	310,874	16.8
	Nov/Dec	26,203	14.9	136,348	19.6	46,406	22.1	182,754	18.7
	Total	173,568	7.6	628,485	10.5	206,466	13.0	834,951	9.9
2019	Jan/Feb	12,139	18.4	27,088	35.1	7,351	33.7	34,439	32.7
	Mar/Apr	9,674	21.4	11,023	37.4	3,517	47.8	14,540	34.7
	May/June	44,262	14.5	143,824	21.9	35,856	25.0	179,680	20.9
	Jul/Aug	39,904	14.5	210,967	20.3	122,890	33.6	333,857	20.8
	Sep/Oct	40,143	13.3	219,358	14.8	124,146	22.7	343,504	15.3
	Nov/Dec	16,819	20.1	76,555	30.7	27,125	33.3	103,680	30.0
	Total	162,941	7.1	688,815	10.0	320,885	16.5	1,009,700	10.2
2018	Jan/Feb	4,121	30.4	3,935	65.2	450	70.5	4,385	62.1
	Mar/Apr	8,950	20.8	16,051	41.4	4,560	43.2	20,611	39.5
	May/June	32,021	14.3	58,694	25.2	12,577	29.5	71,271	24.8
	Jul/Aug	11,125	20.3	43,317	24.2	13,418	33.4	56,735	24.5
	Sep/Oct	11,832	71.1	139,578	72.5	56,912	85.8	196,490	76.1
	Nov/Dec	20,890	16.3	85,612	18.4	20,987	23.6	106,599	18.4
	Total	88,939	12.1	347,187	30.1	108,904	45.4	456,091	33.5
2017	Jan/Feb	6,178	25.3	7,047	55.9	994	70.9	8,042	56.7
	Mar/Apr	16,513	15.9	36,630	25.7	13,572	30.5	50,202	26.3
	May/June	37,371	13.2	175,562	20.3	56,093	21.8	231,656	19.4
	Jul/Aug	54,353	13.8	218,395	15.6	89,636	19.3	308,031	15.0
	Sep/Oct	41,186	13.8	195,901	15.9	54,855	24.7	250,756	16.1
	Nov/Dec	27,259	14.4	89,393	18.6	24,847	28.1	114,240	18.9
	Total	182,861	6.7	722,929	8.8	239,998	11.3	962,927	8.7
2016	Jan/Feb	11,910	27.1	6,927	51.1	3,283	73.2	10,210	55.4
	Mar/Apr	13,803	20.5	17,333	44.5	1,238	63.5	18,571	42.0
	May/June	39,127	13.7	141,203	25.2	47,699	29.9	188,903	23.6
	Jul/Aug	51,085	11.8	306,614	18.3	109,938	22.3	416,552	17.7
	Sep/Oct	41,325	12.1	173,517	18.6	26,096	21.3	199,613	17.2
	Nov/Dec	34,673	16.3	102,800	26.5	31,637	33.1	134,437	27.0
	Total	191,922	6.4	748,394	10.9	219,892	14.3	968,286	10.7
2015	Jan/Feb	6,730	25.4	19,540	38.2	3,060	52.0	22,600	37.0
	Mar/Apr	13,981	18.5	25,446	28.2	5,880	33.6	31,326	27.9
	May/June	50,315	12.1	147,726	17.8	50,052	25.7	197,778	16.9
	Jul/Aug	71,656	10.7	400,123	13.9	156,696	19.1	556,819	14.1
	Sep/Oct	40,078	10.6	232,037	15.4	43,801	19.1	275,837	15.1
	Nov/Dec	24,116	17.8	117,650	21.6	36,550	26.2	154,200	21.9
	Total	206,876	6.0	942,521	8.4	296,039	12.2	1,238,561	8.5
2014	Jan/Feb	5,206	25.0	12,023	46.3	1076	57.9	13,099	44.3
	Mar/Apr	16,131	19.0	13,949	45.0	1,859	60.3	15,807	43.0
	May/June	35,945	13.5	110,839	20.8	28,262	22.4	139,101	19.5
	Jul/Aug	52,883	13.7	208,730	18.1	63,626	19.8	272,356	16.8
	Sep/Oct	63,224	12.7	362,912	14.6	136,337	16.4	499,250	13.5

## DRAFT

Year	Wave	Total Effort	PSE	Total Mullet Harvest	PSE	Total Mullet Release	PSE	Total Mullet Catch	PSE
	Nov/Dec	23,867	14.5	74,605	19.7	20,344	26.7	94,949	19.2
	Total	197,257	6.8	783,058	9.4	251,504	11.1	1,034,561	8.9
2013	Jan/Feb	13,053	18.3	57,047	30.0	7,862	36.4	64,909	29.7
	Mar/Apr	9,079	23.4	20,839	41.4	4,021	49.4	24,860	41.4
	May/June	24,541	11.8	65,072	24.4	21,957	30.5	87,030	24.8
	Jul/Aug	41,197	11.3	324,616	16.2	121,012	21.7	445,628	15.9
	Sep/Oct	25,872	16.3	159,790	20.9	39,065	26.1	198,855	19.8
	Nov/Dec	25,544	15.3	83,943	21.1	35,592	31.0	119,534	21.5
	Total	139,286	6.3	711,307	10.1	229,509	13.9	940,816	9.9
2012	Jan/Feb	10,484	22.1	23,346	32.8	9,050	42.3	32,395	32.4
	Mar/Apr	9,734	19.8	17,055	32.0	3,931	57.2	20,986	31.8
	May/June	20,903	12.5	84,180	25.7	26,845	32.9	111,025	23.9
	Jul/Aug	32,810	13.3	181,667	19.6	76,701	26.0	258,368	18.3
	Sep/Oct	30,377	11.2	292,859	13.0	72,004	16.1	364,862	12.6
	Nov/Dec	21,315	15.8	94,155	21.1	31,676	26.7	125,831	20.7
	Total	125,623	6.2	693,262	8.9	220,205	12.2	913,467	8.6

### Non-Quantifiable Management Options

Because of uncertainty in recreational harvest estimates, it is not possible to calculate harvest reductions from any specific management measure. Assumptions about species composition and imprecision of harvest estimates at the wave (two month) level prevent quantifying harvest reductions from season closures and bag limits. A lack of length composition information prevents calculation of harvest reductions from size limits. However, stock assessment sensitivity runs using alternative proportions of striped mullet in recreational landings had very little effect on model outputs and stock status (NCDMF 2022b). Regardless of recreational fishery magnitude or importance, implementing management on the commercial fishery without limiting recreational harvest could shift effort and have the potential to complicate enforcement. For example, the commercial striped mullet fishery supplies significant amounts of live and dead mullet to bait shops, which are purchased by recreational anglers for use as bait. If limits are put on commercial harvest, recreational anglers could increase directed effort for mullet to continue meeting the need for bait.

Whether recreational harvest reductions are quantifiable or not, sustainability objectives should be consistent between commercial and recreational fisheries management. Management options can be developed for the recreational fishery allowing for traditional resource use while supporting sustainability objectives.

If management measures like size limits, season closures, or day of week closures are adopted for the commercial fishery the same measures could be applied equally to the recreational fishery. However, given differing resource uses and fishery characteristics between the commercial and recreational fisheries, it is likely unnecessary to manage the sectors jointly. Using available data for guidance, specific management measures for the recreational fishery should be considered allowing for traditional use while supporting sustainability objectives.

### Bag and Size Limits

The 200 fish bag limit established in the [Striped Mullet FMP](#) does little to limit recreational harvest (Table 3.6). Most recreational trips that harvest mullet harvest fewer than 25 fish (Table 3.6). Reducing the bag limit further could prevent excessive recreational harvest of finger mullet while continuing to meet fishery demands. In addition, a vessel limit could be implemented in addition to an individual bag limit to prevent excessive harvest and waste. Cast net sampling indicates

## DRAFT

most finger mullet captured in cast nets are white mullet, and sub-adult and adult white mullet are rarely encountered in North Carolina waters (NCDMF 2006). A recreational bag limit of 50 fish and vessel limit of 100 fish would be sufficient to meet the needs of 97% of anglers who harvest mullet recreationally (Table 3.6) and most of the harvest would likely be white mullet. Members of the Striped Mullet FMP Advisory Committee were in favor of managing the recreational striped mullet fishery separate from the commercial fishery and suggested reducing the bag limit as a good approach. Specifically, members of the AC supported reducing the bag limit somewhere in the range of 50-100 fish per person per day and expressed support for measures similar to those used to manage the Florida recreational mullet fishery including a 50 fish bag limit and vessel limit of 100 fish per vessel from February 1 through August 31 and 50 fish per vessel from September 1 through January 31.

Implementing a reduced bag limit for mullet over a certain size would specifically prevent excessive harvest of striped mullet and could be implemented specifically during the spawning season to reduce harvest on the spawning stock while allowing continued harvest of finger mullet. For example, implementing a bag limit on mullet greater than 8-inches (Figure 3.2), would still allow harvest of finger mullet, which are primarily white mullet and prevent excessive recreational harvest of larger mullet. A bag limit, somewhere in the range of 10-25 mullet greater than 8-inches would allow continued use of striped mullet as cut bait. There was not strong support for size specific bag limits from members of the FMP AC. Because of difficulty catching larger mullet in cast nets, AC members felt minimal harvest of these larger fish occurred but wanted to be able to catch these fish in large quantities when they were available for use as cut bait.

Table 3.6. Frequency and percentage of recreational anglers harvesting mullet by harvest bin, 2002-2021.

Number Harvested	Frequency	Percent
1-25	2,644	85
26-50	386	12
51-75	34	1
56-100	19	1
101-150	8	<0.1
151-200	5	<0.1
200+	7	<0.1
Total	3,103	100

### Option 1. Recreational Vessel and Bag Limit

#### a. Status Quo

- + No new regulations
- + Allows continuation of fishery that mostly harvests white mullet
- Does not reduce harvest of striped mullet
- No preferential protection for largest fish

#### b. Reduce Recreational Bag Limit (50 fish)

- + Provides some reduction in striped mullet harvest
- + Allows continuation of fishery that mostly harvests white mullet
- No preferential protection for largest fish
- Discarding could occur

#### c. Reduce Recreational Bag Limit (50 fish) and Implement Vessel Limit (100 fish)

- + Provides some reduction in striped mullet harvest
- + Allows continuation of fishery that mostly harvests white mullet
- No preferential protection for largest fish

## DRAFT

- Discarding could occur
- d. Bag Limit (10, 15, 20, 25, etc.) for Fish Over 8-Inches
  - + Provides some reduction in striped mullet harvest
  - + Allows continuation of fishery that mostly harvests white mullet
  - + Directs harvest to finger mullet which may experience high natural mortality
  - + Provides preferential protection for largest fish
  - + Allow larger mullet to be harvested for personal consumption or cut bait
  - Limits use of larger mullet for personal consumption and cut bait
  - Discarding could occur
- e. Seasonal (October-December) Bag Limit (10, 15, 20, 25, etc.) for Fish Over 8-Inches
  - + Provides some reduction in striped mullet harvest
  - + Allows continuation of fishery that mostly harvests white mullet
  - + Directs harvest to finger mullet which may experience high natural mortality
  - + Provides preferential protection for largest fish
  - + Allow larger mullet to be harvested for personal consumption or cut bait
  - + Limits harvest during spawning season
  - Limits use of larger mullet for personal consumption and cut bait
  - Discarding could occur

For Hire Vessel operations often harvest mullet ahead of time for their customers to use as bait during charter and head boat trips. Because For Hire licenses allow vessels in North Carolina to carry six or more passengers, For Hire Vessel operations may use more mullet as bait during fishing trips than typical recreational fishing vessels. If a vessel limit for mullet is implemented, it could be applied equally to both private vessel trips and For Hire Vessel trips; however, this would not allow for traditional use of mullet in the For Hire fishery. Implementing a vessel limit specific to For Hire Vessels (as defined in G.S. § 113-174) while engaged in For-Hire Vessel operations, would limit excessive recreational harvest of striped mullet while continuing to meet fishery demands. A similar strategy is currently used to manage the For Hire cobia fishery in North Carolina.

Alternatively, the individual bag limit could be applied to all passengers on board and the vessel limit could be suspended during For Hire Vessel operations, allowing for traditional use of the fishery while limiting harvest. In this scenario, the maximum number of mullet allowed to be held onboard for use as bait prior to the beginning of a trip, during a trip, or after a trip is completed would be the individual bag limit multiplied by the number of customers allowed on the vessel. During a trip, the number of mullet in possession to be harvested could not exceed the individual bag limit multiplied by the number of anglers onboard the vessel during the trip. The For Hire Vessel trip would be defined as a period of time in which fishing is conducted, beginning when the vessel leaves port and ending when the vessel returns to port. A similar strategy has been implemented by the Atlantic States Marine Fisheries Commission's Addendum III to Amendment 1 to the Interstate Fishery Management Plan for Atlantic Croaker to allow For Hire Vessel operations to use live Atlantic croaker as bait.

### Option 2. For Hire Vessel and Bag limit

- a. Reduce Recreational Bag Limit (50 fish), Implement Vessel Limit (100 fish), and Implement For Hire Vessel Limit (500 fish, etc.)
  - + Provides some reduction in striped mullet harvest
  - + Allows continuation of fishery that mostly harvests white mullet
  - + Allows for traditional use of fishery while engaged in For Hire Vessel operation

**DRAFT**

- No preferential protection for largest fish
- Discarding could occur

b. Reduce Recreational Bag Limit (50 fish) with an Exception for For Hire Vessel Operations to Possess a Bag Limit for the Number of Anglers They are Licensed to Carry (Including in Advance of a Trip).

- + Provides some reduction in striped mullet harvest
- + Allows continuation of fishery that mostly harvests white mullet
- + Allows for traditional use of fishery while engaged in For-Hire Vessel operation
- No preferential protection for largest fish
- Discarding could occur

c. Reduce Recreational Bag Limit (50 fish) and Implement Vessel Limit (100 fish) with an Exception for For Hire Vessel Operations to Possess a Bag Limit for the Number of Anglers They are Licensed to Carry (Including in Advance of a Trip).

- + Provides some reduction in striped mullet harvest
- + Allows continuation of fishery that mostly harvests white mullet
- + Allows for traditional use of fishery while engaged in For-Hire Vessel operation
- No preferential protection for largest fish
- Discarding could occur

d. Mirror Option 1 management decision

**Adaptive Management**

[See Appendix 2](#). If adaptive management is adopted as part of Amendment 2, the specifications would apply to the commercial and recreational fisheries for mullet.

Table 3.7. Management options for recreational harvest of striped mullet.

Topic	Option	Description
<u>Vessel and Bag Limit Options</u>	1.a	Status Quo
	1.b*	Reduce Recreational Bag Limit (50 fish)
	1.c	Reduce Recreational Bag Limit (50 fish) and Implement Vessel Limit (100 fish)
	1.d	Bag limit (10, 15, 20, 25, etc.) for Fish Over 8-inches
	1.e	Seasonal (October-December) Bag Limit (10, 15, 20, 25, etc.) for Fish Over 8-inches
<u>For Hire Vessel Operations Options</u>	2.a	Reduce Recreational Bag Limit (50 fish), Implement Vessel Limit (100 fish), and Implement For Hire Vessel Limit (500 fish, etc.)
	2.b*	Reduce Recreational Bag Limit (50 fish) with an exception for For Hire Vessel Operations to Possess a Bag Limit for the Number of Anglers They are Licensed to Carry (Including in Advance of a Trip)
	2.c	Reduce Recreational Bag Limit (50 fish) and Implement Vessel Limit (100 fish) with an exception for For Hire Vessel Operations to Possess a Bag Limit for the Number of Anglers They are Licensed to Carry (Including in Advance of a Trip)
	2.d	Mirror Option 1 Management Decision

\*Indicates option recommended by the Striped Mullet Plan Development Team (PDT)

## DRAFT

### PROPOSED RULE(S)

No rule changes are necessary. Existing MFC rule 15A NCAC 03M .0502(b) delegates authority to the Fisheries Director to issue a proclamation to implement any of the management options proposed in Amendment 2.

#### "Mullet" Rule (15A NCAC 03M .0502)

Existing MFC rule 15A NCAC 03M .0502(b), "Mullet", delegates authority to the Fisheries Director to issue a proclamation to implement any of the management options proposed in Amendment 2. The Fisheries Director, consistent with the variable conditions provided in 15A NCAC 03H .0103 including compliance with FMPs, may impose any of the following restrictions on the taking of mullet:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods;
- (4) specify season;
- (5) specify size; and
- (6) specify quantity, except as provided in Paragraph (a) of this Rule.

Paragraph (a) of the rule sets a fixed maximum possession limit of 200 mullet per person per day for recreational purposes. However, given the current stock status this rule will likely be amended in the second round of the periodic review of rules (G.S. § 150B-21.3A) in the late 2020s, to remove the recreational bag limit of 200 mullet. If changes to the bag limit are needed before that time, the Fisheries Director has authority to suspend this portion of the rule (15A NCAC 03I .0102). Potentially amending the rule to remove the bag limit during the next periodic review of the rule would simplify the process for implementing management measures for the Striped Mullet FMP.

#### *"Mutilated Finfish" Rule (15A NCAC 03M .0101)*

The MFC originally adopted the "Mutilated Finfish" rule (15A NCAC 03M .0101) in 1991 with the intent of providing added resource protection for finfish species subject to a size or bag limit. In response to the 200 fish bag limit for mullet, in July 2006, the rule was amended to add mullet as an exception, otherwise the use of mullet as cut bait would not have been allowed to continue. At that time, overfishing of the striped mullet stock was not occurring and the 200 fish bag limit was high enough there was little concern about enforceability.

However, the rule did not provide flexibility to manage variable conditions for species commonly used as cut bait, particularly when new regulations implemented to meet sustainability objectives (i.e., size or bag limits) make species subject to this rule. The MFC proposed amendments to the April 1, 2019 version of the rule in August 2022 to read:

#### 15A NCAC 03M .0101                    MUTILATED FINFISH

*It shall be unlawful to possess aboard a vessel or while engaged in fishing any species of finfish that is subject to a ~~size or harvest restriction~~ possession limit, including size limit, recreational bag limit, commercial trip limit, or season, without having head and tail attached, unless otherwise specified in a rule of the Marine Fisheries Commission or a proclamation issued pursuant to a rule of the Marine Fisheries Commission.*

- (1)     ~~mullet when used for bait;~~*



## DRAFT

- (2) ~~hickory shad when used for bait, provided that not more than two hickory shad per 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 rule .0520 of this Subchapter.~~

The use of mullet as cut bait is an enforcement issue, not a conservation issue but given the updated stock status for striped mullet and the need to implement conservation measures to rebuild the striped mullet stock, removing the mullet exception from the "Mutilated Finfish" rule is justified to support enforcement of sustainability measures like bag or size limits within the context of the "Mullet" rule and any proclamation issued under its authority. The use of mullet as cut bait should continue, to allow for traditional use and to meet stakeholder preferences.

In June 2023, the N.C. Rules Review Commission (RRC) objected to the amendments proposed to the "Mutilated Finfish" rule for unclear or ambiguous language (G.S. § 150B-21.9(a)(2)). In October 2023, the RRC returned the "Mutilated Finfish" rule to the MFC in accordance with the requirements of Section 21.2.(m) of Session Law 2023-134. The law change resulted in a situation where the MFC was unable to address the RRC's earlier objection within the prescribed time limit. Nothing from that action would prevent a new proposed amendment to be pursued.

The amended "Mutilated Finfish" rule would have allowed the Fisheries Director to use proclamation authority that is set forth in other MFC rules (like the "Mullet" rule) to allow the use of any species as cut bait, subject to the Fisheries Director's discretion consistent with the variable conditions provided in 15A NCAC 03H .0103, including compliance with FMPs. This option would simplify the rule by including all requirements for a specific species within the same rule or proclamation.

## RECOMMENDATION

### DMF Recommendation:

Recreational individual bag limit of 50 fish

Exception for For Hire Vessel Operations to Possess a Bag Limit for the Number of Anglers They are Licensed to Carry (Including in Advance of a Trip)

Adopt proposed adaptive management framework (See Appendix 2).



## REFERENCES

- Able, Kenneth W, and P Michael Fahay. 1998. *The First Year in the Life of Estuarine Fishes in the Middle Atlantic Bight*. Rutgers University Press.
- Ajah, P. O., and S. A. Udoh. 2013. "Food and feeding habits, condition factor and length-weight relationships of *Mugil cephalus* and *Pseudotolithus elongatus* in Cross River estuary, Cross River State, Nigeria." *Tropical Freshwater Biology* 21(2): 59-70.
- Anderson, William W. 1958. "Larval development, growth, and spawning of striped mullet (*Mugil cephalus*) along the south Atlantic coast of the United States." *Fishery Bulletin* 144: (Fishery Bulletin 144:501-519) 501-519.
- Apekin, V. S., and N. I. Vilenskaya. 1979. "A description of the sexual cycle and the state of the gonads during the spawning migration of the striped mullet, *Mugil Cephalus*." *Journal of Ichthyology* 18: 446-456.
- Arnold, E. L., Jr., and J. R. Thompson. 1978. "Offshore spawning of the striped mullet, *Mugil cephalus*, in the Gulf of Mexico." *Copeia* 2: 130-133.
- Bacheler, Nathan M., Richard A. Wong, and Jeffrey A. Buckel. 2005. "Movements and Mortality Rates of Striped Mullet in North Carolina." *North American Journal of Fisheries Management* 25: 361-373.
- Baker, R., B. Fry, L. P. Rozas, and T. J. Minello. 2013. "Hydrodynamic regulation of salt marsh contributions to aquatic food webs." *Marine Ecology Progress Series* 490: 37-52.
- Barnette, M. C. 2001. *A review of the fishing gear utilized within the Southeast Region and their potential impacts on essential fish habitat*. St. Petersburg, Florida: National Marine Fisheries Service.
- Barros, N. B., and D. K. Odell. 1995. "Bottlenose dolphin feeding and interactions with fisheries in the Indian River Lagoon system, Florida." *Bulletin of Marine Science* 57(1): 278-279.
- Bekova, R., G. Raikova-Petrova, D. Gerdzhikov, E. Petrova, V. Vachkova, and D. Klisarova. 2013. "Food spectrum of grey mullet (*Mugil cephalus* L.) along the Bulgarian Black Sea coast. ." *Agricultural Science and Technology* 5(2): 1313-8820.
- Bettaso, R. H., and J. N. Young. 1999. *Fish and Game* 85: 75-76.
- Bichy, J B, and C Taylor. 2002. "Striped mullet life history: An assessment of hydroacoustic sampling feasibility, survival, and reproduction. North Carolina Sea Grant, 99-FEG-04, Final Report." Raleigh, North Carolina.
- Bichy, John B. 2000. "Reproductive biology of striped mullet, *Mugil cephalus*, in North Carolina. Final Report to North Carolina Sea Grant. Fishery Resource Grant Project No. 97-FEG-09." 90.
- Bichy, John Brooke. 2004. *A Life History Assessment on the Reproduction and Growth of Striped Mullet, *Mugil cephalus*, in North Carolina*. Master's Thesis. Raleigh, North Carolina: North Carolina State University.
- Binion-Rock, S. M. 2018. *Trophic dynamics and ecosystem modeling of finfishes in Pamlico Sound, North Carolina*. Doctoral Dissertation. Raleigh, North Carolina: North Carolina State University, 323 p.
- Bishop, J. M., and J. V. Miglarese. 1978. "Carnivorous feeding in adult striped mullet ." *Copeia* 1978(4): 705-707.
- Blaber, S. J. M., and A. K. Whitfield. 1977. "The feeding ecology of juvenile mullet (*Mugilidae*) in south-east African estuaries." *Biological Journal Linnean Society* 9: 277-284.
- Blaber, S.J. M. 1987. "Factors affecting recruitment and survival of Mugilid in estuaries and coastal waters of southeastern Africa." *American Fisheries Symposium* 1: 507-518.
- Blanton, J. O., F. E. Werner, B. O. Kapolnai, D. Knott, and E. L. Wenner. 1999. "Wind-generated transport of fictitious passive larvae into shallow tidal estuaries." *Fisheries Oceanography* 8(2): 210-223.
- Bliss, T., A. Power, T. Moore, and R. Walker. 2010. "Temporal and Spatial Habitat Utilization of Intertidal Oyster Reefs by Commercial, Recreational, and Ecologically Important Fish and Crustation Species in Georgia's Tidal Creeks. University of Georgia, Final Report." Athens, Georgia, 46.
- Breder, C. M. 1940. "The spawning of *Mugil cephalus* on the Florida west coast." *Copeia* 1940 (2): 138-139.
- Breuer, J. P. 1957. "Ecological survey of Baffin and Alazan Bays, TX. ." *Publications of the Institute of Marine Science, University of Texas* 4(2): 134-155.
- Broadhead, Gordon C. 1953. *Investigations of the black mullet, *Mugil cephalus* L., in northwest Florida, FL*. Florida State Board of Conservation Marine Lab Technical Series No. 7., 33 p.

## DRAFT

- Burgess, C. C., A. J. Bianchi, J. Murauskas, and S. Crosson. 2007. *Impacts of hurricanes in North Carolina fisheries*. Morehead City, North Carolina: NCDMF, 255.
- Byrd, B. L., A. A. Hohn, G. N. Lovewell, K. M. Altman, S. G. Barco, A. Friedlaender, C. A. Harms, et al. 2014. "Strandings as indicators of marine mammal biodiversity and human interactions off the coast of North Carolina." *Fishery Bulletin* 112(1): 1-23.
- Byrd, B. L., and A. A. Hohn. 2017. "Differential risk of bottlenose dolphin (*Tursiops truncatus*) bycatch in North Carolina, USA." *Aquatic Mammals* 43(5): 558-569.
- Byrd, Barbie L., and Aleta A. Hohn. 2010. "Challenges Documenting *Tursiops truncatus* Montagu (Bottlenose Dolphin) Bycatch in the Stop Net Fishery along Bogue Banks, North Carolina." *Southeastern Naturalist* 9(1): 47-62.
- Caddy, J. F., and R. Mahon. 1995. *Reference points for fisheries management*. Rome, Italy: Food and Agricultural Organization of the United Nations.
- Cardona, L. 2000. "Effects of salinity on the habitat selection and growth performance of Mediterranean flathead grey mullet *Mugil cephalus* (Osteichthyes, Mugilidae)." *Estuarine, Coastal, and Shelf Science* 50(5): 727-737.
- Charmichael, J, and R Gregory. 2001. *Cooperative research on the biology and stock assessment of fishes along the southeast coast of the U.S.: Part IV striped mullet, age and growth of striped mullet in North Carolina. Marine Fisheries Initiative (MARFIN) Final Report*. Morehead City, North Carolina: North Carolina Division of Marine Fisheries, 10.
- Chestnut, A F, and H S Davis. 1975. *Synopsis of marine fisheries of North Carolina, Part I: Statistical Information, 1880-1973*. Raleigh, North Carolina: North Carolina Sea Grant Program Publication, UNC-SG-75-12, Final Report, 425.
- Churchill, J. H., F. E. Werner, R. Luettich, and J. O. Blanton. 1997. "Flood tide circulation near Beaufort Inlet, NC: implications for larval recruitment." *Estuaries* 22.
- Collins, M. R., and B. W. Stender. 1989. "Larval striped mullet (*Mugil cephalus*) and white mullet (*M. curema*) off the southeastern United States." *Bulletin of Marine Science* 45: 580-589.
- Collins, Mark R. 1985a. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (South Florida). Striped Mullet. U.S. Fish and Wildlife Service Biological Report 82 (11.34)*. U.S. Army Corps of Engineers, TR EL-82-4, 11 pp.
- Collins, Mark R. 1985b. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (South Florida). White Mullet. U.S. Fish and Wildlife Service Biological Report 82 (11.39)*. U.S. Army Corps of Engineers, TR EL-82-4, 7 pp.
- Corbett, D. R., T. West, L. Clough, and H. Daniels. 2004. *Potential impacts of bottom trawling on water column productivity and sediment transport processes*. Raleigh, North Carolina : North Carolina Sea Grant.
- Darna, P. H. 2002. *Reduction of seabird mortality in gill nets*. Raleigh, North Carolina : North Carolina Sea Grant, FRG 01-FEG-17, Final Report.
- Desilva, S. S. 1980. "Biology of juvenile grey mullet: a short review." *Aquaculture* (19): 21-36.
- DeSilva, S. S., and M. J. S. Wijeyaratne. 1977. "Studies on the biology of young grey mullet, *Mugil cephalus* L. II. Food and Feeding." *Aquaculture* 12: 157-167.
- Ditty, J. G., and R. F. Shaw. 1996. "Spatial and temporal distribution of larval striped mullet (*Mugil cephalus*) and white mullet (*M. curema*) in the northern Gulf of Mexico, with notes on mountain mullet, *Agonostomus monticola*." *Bulletin of Marine Science* 59: 271-288.
- Doxey, R. 2001. *Industry dependent baseline data collection on finfish/terrapin bycatch in the crab pot fishery*. Raleigh, North Carolina : North Carolina Sea Grant Program, 99-FEG-45, Final Report.
- Dubik, B. A., E. C. Clark, T. Young, S.B. J. Ziegler, M. M. Provost, M. L. Pinsky, and K. St. Martin. 2019. "Governing fisheries in the face of change: Social responses to long-term geographic shifts in a U.S. fishery." *Marine Policy* 99: 243-251.
- Evans, W. G. 2001. *Size of flounder trapped in gill-nets of different mesh sizes and marketable and non-marketable bycatch (red drum)*. Raleigh, North Carolina: North Carolina Sea Grant, FRG 98-FEG-50, Final Report.
- Facendola, J. J., and F. S. Scharf. 2012. "Seasonal and ontogenetic variation in the diet and daily ration of estuarine red drum as derived from field-based estimates of gastric evacuation and consumption." *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* 4(1): 546-559.
- Fertl, D., and B. Wilson. 1997. "Bubble use during prey capture by a lone bottlenose dolphin (*Tursiops truncatus*)." *Aquatic Mammals* 23(2): 113-114.

## DRAFT

- Foster, J R. 2001. *Data analysis summary for Georgia: striped mullet. Cooperative research on the biology and assessment of nearshore and estuarine fishes along the southeast coast of the U.S.* Georgia Department of Natural Resources, Coastal Resources Division.
- Fujita, C. R., I. Kinoshita, I. Takahashi, and K. Azuma. 2002. "Species composition and seasonal occurrence of fish larvae and juveniles in the Shimanto Estuary." *Japanese Society of Fisheries Science* 68: 364-370.
- Gopalakrishnan, V. 1971. "Taxonomy and biology of tropical finfish for coastal aquaculture in the Indo-Pacific region." In *Coastal Aquaculture in the Indo-Pacific region*, by T.V. R. Pillay, 120-149. London, England: Fishing News (Books) Ltd. 497p.
- Greeley, M. S., D. R. Calder, and R. A. Wallace. 1987. "Oocyte growth and development in the striped mullet, *Mugil cephalus*, during seasonal ovarian recrudescence: relationship to fecundity and size at maturity." *Fishery Bulletin* 85: 187-200.
- Guillory, V. 1993. "Ghost fishing in blue crab traps." *North American Journal of Fisheries Management* 13: 457-466.
- Harrington, R. W., and E. S. Harrington. 1961. "Food selection among fishes invading a high subtropical salt marsh: from onset of flooding through the progress of a mosquito brood." *Ecology* 42: 646-666.
- Hotos, G. N., and N. Vlahos. 1998. "Salinity tolerance of *Mugil cephalus* and *Chelon labrosus* (Mugilidae) fry in experimental conditions." *Aquaculture* 167: 329-338.
- Ibanez Aguirre, A. L., M. Gallardo Cabello, and M. P. Sanchez Rueda. 1995. "Estimacion de la edad de la lisa *Mugil cephalus* y la lebrancha *M. curema* por metodos indirectos." *Hidrobiologica* 5 (1-2): 105-111 (*Hidrobiologica* 5 (1-2): 105-111).
- Jacot, Arthur Paul. 1920. *Age, Growth and Scale Characters of the Mullet, Mugil cephalus and Mugil curema*. American Microscopical Society 39:199-229.
- Johnson, G. A. 2003. *The role of trawl discards in sustaining blue crab production*. Raleigh, North Carolina : North Carolina Sea Grant, FRG 99-EP-07, Final Report.
- Johnson, G. A., and E. L. McClendon. 1969. *Differential distribution of the striped mullet, Mugil cephalus*. California Fish and Game, 138-139.
- Kapolnai, A., R. E. Werner, and J. O. Blanton. 1996. "Circulation, mixing, and exchange processes in the vicinity of tidal inlets." *Journal of Geophysical Research* 101(14): 253-268.
- Kimel, J. F., S. Corbett, and T. Thorpe. 2010. *Effects on habitat when using bottom disturbing devices in the estuarine gill net fishery*. Brunswick, New Hanover, and Pender Counties: North Carolina Sea Grant, 60 p.
- Kimel, J., S. Corbett, and T. Thorpe. 2008. *Selectivity of large mesh gillnets in the southeastern flounder (Paralichthys lethostigma) fishery*. Raleigh, North Carolina : North Carolina Sea Grant, 07-FEG-12, Final Report.
- Kinoshita, I., S. Fujita, I. Takahashi, and K. Azuma. 1988. "Occurrence of larval and juvenile Japanese snook, *Lates japonicus*, in the Shimanto Estuary, Japan." *Japanese Journal of Ichthyology* 34: 462-467.
- Kiszka, J. J., P. Mendez-Fernandez, M. R. Heithaus, and V. Ridoux. 2014. "The foraging ecology of coastal bottlenose dolphins based on stable isotope mixing models and behavioral sampling." *Marine Biology* 161(4): 953-961.
- Kunkel, K. E., D. R. Easterling, A. Ballinger, S. Bililign, S. M. Champion, D. R. Corbett, K. D. Dello, et al. 2020. *North Carolina climate science report*. North Carolina Institute for Climate Studies.
- Larson, E. T., and A. L. Shanks. 1996. "Consumption of marine snow by two species of juvenile mullet and its contribution to growth." *Marine Ecology Progress Series* 130: 19-28.
- Leard, R, H Mahmoudi, K Blanchet, K Spiller, M Buchanan, C Dyer, and W Keithly. 1995. *The striped mullet fishery of the Gulf of Mexico, United States: A regional management plan*. Ocean Springs, Mississippi: Gulf States Marine Fisheries Commission.
- Lindquist, D. G., and L. Manning. 2001. *Impacts of beach nourishment and beach scraping on critical habitat and productivity of surf fishes*. NC Division of Marine Fisheries, Fisheries Resource Grant 98-EP-05:41.
- Little, Margaret Ruth. 2012. *Comprehensive architectural survey of Carteret County, North Carolina's archipelago: Final Report*. Raleigh, North Carolina: North Carolina State Historic Preservation Office.

## DRAFT

- Mahmoudi, B L, M. Foushee, G McGlothlin, G Geoghegan, and A Weinkauff. 2001. *Biology and stock assessment of striped mullet, Mugil cephalus, from the east coast of Florida*. Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute, 130.
- Major, P. F. 1977. "Aspects of estuarine intertidal ecology of juvenile striped mullet, *Mugil cephalus*, in Hawaii." *Fishery Bulletin* 76: 299-314.
- Martin, F. D., and G. E. Drewry. 1978. *Development of fishes of the mid-Atlantic Bight: an atlas of eggs, larvae and juvenile stages. Volume VI. Stomateidae through Ogcocephalidae*. U.S. Fish and Wildlife Service, United States Department of Interior.
- McConnaughey, J., J. Boyd, and L. Klibansky. 2019. *Annual sea turtle interaction monitoring of the anchored gill-net fisheries in North Carolina for Incidental Take Permit Year 2018. Annual Completion Report for Activities under Endangered Species Act Section 10 Incidental Take Permit No. 16230*. Morehead City, NC: North Carolina Department of Environmental Quality, Division of Marine Fisheries, 58 p.
- McDonough, Christopher J, and Charles A Wenner. 2003. *Growth, recruitment, and abundance of juvenile striped mullet (Mugil cephalus) in South Carolina estuaries*. Fishery Bulletin 101:343-357.
- McDonough, Christopher J, William A Roumillat, and Charles A Wenner. 2003. *Fecundity and spawning season of striped mullet (Mugil cephalus L.) in South Carolina estuaries*. Fishery Bulletin 101:822-834.
- McDonough, Christopher J. 2001. *The biology of striped mullet, (Mugil cephalus L.) in South Carolina waters. Part I: reproductive biology and population size and age structure*. Charleston, South Carolina: Marine Resources Institute South Carolina Department of Natural Resources, 18.
- McKenna, S., and J. T. Camp. 1992. *An examination of the blue crab fishery in Pamlico River estuary*. North Carolina Department of Environment, Health, and Natural Resources Report 98-02:92.
- Montgomery, G. 2001. *By-catch comparison of flounder gill nets utilizing different denier webbing*. Raleigh, North Carolina: North Carolina Sea Grant, 99-FEG-36, Final Report.
- Moore, R. H. 1974. "General ecology, distribution and relative abundance of *Mugil cephalus* and *Mugil curema* on the south Texas coast." *Contributions to Marine Science* 18: 241-256.
- Morley, J. W., R. L. Selden, R. J. Latour, T. L. Frolicher, R. J. Seagraves, and M. L. Pinsky. 2018. "Projecting shifts in thermal habitat for 686 species on the North American continental shelf." *PloS one* 13(5).
- NCDEQ. 2020. "North Carolina Climate Risk Assessment and Resiliency Plan." 1601 Mail Service Center, Raleigh, NC.
- NCDEQ. 2016. *North Carolina Habitat Protection Plan: Source Document*. Morehead City, NC: Division of Marine Fisheries, 475 pp.
- NCDMF. 2022. *2022 License and Statistics Annual Report*. Morehead City, North Carolina: NCDMF, 531 pp.
- NCDMF. 2006. *North Carolina Fishery Management Plan - Striped Mullet*. Morehead City, North Carolina: NCDMF, 202 pp.
- NCDMF. 2015. *North Carolina Striped Mullet Fishery Management Plan Amendment 1*. Morehead City, North Carolina 388pp: NCDMF.
- NCDMF. 2013. *Stock assessment of striped mullet (Mugil cephalus) in North Carolina waters*. Morehead City, North Carolina: North Carolina Division of Marine Fisheries, 388 pp.
- NCDMF. 2018. *Stock Assessment of Striped Mullet (Mugil cephalus) in North Carolina waters*. Morehead City, North Carolina: NCDMF, 129 pp.
- NCDMF. 2022. *Stock Assessment of Striped Mullet (Mugil cephalus) in North Carolina waters*. Morehead City, North Carolina: North Carolina Division of Marine Fisheries, NCDMF SAP-SAR-2022-01, 183 pp.
- NCDMF. 2023. *Supplement A to Amendment 1 To the N.C. Striped Mullet Fishery Management Plan*. Morehead City, North Carolina 17pp: NCDMF.
- NCDWQ. 2000. *DWQ Water quality citizen guide*. Raleigh, North Carolina: North Carolina Department of Environmental Quality, North Carolina Division of Water Quality, 165 p.
- NCDWQ. 2008. *Supplemental guide to North Carolina's basinwide planning: Support document for the basinwide waterquality plans, second revision*. Raleigh, North Carolina: North Carolina Department of Environmental Quality, North Carolina Division of Water Quality, 211 p.
- Nickerson Jr., D. K. . 1984. *A description of the eastern Florida silver mullet (Pisces: Mugilidae) bait fishery*. Florida Department of Natural Resources, Bureau of Marine Research Publication Number 41, 14.



## DRAFT

- NMFS. 2013. "Endangered Species; File No. 16230. Notice of permit issuance." Federal Registrar 78:57132-57133.
- . 2014. "Endangered species; File No. 18102. Issuance of permit." Federal Register 79:43716-43718.
- NMFS. 2021. *Fisheries Economics of the United States, 2018*. U.S. Dept. of Commerce NOAA Tech. Memo. NMFS-F/SPO-225, 246 p.
- Nordlie, F. G. 2000. "Patterns of reproduction and development of selected resident teleost of Florida salt marshes." *Hydrobiologia* 434: 165-182.
- Odum, W E. 1968. "The ecological significance of fine particle selection by the striped mullet, *Mugil Cephalus*." *Limnology and Oceanography* 13(1):92-98.
- Pafford, J M. 1983. *Life history aspects of the striped mullet, Mugil cephalus, in Georgia's St. Simons estuarine system. Master's Thesis*. Statesboro, Georgia: Georgia Southern College.
- Pattillo, M. E., T. E. Czapla, D. M. Nelson, and H. E. Monaco. 1999. *Distribution and abundance of fishes and invertebrates in Gulf of Mexico estuaries, Volume II: Species life history summaries*. Silver Spring, Maryland: National Oceanic and Atmospheric Administration's Nations Ocean Service, Strategic Environmental Assessments Division, ELMR Rep. No. 11, 377.
- Pattilo, M. E., T. E. Czapla, D. M. Nelson, and H. E. Monaco. 1999. *Distribution and abundance of fishes and invertebrates in Gulf of Mexico estuaries, Volume II: Species life history summaries*. Silver Spring, Maryland 377.: National Oceanic and Atmospheric Administration's Nations Ocean Service, Strategic Environmental Assessments Division, ELMR Rep. No. 11.
- Peacock, T. A. 2014. *Synthesized red drum feeding ecology and diet of adult red drum from North and South Carolina. Master's Thesis*. Greenville, North Carolina: East Carolina University, 96p.
- Perry, W. G., and B. J. Carter. 1979. "Seasonal occurrence of fishes collected from beach seining, southwest Louisiana." *Louisiana Academy of Science* 42: 24-38.
- Peterson, C. H., and N. M. Peterson. 1979. *The ecology of intertidal flats of North Carolina: a community profile*. Washington, DC: United States Fish and Wildlife Service, OBS-79/39, 73 p.
- Peterson, G. W., and R. G. Turner. 1994. "The value of salt marsh edge vs. interior as a habitat for fish and decapod crustaceans in a Louisiana tidal marsh." *Estuaries* 17: 235-262.
- Peterson, M. S., B. H. Rakocinski, B. H. Comyns, and G. L. Fulling. 2000. "Laboratory growth responses of juvenile *Mugil* sp. to temperature and salinity: Delineating optimal field growth conditions." *Proceedings of the fifty-first annual Gulf and Caribbean Fisheries Institute, St. Croix, U.S. Virgin Islands, Nov. 1998:341-352*. (Proceedings of the fifty-first annual Gulf and Caribbean Fisheries Institute, St. Croix, U.S. V).
- Powles, H. 1981. "Distribution and movements of neustonic young of estuarine dependent (*Mugil* spp., *Pomatomus satlatrix*) and estuarine independent (*Coryphaena* spp.) fishes off the southeastern United States." *Rapports et Proces-verbaux des Reunions. Conseil International pour l'Exploration de la Mer* 178:207-209.
- Reilly, F. J., and V. J. Bellis. 1983. *The Ecological Impact of Beach Nourishment with Dredged Materials on the Intertidal Zone at Bogue Banks, North Carolina*. Fort Belvoir, VA 22060: U.S. Army Corps of Engineers, Coastal Engineering Research Center.
- Render, J. H., B. A. Thompson, and R. L. Allen. 1995. "Reproductive development of striped mullet in Louisiana estuarine waters with notes on the applicability of reproductive assessment methods for isochornal species." *Transactions of the American Fisheries Society* 124: 26-36.
- Rivas, L R. 1980. "Synopsis of knowledge on the taxonomy, biology, distribution, and fishery of the Gulf of Mexico mullets (Pisces: Mugilidae)." In *Proceedings of a workshop for potential fishery resources of the northern Gulf of Mexico*, by M Flandorfer and L Skupien, 34-53. Mississippi-Alabama Sea Grant Consortium Publication MASGP-80-012.
- Rogers, S. I., M. J. Kaiser, and S. Jennings. 1998. "Ecosystem effects of demersal fishing: a European perspective." In *Effect of Fishing Gear on the Sea Floor of New England*, by E. M. Doresy and J. Pederson, 160 p. Boston, Massachusetts: Conservation Law Foundation.
- Rohde, F.C. 1976. "First record of the mountain mullet, *Agonostomus monticola* (Bancroft) fro North Carolina." *Florida Scientist* 39: 126.
- Rose, T. L. 2000. *Migratory bird bycatch in submerged versus floating shad gill nets*. Raleigh, North Carolina: North Carolina Sea Grant, 99-FEG-34, Final Report, 53 p.
- Rose, T. L. 2001. *Migratory bird bycatch in submerged versus floating shad gill nets*. Raleigh, North Carolina: North Carolina Sea Grant, 00-FEG-22, Final Report, 54 p.

## DRAFT

- Rose, T. L. 2004. *Migratory bird bycatch in submerged versus floating shad gill nets*. Raleigh, North Carolina: North Carolina Sea Grant, 01-FEG-04, Final Report, 62 p.
- Ross, S. W., and J. E. Lancaster. 2002. "Movements and site fidelity of two juvenile fish species using surf zone nursery habitats along the southeastern North Carolina coast." *Environmental Biology of Fishes* 63(2): 161-172.
- Rudershausen, P. J., J. A. Tuomikoski, J. A. Buckel, and J. E. Hightower. 2005. "Prey selectivity and diet of striped bass in western Albemarle Sound, North Carolina." *Transactions of the American Fisheries Society* 134(5): 1059-1074.
- Shireman, J. V. 1975. "Gonadal development of striped mullet (*Mugil cephalus*) in fresh water." *Progressive Fish-Culturist* 37: 205-208.
- Simpson, B., and M. Simpson. 1994. "Multitudes of Mullet." *Coastwatch* 10-15.
- Smith, Hugh McCormick. 1907. *The Fishes of North Carolina*. Raleigh, NC: E. Muzzell and Company, State Printer and Binder.
- Steve, C., J Gearhart, D Boroggaard, L Sabo, and A A Hohn. 2001. "Characterization of North Carolina Commercial Fisheries with Occasional Interactions with Marine Mammals." *NOAA Technical Memorandum NMFS-SEFSC-458* 60.
- Taylor, Harden Franklin. 1951. *Survey of Marine Fisheries of North Carolina*. Chapel Hill, North Carolina: University of North Carolina Press.
- Taylor, J. C., K. Adamski, J. Buckel, G. B. Martin, and K. Shertzer. 2009. *Fishery indices for the Southeast Atlantic (FISEA): Biological indicators of coastal and estuary -dependent fishery production in the U.S. South Atlantic*. Washington, D.C.: National Oceanic and Atmospheric Administration, Fisheries of the Environment, Final Report, 60.
- Thayer, G. W., W. J. Kenworthy, and M. S. Fonseca. 1984. *The ecology of eelgrass meadows of the Atlantic coast; a community profile*. U.S. Fish and Wildlife Service.
- Thompson, J M. 1963. *Synopsis of biological data on the grey mullet Mugil cephalus Linnaeus 1758. Fisheries Synopsis No. 1*. Australia: Division of Fisheries and Oceanography, CSIRO, 66.
- Thompson, J. M., J. H. Render, R. L. Allen, and D. L. Nieland. 1991. *Fishery independent characterization of population dynamics and life history of striped mullet in Louisiana*. Baton Rouge, Louisiana 92: Coastal Fisheries Institute, Louisiana State University, NA90AA-H-MF-113, Final Report.
- Thorpe, N. B., and D. Beresoff. 2005. *Effects of gillnet tie-downs on fish and bycatch rates associated with American shad (*Alosa sapidissima*) and flounder (*Paralichthys spp.*) fisheries in southeastern North Carolina*. Raleigh, North Carolina: North Carolina Sea Grant, Completion Report 04-FEG-03, 124 p.
- Thorpe, T., D. Beresoff, and K. Cannady. 2001. *Gillnet bycatch potential, discard mortality, and condition of red drum (*Sciaenops ocellatus*) in southeastern North Carolina*. Raleigh, North Carolina: North Carolina Sea Grant, 00-FEG-14, Final Report, 78 p.
- Todd, V. L., I. B. Todd, J. C. Gardiner, E.C. N. Morrin, N. A. MacPherson, N. A. DiMarzio, and F. Thomsen. 2015. "A review of impacts of marine dredging activities on marine mammals." *ICES Journal of Marine Science* 72 (328-340).
- Torras, X., L. Cardona, and E. Gisbert. 2000. "Cascading effects of the flathead grey mullet *Mugil cephalus* in freshwater eutrophic microcosmos." *Hydrobiologia* 429 (1-3): 49-57.
- Wenner, C. 2001. *Cooperative research on the biology and stock assessment of fishes along the southeast coast of the U.S.: Part IV striped mullet*. St. Petersburg, Florida: National Oceanic and Atmospheric Administration, Marine Fisheries Initiative (MARFIN), Final Report.
- White, R. R., and J. L. Armstrong. 2000. *Survival of Atlantic sturgeon captured by flounder gill nets in Albemarle Sound*. Raleigh, North Carolina: North Carolina Sea Grant, 98-FEG-39, Final Report.
- Whitfield, A. K., and S. J.M. Blaber. 1978. "Distribution, movements and fecundity of Mugilidae at Lake St. Lucia." *Lammergeyer* 26: 53-63.
- Williams, V. G. 2000. *Characterization of shallow water mullet gill net fisheries by species, by catch, and fishing method*. Raleigh, North Carolina: North Carolina Sea Grant, FRG 97-FEG-37, Final Report, 74 p.
- Wong, Richard Allen. 2001. *Biology of Striped Mullet (*Mugil cephalus* L.) in North Carolina Estuarine Waters: Part I, North Carolina Statewide Striped Mullet Tagging Program*. Morehead City, North Carolina: NCDMF, 21 pp.

# Rulemaking

November 2023 Business Meeting

<u>Document</u>	<u>Page</u>
Rulemaking Update Memo	02
2023-2024 Rulemaking Cycle Timeline	07
NC Register V38 Issue 03 MFC Excerpt	08
2023 Rules Comment Hearing News Release	51
2023-2024 Proposed Rules Public Comment	53
Aug. 16 2023 Public Hearing Summary	54



November 2, 2023

**MEMORANDUM**

**TO:** N.C. Marine Fisheries Commission  
**FROM:** Catherine Blum, Rulemaking Coordinator  
Marine Fisheries Commission Office  
**SUBJECT:** Rulemaking Update

---

**Issue**

Update the N.C. Marine Fisheries Commission (MFC) on the status of rulemaking in support of the Periodic Review and Expiration of Existing Rules per N.C.G.S. § 150B-21.3A. Request the MFC vote on final approval of 103 rules in the 2023-2024 Rulemaking Cycle.

**Findings**

- Periodic Review and Readoption of Rules – Requirements
  - North Carolina N.C.G.S. § 150B-21.3A, enacted in 2013, requires state agencies to review existing rules every 10 years in accordance with a prescribed process that includes a report phase, followed by rule readoption. For 15A NCAC 03 (Marine Fisheries), the MFC completed the initial rule readoption process.
  - For 15A NCAC 18A (Sanitation), the MFC has 79 rules remaining for readoption. On January 16, 2020, the RRC approved the readoption schedule of June 30, 2024, for these rules. The MFC must readopt the remaining rules by this deadline, or the rules will expire and be removed from the N.C. Administrative Code.
  - For the second iteration of the periodic review requirements, the RRC approved the report deadlines effective June 1, 2023. For the MFC rules, the final reports will be due in early 2027. DMF staff will provide further information to the MFC as that time approaches.
- Regarding final approval of the rules in the 2023-2024 Rulemaking Cycle, three public comments in total were received about the 103 rules. If approved, the rules have an earliest effective date of April 1, 2024, unless they are automatically subject to legislative review per Session Law 2019-198 and N.C.G.S. § 14-4.1.

**Action Needed**

In accordance with N.C.G.S. § 150B-21.3A, the MFC is scheduled to vote on final approval of readoption and amendment of 103 rules in 15A NCAC 03 and 18A as published in the *N.C. Register* August 1, 2023. For more information, please refer to the rulemaking section of the briefing materials.

## **2022-2023 Rulemaking Cycle Update (2 rules)**

At its August 2022 business meeting, the MFC approved Notice of Text for Rulemaking to begin the process to amend 15A NCAC 03M .0101 (Mutilated Finfish) and readopt 15A NCAC 18A .0911 (Marinas, Docking Facilities, and Other Mooring Areas). A table showing the steps in the process is provided in the rulemaking section of the briefing materials. The MFC gave final approval of the rules at its February 2023 business meeting. The marinas, docking facilities, and other mooring areas rule was approved at the May 18, 2023, RRC meeting and became effective June 1, 2023. A news release and rulebook supplement were distributed; a copy of each document is in the briefing materials.

At its June 15, 2023, meeting, the RRC objected to the mutilated finfish rule in accordance with N.C.G.S. § 150B-21.10. At its August 25, 2023, business meeting, the MFC moved to keep the mutilated finfish rule as it was originally and grant proclamation authority to the Fisheries Director as Item (4) in the rule to add exemptions for other species. Following its October 5, 2023, special meeting, the RRC returned the mutilated finfish rule to the MFC in accordance with Session Law 2023-134, Section 21.2(m). Since the returned rule was a proposed amendment and the June 15, 2023 objection was not to existing language, there was no change to the N.C. Administrative Code. The mutilated finfish rule remains in force as readopted effective April 1, 2019. The 2022-2023 rulemaking cycle has concluded.

## **2023-2024 Rulemaking Cycle Update (103 rules)**

At its May 2023 business meeting, the MFC approved Notice of Text for Rulemaking to begin the process for 103 rules. A summary of the proposed rules by subject is provided below. A table showing the timing of the steps in the process is included in the rulemaking section of the briefing materials. The proposed rules were published in the August 1, 2023, issue of the *N.C. Register*, beginning the public comment process, and a news release was issued; an excerpt of the rule publication and a copy of the news release are in the briefing materials.

The MFC accepted public comments on the proposed rules from August 1 through 5 p.m. October 2, 2023. Two written public comments were submitted about the rules that are described with the corresponding subjects below and included in a table in the briefing materials. A public hearing was held via WebEx with a listening station at the DMF's Central District Office in Morehead City on August 16 at 6 p.m. Thank you to Commissioner Huggins for serving as the hearing officer. One member of the public provided comments that are described with the corresponding subject below. A summary of the hearing is also included in the briefing materials.

The MFC is scheduled to receive the public comments and vote on final approval of the 103 rules at its November 2023 business meeting. Proposed rules would have an earliest effective date of April 1, 2024, except for rules automatically subject to legislative review per Session Law 2019-198 and N.C.G.S. § 14-4.1. Rules that are subject would likely be available for review during the 2024 short session.

## READOPTON OF SHELLFISH PLANT AND INSPECTION RULES IN 15A NCAC 18A .0300 THROUGH .0800 (85 rules)

Pursuant to N.C.G.S. § 150B-21.3A, this package of 85 rules in 15A NCAC 03K and 18A is proposed for the readoption of one rule with no changes, readoption of 55 rules with amendments, repeal through readoption of 23 rules, amendment of two rules, adoption of three rules, and the repeal of one rule. Proposed changes would help ensure that North Carolina remains in full compliance with national requirements, provide efficiencies for the DMF in the process of implementing and enforcing the rules, and clarify and update the rules for stakeholders.

North Carolina is part of the National Shellfish Sanitation Program (NSSP), which is a federal/state cooperative program designed to "promote and improve the sanitation of shellfish (oysters, clams, mussels, and scallops) moving in interstate commerce" as stated in Section I, page 2 of the NSSP Guide for the Control of Molluscan Shellfish (Guide). DMF staff work together with representatives from other states, the federal government, and industry through the Interstate Shellfish Sanitation Conference to develop guidelines for all state shellfish programs that are summarized in the Guide. North Carolina must meet the minimum standards included in the Guide for N.C. shellfish to be able to be sold through interstate commerce and protect N.C. shellfish consumers within and outside of the State. The requirements are already being enforced by the DMF consistent with the Guide. Overall, the rules are expected to increase consumer confidence in the safety of N.C. shellfish products, achieve efficiencies in implementing and enforcing the rules, and clarify the requirements for stakeholders. No public comments were submitted about these rules.

## DATA COLLECTION AND HARASSMENT PREVENTION FOR THE CONSERVATION OF MARINE AND ESTUARINE RESOURCES (5 rules)

Due to the increasing occurrence and severity of harassment during, and decreasing participation in, DMF data collection initiatives, amendments are proposed to five MFC rules. Proposed amendments set requirements to address harassment by any licensee or person engaged in regulated activity under Chapter 113, Subchapter IV, of the General Statutes (e.g., fishing) of DMF employees that occurs in the process of obtaining data for the conservation of marine and estuarine resources, and data for the protection of public health related to the public health programs that fall under the authority of the MFC. Additional amendments provide the types of data that may be collected. The amendments support the importance of participation by persons engaged in regulated fishing activity in division data collection and provide a safer working environment for division employees. One written public comment was submitted opposing these rules.

## OYSTER SANCTUARY RULE CHANGES (1 rule)

Proposed amendments add the boundaries of the two newest oyster sanctuaries (Cedar Island and Gull Shoal) and correct boundaries for three other oyster sanctuaries (Pea Island, Raccoon Island, and Swan Island) where published coordinates were found to be inconsistent with permitted and marked reef boundaries. These changes to permanent rule would protect oysters from bottom disturbing gear so they can serve their intended management function as oyster broodstock sanctuaries, as well as safeguard boaters navigating the sanctuaries; the changes are already in place via the Fisheries Director's proclamation authority (SF-6-2022). Additionally, coordinates for three sanctuaries are proposed to be reorganized to standardize the cardinal directions, for consistency; there are no changes to the overall sanctuaries, nor the coordinate pairs themselves. No public comments were submitted about this rule.

## CONFORMING RULE CHANGES FOR SHELLFISH RELAY PROGRAM AND SHELLFISH LEASES AND FRANCHISES (12 rules)

In 2021, the DMF began the process of discontinuing its Shellfish Relay Program (relaying of shellfish from certain polluted areas) due primarily to insufficient resources to run the program and lack of widespread use. The Shellfish Relay Program will end effective May 1, 2024. The MFC received information about the discontinuation of the Shellfish Relay Program at its February 2022 business meeting. DMF identified 11 rules relating to the Shellfish Relay Program that set specific requirements for the relaying of shellfish from certain polluted areas. Changes are proposed to amend portions of rules or repeal rules consistent with rulemaking requirements in the APA. There was one commenter at the public hearing that spoke against phasing out the shellfish relay program.

Additional proposed changes for shellfish lease and franchise requirements are proposed to 15A NCAC 03O .0201 to conform to requirements of Session Law 2019-37 (Act to Provide Further Support to the Shellfish Aquaculture Industry in North Carolina). Specifically, changes incorporate and conform the shellfish production and planting requirements from Session Law 2019-37 for shellfish leases granted before July 1, 2019, and for shellfish leases granted on or after this date. Additional proposed changes require shellfish lease or franchise holders to meet the listed production, marking, and permit requirements for current shellfish leases before being eligible for additional shellfish lease acreage. Doing so would help ensure more efficient and meaningful use of the public trust bottom by preventing persons not in good standing from precluding potential applicants from applying for a shellfish lease in affected areas. One written public comment was submitted opposing shellfish leases, generally.

### **2024-2025 Rulemaking Cycle Preview**

Division staff will provide a preview of potential rules in the MFC's 2024-2025 annual rulemaking cycle at its November 2023 business meeting. Subjects under development include management options for false albacore, pot marking requirements, and proposed changes to permit rules.

### **Background Information**

#### *Periodic Review and Expiration of Existing Rules per N.C.G.S. § 150B-21.3A*

Session Law 2013-413, the Regulatory Reform Act of 2013, implemented requirements known as the "Periodic Review and Expiration of Existing Rules." These requirements were codified in a new section of Article 2A of Chapter 150B of the General Statutes in N.C.G.S. § 150B-21.3A. Under the requirements, each agency is responsible for conducting a review of all its rules at least once every 10 years in accordance with a prescribed process. The MFC is the agency with the authority for the approval steps prescribed in the process for marine fisheries and crustacea and shellfish sanitation rules.

The review has two parts. The first is a report phase, which has concluded for the first iteration of the periodic review requirements. The second part is the readoption of rules. An evaluation of the rules under the authority of the MFC was undertaken in two lots (see Figure 1.) The MFC had 211 rules in Chapter 03 (Marine Fisheries), of which 172 were subject to readoption, and 164 rules in Chapter 18, Subchapter 18A (Sanitation) that are also subject to readoption.

Rules	2017	2018	2019	2020	2021	2022	2023	2024
Chapter 03 (172 rules)	Report	41 Rules Readopted	2 Rules Readopted	13 Rules Readopted	116 Rules Readopted	6/30/22 deadline		
Subchapter 18A (164 rules)			Report	42 Rules Readopted	42 Rules Readopted	1 Rule Readopted	Rule Readoption (79)	6/30/24 deadline

Figure 1. Marine Fisheries Commission rule readoption schedule to comply with N.C.G.S. § 150B-21.3A, Periodic Review and Expiration of Existing Rules.

For 15A NCAC 03 (Marine Fisheries), the MFC completed the initial rule readoption process. For 15A NCAC 18A (Sanitation), the MFC has 79 rules remaining for readoption. For the second iteration of the periodic review requirements, the RRC approved the report deadlines effective June 1, 2023. For the MFC rules, the final reports will be due in early 2027.

## N.C. Marine Fisheries Commission 2023-2024 Annual Rulemaking Cycle

November 2023

Time of Year	Action
February-April 2023	Fiscal analysis of rules prepared by DMF staff and approved by Office of State Budget and Management
May 26, 2023	MFC approved Notice of Text for Rulemaking
Aug. 1, 2023	Publication of proposed rules in the <i>North Carolina Register</i>
Aug. 1-Oct. 2, 2023	Public comment period held
Aug. 16, 2023	Public hearing held via WebEx with listening station
Nov. 17, 2023	MFC receives public comments and votes on final approval of permanent rules
Jan. 18, 2024	Rules reviewed by Office of Administrative Hearings/ Rules Review Commission
April 1, 2024	Proposed effective date of rules not subject to legislative review
April 1, 2024	Rulebook supplement available online
2024 legislative session	Possible effective date of rules subject to legislative review per S.L. 2019-198 and G.S. 14-4.1.
June 30, 2024	Readoption deadline for 15A NCAC 18A

# ***NORTH CAROLINA REGISTER***

**VOLUME 38 • ISSUE 03 • Pages 103 – 171**

**August 1, 2023**

<b>I. EXECUTIVE ORDERS</b>	
Executive Order No. 282 .....	103 – 104
<b>II. PROPOSED RULES</b>	
<b>Environmental Quality, Department of</b>	
Marine Fisheries Commission .....	105 – 144
Coastal Resources Commission .....	144 – 146
<b>III. EMERGENCY RULES</b>	
<b>Health and Human Services, Department of</b>	
Health Service Regulation, Division of .....	147 – 151
<b>IV. APPROVED RULES</b> .....	152 – 163
<b>Health and Human Services, Department of</b>	
Child Care Commission	
<b>Justice, Department of</b>	
Criminal Justice Education and Training Standards Commission	
<b>Environmental Quality, Department of</b>	
Environmental Management Commission	
<b>Occupational Licensing Boards and Commissions</b>	
Dental Examiners, Board of	
Nursing, Board of	
Optometry, Board of Examiners, in	
Real Estate Commission	
<b>State Human Resources, Office of</b>	
State Human Resources Commission	
<b>V. RULES REVIEW COMMISSION</b> .....	164 – 171

**PUBLISHED BY**

*The Office of Administrative Hearings  
Rules Division  
1711 New Hope Church Road  
Raleigh, NC 27609  
Telephone 984-236-1850  
Fax 984-236-1947*

*Donald R. van der Vaart, Director  
Ashley B. Snyder, Codifier of Rules  
Dana McGhee, Publications Coordinator  
Cathy Matthews-Thayer, Editorial Assistant  
Julie B. Eddins, Register Drafter*



## Contact List for Rulemaking Questions or Concerns

For questions or concerns regarding the Administrative Procedure Act or any of its components, consult with the agencies below. The bolded headings are typical issues which the given agency can address but are not inclusive.

### **Rule Notices, Filings, Register, Deadlines, Copies of Proposed Rules, etc.**

Office of Administrative Hearings

Rules Division

1711 New Hope Church Road

Raleigh, North Carolina 27609

984-236-1850

984-236-1947 FAX

contact: Ashley B. Snyder, Codifier of Rules

ashley.snyder@oah.nc.gov

984-236-1941

Dana McGhee, Publications Coordinator

dana.mcghee@oah.nc.gov

984-236-1937

Cathy Matthews-Thayer, Editorial Assistant

cathy.thayer@oah.nc.gov

984-236-1901

### **Rule Review and Legal Issues**

Rules Review Commission

1711 New Hope Church Road

Raleigh, North Carolina 27609

984-236-1850

984-236-1947 FAX

contact: Brian Liebman, Commission Counsel

brian.liebman@oah.nc.gov

984-236-1948

Lawrence Duke, Commission Counsel

lawrence.duke@oah.nc.gov

984-236-1938

William W. Peaslee, Commission Counsel

bill.peaslee@oah.nc.gov

984-236-1939

Seth M. Ascher, Commission Counsel

seth.ascher@oah.nc.gov

984-236-1934

Alexander Burgos, Paralegal

alexander.burgos@oah.nc.gov

984-236-1940

Julie B. Eddins, Administrative Assistant

julie.eddins@oah.nc.gov

984-236-1935

### **Fiscal Notes & Economic Analysis**

Office of State Budget and Management

116 West Jones Street

Raleigh, North Carolina 27603-8005

Contact: Julie Ventaloro, Economic Analyst

osbmruleanalysis@osbm.nc.gov

984-236-0694

NC Association of County Commissioners

215 North Dawson Street

Raleigh, North Carolina 27603

contact: Amy Bason

919-715-2893

amy.bason@ncacc.org

NC League of Municipalities

424 Fayetteville Street, Suite 1900

Raleigh, North Carolina 27601

contact: Monica Jackson

919-715-2925

mjackson@nclm.org

### **Legislative Process Concerning Rulemaking**

545 Legislative Office Building

300 North Salisbury Street

Raleigh, North Carolina 27611

919-733-2578

919-715-5460 FAX

Jason Moran-Bates, Staff Attorney

Chris Saunders, Staff Attorney

Aaron McGlothlin, Staff Attorney

**NORTH CAROLINA REGISTER**  
Publication Schedule for January 2023 – December 2023

FILING DEADLINES			NOTICE OF TEXT		PERMANENT RULE			TEMPORARY RULES
Volume & issue number	Issue date	Last day for filing	Earliest date for public hearing	End of required comment Period	Deadline to submit to RRC for review at next meeting	RRC Meeting Date	Earliest Eff. Date of Permanent Rule	270 <sup>th</sup> day from publication in the Register
37:13	01/03/23	12/07/22	01/18/23	03/06/23	03/20/23	04/20/2023	05/01/23	09/30/23
37:14	01/17/23	12/20/22	02/01/23	03/20/23	04/20/23	05/18/2023	06/01/23	10/14/23
37:15	02/01/23	01/10/23	02/16/23	04/03/23	04/20/23	05/18/2023	06/01/23	10/29/23
37:16	02/15/23	01/25/23	03/02/23	04/17/23	04/20/23	05/18/2023	06/01/23	11/12/23
37:17	03/01/23	02/08/23	03/16/23	05/01/23	05/20/23	06/15/2023	07/01/23	11/26/23
37:18	03/15/23	02/22/23	03/30/23	05/15/23	05/20/23	06/15/2023	07/01/23	12/10/23
37:19	04/03/23	03/13/23	04/18/23	06/02/23	06/20/23	07/20/2023	08/01/23	12/29/23
37:20	04/17/23	03/24/23	05/02/23	06/16/23	06/20/23	07/20/2023	08/01/23	01/12/24
37:21	05/01/23	04/10/23	05/16/23	06/30/23	07/20/23	08/17/2023	09/01/23	01/26/24
37:22	05/15/23	04/24/23	05/30/23	07/14/23	07/20/23	08/17/2023	09/01/23	02/09/24
37:23	06/01/23	05/10/23	06/16/23	07/31/23	08/20/23	09/21/2023	10/01/23	02/26/24
37:24	06/15/23	05/24/23	06/30/23	08/14/23	08/20/23	09/21/2023	10/01/23	03/11/24
38:01	07/03/23	06/12/23	07/18/23	09/01/23	09/20/23	10/19/2023	11/01/23	03/29/24
38:02	07/17/23	06/23/23	08/01/23	09/15/23	09/20/23	10/19/2023	11/01/23	04/12/24
38:03	08/01/23	07/11/23	08/16/23	10/02/23	10/20/23	11/16/2023	12/01/23	04/27/24
38:04	08/15/23	07/25/23	08/30/23	10/16/23	10/20/23	11/16/2023	12/01/23	05/11/24
38:05	09/01/23	08/11/23	09/16/23	10/31/23	11/20/23	12/14/2023	01/01/24	05/28/24
38:06	09/15/23	08/24/23	09/30/23	11/14/23	11/20/23	12/14/2023	01/01/24	06/11/24
38:07	10/02/23	09/11/23	10/17/23	12/01/23	12/20/23	01/18/2024	02/01/24	06/28/24
38:08	10/16/23	09/25/23	10/31/23	12/15/23	12/20/23	01/18/2024	02/01/24	07/12/24
38:09	11/01/23	10/11/23	11/16/23	01/02/24	01/20/24	02/15/2024	03/01/24	07/28/24
38:10	11/15/23	10/24/23	11/30/23	01/16/24	01/20/24	02/15/2024	03/01/24	08/11/24
38:11	12/01/23	11/07/23	12/16/23	01/30/24	02/20/24	03/21/2024	04/01/24	08/27/24
38:12	12/15/23	11/22/23	12/30/23	02/13/24	02/20/24	03/21/2024	04/01/24	09/10/24

This document is prepared by the Office of Administrative Hearings as a public service and is not to be deemed binding or controlling.

## EXPLANATION OF THE PUBLICATION SCHEDULE

This Publication Schedule is prepared by the Office of Administrative Hearings as a public service and the computation of time periods are not to be deemed binding or controlling. Time is computed according to 26 NCAC 2C .0302 and the Rules of Civil Procedure, Rule 6.

### GENERAL

The North Carolina Register shall be published twice a month and contains the following information submitted for publication by a state agency:

- (1) temporary rules;
- (2) text of proposed rules;
- (3) text of permanent rules approved by the Rules Review Commission;
- (4) emergency rules
- (5) Executive Orders of the Governor;
- (6) final decision letters from the U.S. Attorney General concerning changes in laws affecting voting in a jurisdiction subject of Section 5 of the Voting Rights Act of 1965, as required by G.S. 120-30.9H; and
- (7) other information the Codifier of Rules determines to be helpful to the public.

**COMPUTING TIME:** In computing time in the schedule, the day of publication of the North Carolina Register is not included. The last day of the period so computed is included, unless it is a Saturday, Sunday, or State holiday, in which event the period runs until the preceding day which is not a Saturday, Sunday, or State holiday.

### FILING DEADLINES

**ISSUE DATE:** The Register is published on the first and fifteen of each month if the first or fifteenth of the month is not a Saturday, Sunday, or State holiday for employees mandated by the State Personnel Commission. If the first or fifteenth of any month is a Saturday, Sunday, or a holiday for State employees, the North Carolina Register issue for that day will be published on the day of that month after the first or fifteenth that is not a Saturday, Sunday, or holiday for State employees.

**LAST DAY FOR FILING:** The last day for filing for any issue is 15 days before the issue date excluding Saturdays, Sundays, and holidays for State employees.

### NOTICE OF TEXT

**EARLIEST DATE FOR PUBLIC HEARING:** The hearing date shall be at least 15 days after the date a notice of the hearing is published.

**END OF REQUIRED COMMENT PERIOD**  
An agency shall accept comments on the text of a proposed rule for at least 60 days after the text is published or until the date of any public hearings held on the proposed rule, whichever is longer.

**DEADLINE TO SUBMIT TO THE RULES REVIEW COMMISSION:** The Commission shall review a rule submitted to it on or before the twentieth of a month by the last day of the next month.

**Note from the Codifier:** The notices published in this Section of the NC Register include the text of proposed rules. The agency must accept comments on the proposed rule(s) for at least 60 days from the publication date, or until the public hearing, or a later date if specified in the notice by the agency. If the agency adopts a rule that differs substantially from a prior published notice, the agency must publish the text of the proposed different rule and accept comment on the proposed different rule for 60 days. Statutory reference: G.S. 150B-21.2.

**TITLE 15A – DEPARTMENT OF ENVIRONMENTAL QUALITY**

*Notice is hereby given in accordance with G.S. 150B-21.2 and G.S. 150B-21.3A(c)(2)g. that the Marine Fisheries Commission intends to adopt the rules cited as 15A NCAC 18A .0437-.0439, amend the rules cited as 15A NCAC 03I .0101, .0113; 03K .0101, .0110, .0301; 03O .0101, .0109, .0112, .0201, .0301, .0501, .0503; 03R .0117; 18A .0302, .0901, .0906, repeal the rules cited as 15A NCAC 03K .0104, .0401, .0403, .0405; 18A .0704, readopt with substantive changes the rules cited as 15A NCAC 18A .0301, .0401-.0410, .0412-.0422, .0424, .0426-.0430, .0432-.0435, .0501, .0502, .0504, .0601-.0603, .0605-.0616, .0618-.0620, .0701, .0801, readopt without substantive changes the rule cited as 15A NCAC 18A .0423, repeal through readoption the rules cited as 15A NCAC 18A .0305, .0411, .0436, .0503, .0604, .0617, .0621, .0702, .0703, .0705-.0713 and .0802-.0806.*

*Pursuant to G.S. 150B-21.17, the Codifier has determined it impractical to publish the text of rules proposed for repeal unless the agency requests otherwise. The text of the rules is available on the OAH website at <http://reports.oah.state.nc.us/ncac.asp>.*

*Pursuant to G.S. 150B-21.2(c)(1), the text of the rule(s) proposed for readoption without substantive changes are not required to be published. The text of the rules is available on the OAH website: <http://reports.oah.state.nc.us/ncac.asp>.*

**Link to agency website pursuant to G.S. 150B-19.1(c):**  
<https://deq.nc.gov/mfc-proposed-rules>

**Proposed Effective Date:** April 1, 2024 (15A NCAC 03K .0110; 03R .0117; 18A .0301, .0305, .0401-.0418, .0421-.0424, .0426, .0428-.0430, .0432-.0439, .0501-.0504, .0601-.0621, .0701-.0713, .0801-.0806)

**Rules automatically subject to legislative review:** S.L. 2019-198: 15A NCAC 03I .0113; 03K .0101, .0104, .0301, .0401, .0403, .0405; 03O .0101, .0109, .0112, .0301, .0501, .0503; 18A .0302, .0419, .0420, .0427; S.L. 2019-37: 15A NCAC 03O .0201

15A NCAC 03I .0101- Pending legislative review of 15A NCAC 03O .0201

15A NCAC 18A .0901, .0906 - Pending legislative review of 15A NCAC 03K .0104

**Public Hearing:**  
**Date:** August 16, 2023  
**Time:** 6:00 p.m.  
**Location:**

WebEx Events meeting link:  
<https://ncdenrits.webex.com/ncdenrits/j.php?MTID=mfc74bc5016579e7a09f2b2ef4c36727d>  
Event number: 2425 745 2610  
Event password: 1234  
Event phone number: 1-415-655-0003  
Listening station: Division of Marine Fisheries Central District Office, 5285 Highway 70 West, Morehead City, NC 28557

**Reason for Proposed Action:**

- Shellfish Relay Program
- 15A NCAC 03I .0101 DEFINITIONS**
- 15A NCAC 03K .0101 PROHIBITED ACTIVITIES IN POLLUTED SHELLFISH AREAS**
- 15A NCAC 03K .0104 PERMITS FOR RELAYING SHELLFISH FROM POLLUTED AREAS**
- 15A NCAC 03K .0301 SIZE AND HARVEST LIMITS OF CLAMS**
- 15A NCAC 03K .0401 POLLUTED AREA PERMIT REQUIREMENTS**
- 15A NCAC 03K .0403 DISPOSITION OF MEATS**
- 15A NCAC 03K .0405 OYSTERS, HARD CLAMS, OR MUSSELS PROHIBITED**
- 15A NCAC 03O .0201 STANDARDS AND REQUIREMENTS FOR SHELLFISH LEASES AND FRANCHISES**
- 15A NCAC 03O .0501 PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS**
- 15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC**
- 15A NCAC 18A .0901 DEFINITIONS**
- 15A NCAC 18A .0906 RESTRICTED AREAS**

*Proposed repeals (15A NCAC 03K .0104, .0401, .0403, .0405) and amendments (15A NCAC 03I .0101, 03K .0101, .0301, 03O .0201, .0501, .0503, 18A .0901, .0906) make conforming changes to remove outdated shellfish relay requirements to reflect the discontinuation of the N.C. Division of Marine Fisheries Shellfish Relay Program. Additional proposed amendments to 15A NCAC 03K .0101 clarify exceptions for activities allowed in polluted shellfish areas that require an Aquaculture Seed Transport Permit, Depuration Permit, or Shellfish Relocation Permit. Additional proposed amendments to 15A NCAC 03I .0101 move three defined terms to 15A NCAC 03O .0201 and update them consistent with Session Law 2019-37, Section 3, to apply to that section of rules about shellfish leases and franchises. Proposed amendments to Paragraphs (c) through (h) of 15A NCAC 03O .0201 incorporate and conform the shellfish production and planting requirements from Session Law 2019-37 for shellfish leases granted before July 1, 2019 and for shellfish leases granted on or after this date; proposed amendments to Paragraph (i) require shellfish lease or franchise holders to meet the listed production, marking, and permit requirements for current*

shellfish leases before being eligible for additional shellfish lease acreage. Doing so would help ensure more efficient and meaningful use of the public trust bottom by preventing persons not in good standing from precluding potential applicants from applying for a shellfish lease in affected areas. A technical change is proposed to 15A NCAC 03I .0101(5)(k) to remove Elizabeth City from the definition of "Office of the Division" since the license office there is permanently closed; the remaining offices are also proposed to be listed in geographic order from south to north. Additional minor changes to this group of rules correct cross-references to other rules.

Data Collection and Harassment Prevention for the Conservation of Marine and Estuarine Resources

**15A NCAC 03I .0113 DATA COLLECTION**

Proposed amendments set requirements to address harassment by any licensee or person engaged in regulated activity under Chapter 113, Subchapter IV, of the General Statutes (e.g., fishing) of N.C. Division of Marine Fisheries employees that occurs in the process of obtaining data for the conservation of marine and estuarine resources, and data for the protection of public health related to the public health programs that fall under the authority of the N.C. Marine Fisheries Commission. Additional amendments provide the types of data that may be collected. The amendments support the importance of participation by persons engaged in regulated fishing activity in division data collection and provide a safer working environment for division employees.

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

**15A NCAC 03O .0109 ASSIGNMENT OF STANDARD COMMERCIAL FISHING LICENSE**

**15A NCAC 03O .0112 FOR-HIRE LICENSE REQUIREMENTS**

**15A NCAC 03O .0301 ELIGIBILITY AND REQUIREMENTS FOR RECREATIONAL COMMERCIAL GEAR LICENSES**

Proposed amendments make it unlawful for a holder of a Standard Commercial Fishing License or Retired Standard Commercial Fishing License (15A NCAC 03O .0101), an assignee of a Standard Commercial Fishing License (15A NCAC 03O .0109), a person involved in regulated activity related to for-hire fishing (15A NCAC 03O .0112), and a holder of a Recreational Commercial Gear License (15A NCAC 03O .0301) to fail to participate in and provide accurate information for data collection in accordance with 15A NCAC 03I .0113 and for survey programs administered by the N.C. Division of Marine Fisheries. The amendments support the importance of participation by persons engaged in regulated fishing activity in division data collection for the conservation of marine and estuarine resources and the protection of public health related to the public health programs that fall under the authority of the N.C. Marine Fisheries Commission, and also provide a safer working environment for division employees.

Oyster Sanctuary Changes

**15A NCAC 03R .0117 OYSTER SANCTUARIES**

Proposed amendments add the boundaries of the two newest oyster sanctuaries (Cedar Island and Gull Shoal) and correct boundaries for three other oyster sanctuaries (Pea Island, Raccoon Island, and Swan Island) where recently published coordinates were found to be inconsistent with permitted and marked reef boundaries. These changes will protect oysters from bottom disturbing gear and safeguard boaters navigating the sanctuaries. Coordinates for three sanctuaries are proposed to be reorganized to standardize the cardinal directions, for consistency; there are no changes to the overall sanctuary, nor the coordinate pairs themselves.

15A NCAC 18A Readoptions

**15A NCAC 03K .0110, 18A .0301, .0302, .0305, .0401-.0424, .0426-.0430, .0432-.0439, .0501-.0504, .0601-.0621, .0701-.0713, .0801-.0806**

North Carolina G.S. 150B-21.3A requires State agencies to review their existing rules every 10 years to determine which rules are still necessary, and to either readopt or repeal each rule as appropriate. This group of 85 rules in 15A NCAC 03 and 18A is proposed for the readoption of one rule with no changes, readoption of 55 rules with amendments, repeal through readoption of 23 rules, amendment of two rules, adoption of three rules, and the repeal of one rule pursuant to this requirement. Proposed changes would help ensure that North Carolina remains in full compliance with National Shellfish Sanitation Program requirements, allow the N.C. Division of Marine Fisheries to increase clarity of rules for stakeholders, and allow the division to efficiently support and enforce rules for the protection of public health related to the consumption of shellfish.

**Comments may be submitted to:** Catherine Blum, P.O. Box 769, Morehead City, NC 28557 (Written comments may also be submitted via an online form available at <https://deq.nc.gov/mfc-proposed-rules>)

**Comment period ends:** October 2, 2023

**Procedure for Subjecting a Proposed Rule to Legislative Review:** If an objection is not resolved prior to the adoption of the rule, a person may also submit a written objection to the Rules Review Commission. If the Rules Review Commission receives written and signed objections after the adoption of the Rule in accordance with G.S. 150B-21.3(b2) from 10 or more persons clearly requesting review by the legislature and the Rules Review Commission approves the rule, the rule will become effective as provided in G.S. 150B-21.3(b1). The Commission will receive written objections until 5:00 p.m. on the day following the day the Commission approves the rule. The Commission will receive letters via U.S. Mail, private courier service, or hand delivery to 1711 New Hope Church Road, Raleigh, North Carolina, or via email to [oah.rules@oah.nc.gov](mailto:oah.rules@oah.nc.gov). If you have any further questions concerning the submission of objections to the Commission, please review 26 NCAC 05 .0110 or call a Commission staff attorney at 984-236-1850.

**Fiscal impact. Does any rule or combination of rules in this notice create an economic impact? Check all that apply.**

State funds affected



- Local funds affected
- Substantial economic impact (>= \$1,000,000)
- Approved by OSBM
- No fiscal note required

CHAPTER 03 - MARINE FISHERIES

SUBCHAPTER 03I – GENERAL RULES

SECTION .0100 – GENERAL RULES

15A NCAC 03I .0101 DEFINITIONS

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

- (1) enforcement and management terms:
  - (a) "Commercial quota" means total quantity of fish allocated for harvest by commercial fishing operations.
  - (b) "Educational institution" means 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 Environmental Quality 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" means all Coastal Fishing Waters except the Atlantic Ocean.
  - (d) length of finfish:
    - (i) "Curved fork length" means 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" means 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" means 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

- (iv) top of the pectoral fin and the top of the caudal keel. "Total length" means 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) "Nongovernmental conservation organization" means an organization whose primary mission is the conservation of natural resources.
- (f) "Polluted" means any shellfish growing waters as defined in 15A NCAC 18A .0901:
  - (i) that are contaminated with fecal material, pathogenic microorganisms, poisonous or deleterious substances, or marine biotoxins that render the consumption of shellfish from those growing waters hazardous;
  - (ii) that have been determined through a sanitary survey as defined in 15A NCAC 18A .0901 to be adjacent to a sewage treatment plant outfall or other point source outfall with public health significance;
  - (iii) that have been determined through a sanitary survey as defined in 15A NCAC 18A .0901 to be in or adjacent to a marina;
  - (iv) that have been determined through a sanitary survey as defined in 15A NCAC 18A .0901 to be impacted by other potential sources of pollution that render the consumption of shellfish from those growing waters hazardous; or
  - (v) where the Division of Marine Fisheries is unable to complete the monitoring necessary to determine the presence of contamination or potential pollution sources.
- (g) "Recreational possession limit" means restrictions on size, quantity, season, time period, area, means, and methods where take or possession is for a recreational purpose.
- (h) "Recreational quota" means total quantity of fish allocated for harvest for a recreational purpose.

- (i) "Regular closed oyster season" means March 31 through October 15, unless amended by the Fisheries Director through proclamation authority.
  - (j) "Scientific institution" means 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 Sub-items (j)(i) and (ii) of this Item.
- (2) fishing activities:
- (a) "Aquaculture operation" means an operation that produces artificially propagated stocks of marine or estuarine resources, or other non-native species that may thrive if introduced into Coastal Fishing Waters, or obtains such stocks from permitted sources for the purpose of rearing on private bottom (with or without the superadjacent water column) or 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" means 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" means 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.
- (d) "Depuration" means mechanical purification or the removal of adulteration from live oysters, clams, or mussels by any artificially controlled means.
  - (e) "Long haul operation" means fishing a seine towed between two vessels.
  - (f) "Peeler crab" means 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" means any actual or constructive holding whether under claim of ownership or not.
  - (h) "Recreational purpose" means a fishing activity that is not a commercial fishing operation as defined in G.S. 113-168.
  - ~~(i) "Shellfish marketing from leases and franchises" means 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" means the process of obtaining authorized cultch materials, seed shellfish, and shellfish stocks from polluted waters and the placement of those materials on privately held shellfish bottoms for increased shellfish production.~~
  - ~~(k) "Shellfish production on leases and franchises" means:
 
    - (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.~~
- (4)(i) "Swipe net operations" means fishing a seine towed by one vessel.
  - ~~(m)(j)~~ "Transport" means to ship, carry, or cause to be carried or moved by public or private carrier by land, sea, or air.
  - ~~(n)(k)~~ "Use" means to employ, set, operate, or permit to be operated or employed.
- (3) gear:
- (a) "Bunt net" means 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" means 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" means 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 that 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;
  - (d) "Corkline" means 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" means 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" means a net anchored or staked to the bottom, or some structure attached to the bottom, at both ends of the net.
  - (g) "Fyke net" means 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" means 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 length, webbing diameter, or method in which it is used.
  - (i) "Headrope" means 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" means an entrapment net supported by a series of internal or
  - (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.

- 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" means 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" means 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" means 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" means the distance from the inside of one knot to the outside of the opposite knot, when the net is stretched hand-tight in a manner that closes the mesh opening.
  - (o) "Pound net set" means 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 net" means 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" means 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 length, webbing diameter, or method in which it is used.
- (4) "Fish habitat areas" means 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" means those areas in the riverine and estuarine systems utilized by post-larval and later juvenile anadromous fish.
    - (b) "Anadromous fish spawning areas" means 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" means:
      - (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" means a formation, regardless of size or shape, formed of shell and live oysters of varying density.
    - (e) "Live rock" means 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" means 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 that 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" means 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" means 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" means 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 15A NCAC 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" means 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" means 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, means when the vessel is fishing in State waters or when the vessel originates from or returns to a North Carolina port.
  - (d) "Franchise" means a franchise recognized pursuant to G.S. 113-206.
  - (e) "Holder" means a person who has been lawfully issued in the person's name a license, permit, franchise, lease, or assignment.
  - (f) "Land" means:
    - (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 fish reach the shore or a structure connected to the shore.
    - (iii) for recreational fishing operations, when fish are retained in possession by the fisherman.
  - (g) "Licensee" means any person holding a valid license from the Department to

take or deal in marine fisheries ~~resources-~~ resources, except as otherwise defined in 15A NCAC 03O .0109.

- (h) "Logbook" means 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.
- (i) "Master" means captain or operator of a vessel or one who commands and has control, authority, or power over a vessel.
- (j) "New fish dealer" means 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.
- (k) "Office of the Division" means physical locations of the Division conducting license and permit transactions in Wilmington, Morehead City, Washington, Morehead City, Roanoke Island, and Elizabeth City, and Roanoke Island, 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.
- (l) "Responsible party" means the 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.
- (m) "Tournament organizer" means the person who coordinates, supervises, or otherwise directs a recreational fishing tournament and is the holder of the Recreational Fishing Tournament License.
- (n) "Transaction" means an act of doing business such that fish are sold, offered for sale, exchanged, bartered, distributed, or landed.
- (o) "Transfer" means 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.

- (p) "Trip ticket" means 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; 113-182; 143B-289.52.

15A NCAC 03I .0113 BIOLOGICAL SAMPLING DATA COLLECTION

(a) For the purpose of this Rule, "responsible person" shall mean any licensee or person engaged in regulated activity under Chapter 113, Subchapter IV, of the General Statutes.

(b) It shall be unlawful for any licensee under Chapter 113, Subchapter IV, of the General Statutes responsible person to refuse to allow the Fisheries Director or the Fisheries Director's agents to obtain biological data, harvest information, or other statistical data necessary or useful to the conservation and management of marine and estuarine resources from for the taking of fish in the licensee's possession by the responsible person. Such data shall include, but is not limited to, may include:

- (1) species identification, identification;
(2) species length, length;
(3) species weight, weight;
(4) species age, age;
(5) species sex, sex;
(6) number, number of species;
(7) quantity of catch;
(8) area of catch, catch;
(9) harvest method, and of quantity catch, method;
(10) gear and gear specifications;
(11) target species;
(12) number of hours and days the responsible person spent fishing;
(13) state, county, and zip code of responsible person;
(14) number of individuals fishing with responsible person; and
(15) social and economic data, including fishing expenditures.

(c) It shall be unlawful for any responsible person to refuse to allow the Fisheries Director or the Fisheries Director's agents to obtain data for the protection of public health related to the public health programs that fall under the authority of the Marine Fisheries Commission.

(d) It shall be unlawful for any responsible person to harass the Fisheries Director or the Fisheries Director's agents in any way related to the requirements of Paragraphs (b) and (c) of this Rule, including verbal or physical harassment or sexual harassment. For the purpose of this Rule, "harassment" shall be defined consistent with 50 CFR 600.725(o), (t), and (u), including to:

- (1) harass;
(2) sexually harass, including making sexual connotations;

- (3) oppose;
(4) impede;
(5) intimidate;
(6) interfere;
(7) prohibit or bar by command, impediment, threat, coercion, interference, or refusal of reasonable assistance, the Fisheries Director or the Fisheries Director's agents from conducting his or her duties; or
(8) tamper with or destroy samples or equipment;

50 CFR 600.725(o), (t), and (u), is incorporated by reference except as provided in Paragraph (e) of this Rule, including subsequent amendments and editions. A copy of the reference material can be found at https://www.ecfr.gov/current/title-50/chapter-VI/part-600/subpart-H/section-600.725, at no cost. (e) Exceptions to 50 CFR 600.725(t) include "assault".

Authority G.S. 113-134; 113-170.3; 113-174.1; 113-181; 113-182; 113-221.2; 143B-289.52.

SUBCHAPTER 03K - OYSTERS, CLAMS, SCALLOPS, AND MUSSELS

SECTION .0100 – SHELLFISH, GENERAL

15A NCAC 03K .0101 PROHIBITED ACTIVITIES IN POLLUTED SHELLFISH AREAS

(a) It shall be unlawful to possess, sell, or take oysters, clams, or mussels from areas that have been designated as polluted by proclamation by the Fisheries Director except as provided in Rules .0103, .0104, .0107, and .0401 of this Subchapter, except in accordance with:

- (1) a Depuration Permit as set forth in Rule .0107 of this Section;
(2) an Aquaculture Seed Transplant Permit; or
(3) a Shellfish Relocation Permit. The Fisheries Director may, by proclamation, designate sites for relocation where shellfish would otherwise be destroyed due to maintenance dredging, construction, or other development activities.

Individuals shall obtain an Aquaculture Seed Transplant Permit from the Secretary, or a Depuration Permit or a Shellfish Relocation Permit from the Fisheries Director setting forth the time, area, and method by which such shellfish may be taken. The procedures and requirements for obtaining permits are found in 15A NCAC 03O .0500.

(b) The Fisheries Director shall issue shellfish polluted area proclamations if criteria for approved shellfish harvest areas in accordance with 15A NCAC 18A .0900 have not been met. The Fisheries Director may reopen any such closed area by proclamation if criteria for approved shellfish harvest areas in accordance with 15A NCAC 18A .0900 have been met. Copies of these proclamations and maps of these areas are available upon request at the Division of Marine Fisheries, 3441 Arendell Street, P.O. Box 769, Morehead City, NC 28557; 800-682-2632 or 252-726-7021.

(c) The Fisheries Director may, by proclamation, close areas to the taking of oysters, clams, scallops, and mussels to protect the shellfish populations for management purposes or for protection



of public health related to the public health programs that fall under the authority of the Marine Fisheries Commission not specified in ~~Paragraph (a)~~ Paragraphs (a) or (b) of this Rule.

~~(c)~~(d) It shall be unlawful to possess or sell oysters, clams, or mussels taken from polluted waters outside North Carolina, except as provided in 15A NCAC 03I .0104.

Authority G.S. 113-134; 113-168.5; 113-169.2; 113-182; 113-203; 113-221.1; 113-221.2; 143B-289.52.

**15A NCAC 03K .0104 PERMITS FOR RELAYING SHELLFISH FROM POLLUTED AREAS**

Authority G.S. 113-134; 113-182; 113-203; 113-221.1; 143B-289.52.

**15A NCAC 03K .0110 PUBLIC HEALTH AND CONTROL OF OYSTERS, CLAMS, SCALLOPS, AND MUSSELS**

(a) The National Shellfish Sanitation Program Guide for Control of Molluscan Shellfish, Section II: Model Ordinance (Model Ordinance) includes requirements for the sale or distribution of shellfish from approved areas or shellstock shellfish dealers, as defined in 15A NCAC 18A .0301, and to ensure that shellfish have not been adulterated or mislabeled misbranded during cultivation, harvesting, processing, storage, or transport. To protect public health, the Fisheries Director may, by proclamation, impose requirements of the Model Ordinance as set forth in Paragraph (b) of this Rule on any of the following:

- (1) the cultivation, distribution, harvesting, processing, sale, storage, or transport ~~of~~ of:
  - (A) oysters;
  - (B) clams;
  - (C) scallops; ~~or~~ and
  - (D) mussels;
- (2) areas used to store shellfish;
- (3) means and methods to take shellfish;
- (4) vessels used to take shellfish; ~~or~~ and
- (5) shellstock conveyances as defined in 15A NCAC 18A .0301.

(b) Proclamations issued under this Rule may impose any of the following requirements:

- (1) specify time and temperature controls;
- (2) specify sanitation requirements to prevent a food safety hazard, as defined in 15A NCAC 18A .0301, or cross-contamination or adulteration of shellfish;
- (3) specify sanitation control procedures set forth in 21 ~~Code of Federal Regulations (CFR) Part~~ CFR 123.11;
- (4) specify Hazard Analysis Critical Control Point (HACCP) requirements set forth in 21 ~~CFR Part~~ CFR:
  - (A) 123.3 Definitions;
  - (B) 123.6 HACCP Plan;
  - (C) 123.7 Corrective Actions;
  - (D) 123.8 Verification;
  - (E) 123.9 Records; and
  - (F) 123.28 Source Controls;

- (5) specify tagging and labeling requirements;
- (6) implement the National Shellfish Sanitation Program's training requirements for shellfish harvesters and certified shellfish dealers;
- (7) require sales records and collection and submission of information to provide a mechanism for tracing shellfish product back to the water body of origin; and
- (8) require product recall and specify recall procedures.

21 CFR 123.3, 123.6-9, 123.11, and 123.28 are hereby incorporated by reference, including subsequent amendments and editions. A copy of the reference materials material can be found at [http://www.ecfr.gov/cgi-bin/text-idx?SID=f4cdd666e75f54ceda1d9938f4cdd9ab&mc=true&tpl=/ecfr/browse/Title21/21tab\\_02.tpl](http://www.ecfr.gov/cgi-bin/text-idx?SID=f4cdd666e75f54ceda1d9938f4cdd9ab&mc=true&tpl=/ecfr/browse/Title21/21tab_02.tpl), free of charge. <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-123?toc=1>, at no cost.

(c) 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; 113-182; 113-201; 113-221.1; 113-221.2; 143B-289.52.

**SECTION .0300 - HARD CLAMS (MERCENARIA)**

**15A NCAC 03K .0301 SIZE AND HARVEST LIMITS OF CLAMS**

(a) It shall be unlawful to take, land, or possess aboard a vessel more than 6,250 hard clams per commercial fishing operation from public bottom in internal waters. It shall be unlawful to take, possess, sell, or purchase any clams (except Rangia or freshwater clams) less than one inch thick except in accordance with Rule .0305 of this Section. Clams shall be culled where harvested and all clams of less than legal size with their shell, shall be immediately returned to the bottom from which they were taken. In determining whether the size and harvest limits have been exceeded, Marine Fisheries Inspectors shall be authorized and empowered to grade all, or any portion, or any combination of portions of the entire quantity being graded, and in cases of violations, may seize and return to public bottom or otherwise dispose of the clams as authorized by law the entire quantity being graded or any portion thereof.

(b) Size and harvest limits established in Paragraph (a) of this Rule and the season and area limitations established in Rule .0302 of this Section may or may not apply for:

- (1) harvest limits for temporary openings consistent with the requirements of 15A NCAC 18A .0900 and the North Carolina Hard Clam Fishery Management Plan; or
- (2) maintenance dredging operations, when clams would otherwise be destroyed, upon approval by the Division of Marine Fisheries and

- (3) consistent with the North Carolina Hard Clam Fishery Management ~~Plan; or Plan.~~ ~~relaying of clams from polluted waters to private shellfish bottom as permitted by Rule .0104 of this Subchapter.~~

(2) a statement from the licensee that the information and supporting documentation submitted with the application is true and correct.

(3) current and valid picture identification of the licensee. Acceptable forms of picture identification are state driver's license, state identification card issued by the Division of Motor Vehicles, military identification card, resident alien card (green card), or passport; or if purchased by mail, a copy thereof.

(4) certification that the applicant does not have four or more marine or estuarine resource convictions during the previous three years.

(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 vessel master shall also be specified. The licensee shall notify the Morehead City Office of the Division within five days of changing the vessel master.

(6) a current copy of a written partnership agreement shall be provided when purchasing a license, endorsement, or Commercial Fishing Vessel Registration in a partnership name, if a partnership is established.

(7) 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.

(8) affirmation of liability insurance and that the operator is knowledgeable of United States Coast Guard (USCG) safety requirements for the vessels used in the operation in accordance with G.S. 113-168.6 when purchasing a Commercial Fishing Vessel Registration with a for-hire endorsement.

(d) In addition to the requirements of Paragraph (c) of this Rule, proof of residency for non-residents shall be documented by the licensee with certification of the state of residency. Proof of residency for residents of North Carolina shall be documented by the licensee as follows:

(1) Standard or Retired Standard Commercial Fishing Licenses: 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;

(B) a notarized certification that the applicant was not required to file a

Authority G.S. 113-134; 113-136; 113-137; 113-182; 113-221.2; 143B-289.52.

**SECTION .0400 - RANGIA CLAMS**

**15A NCAC 03K .0401 POLLUTED AREA PERMIT REQUIREMENTS**

Authority G.S. 113-134; 113-182; 113-201; 113-202; 143B-289.52.

**15A NCAC 03K .0403 DISPOSITION OF MEATS**

Authority G.S. 113-134; 113-182; 113-201; 113-202; 143B-298.52.

**15A NCAC 03K .0405 OYSTERS, HARD CLAMS, OR MUSSELS PROHIBITED**

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

**SUBCHAPTER 030 - LICENSES, LEASES, FRANCHISES, AND PERMITS**

**SECTION .0100 - LICENSES**

**15A NCAC 030 .0101 PROCEDURES AND REQUIREMENTS TO OBTAIN LICENSES, ENDORSEMENTS, AND COMMERCIAL FISHING VESSEL REGISTRATIONS**

(a) Division of Marine Fisheries licenses are available at offices of the Division or by mail from the Morehead City Office of the Division, unless otherwise specified. In addition, Recreational Commercial Gear Licenses are available at license agents of the Wildlife Resources Commission in accordance with G.S. 113-270.1.

(b) For the purpose of this Rule, the procedures and requirements for the licensee shall also apply to the responsible party, the person holding power of attorney, the tournament organizer, and the vessel master.

(c) To obtain Division of Marine Fisheries licenses, endorsements, and Commercial Fishing Vessel Registrations, a licensee shall provide a completed application to an office of the Division by mail or in person. 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. The following shall be required for the application:

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



- North Carolina State Income Tax Return for the previous calendar or tax year; or
    - (C) military identification or military dependent identification, and permanent change of station orders or assignment orders substantiating the military individual's active duty assignment at a military facility in North Carolina.
  - (2) All other types of licenses:
    - (A) North Carolina voter registration card;
    - (B) current North Carolina Driver's License;
    - (C) current North Carolina Certificate of Domicile;
    - (D) current North Carolina Identification Card issued by the North Carolina Division of Motor Vehicles; or
    - (E) military identification or military dependent identification, and permanent change of station orders or assignment orders substantiating the military individual's active duty assignment at a military facility in North Carolina.
  - (e) In addition to the requirements in Paragraphs (c) and (d) of this Rule, the following shall be required:
    - (1) Blanket For-Hire Captain's CRFL: 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.
    - (2) Blanket For-Hire Vessel CRFL or Non-Blanket For-Hire Vessel License:
      - (A) valid documentation papers or current motor boat registration, or copies thereof for the vessel engaged as for-hire; or
      - (B) a copy of the pending application and a notarized bill of sale if an application for transfer of documentation is pending.
    - (3) Fish Dealer License:
      - (A) the physical address of the established location where business is conducted and, if different, the address where records are kept; and
      - (B) a valid Permit and Certificate of Compliance from the Division of Marine Fisheries Shellfish Sanitation and Recreational Water Quality Section, if purchasing a Fish Dealer License with clam or oyster categories or a consolidated license.
    - (4) Land or Sell License:
      - (A) valid documentation papers or current motor boat registration, or copy thereof; or
      - (B) a copy of the pending application and a notarized bill of sale if an application for transfer of documentation is pending.
- The fees for a Land or Sell License shall be based on the vessel's homeport as it appears on the USCG documentation papers or the state in which the vessel is registered, in accordance with G.S. 113-169.5.
- (5) Ocean Fishing Pier License:
    - (A) the information required in G.S. 113-169.4; and
    - (B) linear length of the pier. A Marine Fisheries inspector's signature is required to verify the linear length of the pier before the license can be issued.
  - (6) Recreational Fishing Tournament License to Sell Fish: name and date or dates of the tournament.
  - (7) Spotter Plane License:
    - (A) the information required in G.S. 113-171.1;
    - (B) the current aircraft registration; and
    - (C) a list of operators.
  - (f) For a License to Land Flounder from the Atlantic Ocean, in addition to the requirements in Paragraphs (c) and (d) of this Rule, the following shall be applicable:
    - (1) for the purpose of this Paragraph, "license year" means the period beginning July 1 of a year through June 30 of the following year.
    - (2) 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;
      - (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.
    - (3) it shall be unlawful for a person to hold more Licenses to Land Flounder from the Atlantic Ocean than the number of vessels that the person owns that individually met the eligibility requirements of Parts (f)(2)(A) and (f)(2)(B) of this Rule.
    - (4) the License to Land Flounder from the Atlantic Ocean is only valid when used on the vessel specified at the time of license issuance.
    - (5) at the time of issuance, the applicant for the License to Land Flounder from the Atlantic Ocean shall specify the name of the vessel

master for each License to Land Flounder from the Atlantic Ocean issued.

(6) the holder of the License to Land Flounder from the Atlantic Ocean shall notify the Morehead City Office of the Division of Marine Fisheries within five days of change as to the vessel master identified on the license.

(7) Licenses to Land Flounder from the Atlantic Ocean are issued for the current license year.

(g) For a Recreational Fishing Tournament License to Sell Fish, in addition to the requirements in Paragraphs (c) and (d) of this Rule, the following shall be applicable:

(1) it shall be unlawful for anyone other than the holder of the Recreational Fishing Tournament License to Sell Fish to sell fish taken during a recreational fishing tournament.

(2) fish to be sold under the Recreational Fishing Tournament License to Sell Fish shall be sold only to licensed fish dealers and shall comply with all applicable rules of the Marine Fisheries Commission or provisions of proclamations issued by the Fisheries Director as authorized by the Marine Fisheries Commission.

(3) it shall be unlawful for a licensed recreational fishing tournament organizer to fail to accurately and legibly complete a North Carolina Recreational Fishing Tournament Disposition of Proceeds from the Sale of Fish Form provided by the Division of Marine Fisheries and submit the form to the Division within 30 days after the last day of the tournament.

(h) It shall be unlawful for a license, endorsement, or Commercial Fishing Vessel Registration holder to fail to notify the Division of Marine Fisheries within 30 days of a change of name or address, in accordance with G.S. 113-169.2.

(i) If requested by the Division, it shall be unlawful for a licensee to fail to participate in and provide accurate information for data collection in accordance with 15A NCAC 03I .0113 and for survey programs administered by the Division.

*Authority G.S. 113-134; 113-168; 113-168.1-6; 113-169.2-5; 113-171.1; 113-174.3; 113-182; 143B-289.52.*

**15A NCAC 030 .0109 ASSIGNMENT OF STANDARD COMMERCIAL FISHING LICENSE**

(a) For the purpose of this Rule, "licensee" shall mean the person issued a Standard Commercial Fishing License and "assignee" shall mean the individual to whom the licensee assigns a Standard Commercial Fishing License in accordance with the requirements of this Rule.

(b) If requested by the Division of Marine Fisheries, it shall be unlawful for a licensee or assignee to fail to participate in and provide accurate information for data collection in accordance with 15A NCAC 03I .0113 and for survey programs administered by the Division.

~~(b)(c)~~ The Division of Marine Fisheries shall provide assignment forms to the licensee upon request. Only Division assignment forms shall be used to obtain an assignment. On the assignment

form, the licensee shall designate what, if any, endorsements are included in the assignment. Endorsements shall not be assigned independent of the Standard Commercial Fishing License. It shall be unlawful for the licensee or the assignee to fail to submit within five days the completed assignment form to any office of the Division in person or by mail to the Morehead City Office. The Morehead City Office is located at 3441 Arendell Street, Morehead City, North Carolina, 28557. If the completed assignment form is not received by the Division within five days from the date it was signed, the assignment shall be null and void. Incomplete forms shall be returned to the licensee with deficiency in the form so noted. An assignment is in effect from the date specified on the assignment form and when:

- (1) the assignment form is complete with all required information;
- (2) signatures of the current license holder and the assignee are notarized; and
- (3) the assignee has in the assignee's possession the current licensee's original actual Standard Commercial Fishing License, including applicable endorsements in accordance with G.S. 113-169.2.

~~(e)(d)~~ For an extension of time for assignments, a new assignment form shall be completed in accordance with Subparagraphs (b)(1) through (b)(3) of this Rule.

~~(d)(e)~~ Assignments shall terminate:

- (1) when the date specified on the assignment form is reached;
- (2) if the licensee or assignee are determined ineligible for a license or assignment;
- (3) if the Division receives a notarized statement from the current license holder stating a revised date for an earlier assignment termination;
- (4) upon the licensee or assignee's death; or
- (5) when the Standard Commercial Fishing License expires.

~~(e)(f)~~ It shall be unlawful for an individual assigned a Standard Commercial Fishing License when involved in a commercial fishing operation to fail to have the original actual Standard Commercial Fishing License, any assigned endorsements, and a copy of the assignment form in the individual's possession ready at hand for inspection in accordance with G.S. 113-168.1.

~~(f)(g)~~ All landings occurring during the time of the assignment shall be credited to the licensee, not the assignee.

~~(g)(h)~~ It shall be unlawful to be assigned more than a single Standard Commercial Fishing License at any one time. It shall be unlawful to assign a Standard Commercial Fishing License to more than one individual at any one time. Assignments shall only be made by the licensee and shall not be further assigned by assignees. Masters identified on the Standard Commercial Fishing Licenses of corporations consisting of an individual fishing vessel shall not assign such licenses.

~~(h)(i)~~ It shall be unlawful for a person to accept assignment of a Standard Commercial Fishing License for which they are ineligible.

~~(i)(j)~~ It shall be unlawful for any assignee of a Standard Commercial Fishing License not to return the assignment and the Standard Commercial Fishing License with any assigned endorsements to the licensee within five days of notice that the

assignment has been terminated or a demand by the licensee to return the license.

Authority G.S. 113-134; 113-135; 113-168.1; 113-168.2; 113-168.5; 113-169.2; 113-182; 113-187; 143B-289.52.

15A NCAC 030 .0112 FOR-HIRE LICENSE REQUIREMENTS

(a) The license requirements for an operator of a vessel engaged in a for-hire operation are set forth in G.S. 113-174.3. Either the vessel owner or the for-hire vessel operator may seek to obtain the applicable for-hire vessel license. Only the vessel owner shall seek to obtain the applicable registration and endorsement required by G.S. 113-168.6. For the purpose of this Rule, "for-hire vessel operator" shall include the holder of a Blanket For-Hire Captain's Coastal Recreational Fishing License, Blanket For-Hire Vessel Coastal Recreational Fishing License, or Non-Blanket For-Hire Vessel License, as set forth in G.S. 113-174.3.

(b) It shall be unlawful for a for-hire vessel operator to operate without:

- (1) holding the United States Coast Guard certification required in Rule .0101(a) of this Section;
(2) having 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) If requested by the Division of Marine Fisheries, it shall be unlawful for a for-hire vessel operator or responsible person to fail to participate in and provide accurate information for biological sampling data collection in accordance with 15A NCAC 03I.0113 and for survey programs administered by the Division. For the purpose of this Rule, "responsible person" shall mean any licensee or person engaged in regulated activity under Chapter 113, Subchapter IV, of the General Statutes, including regulated activity related to for-hire fishing.

(d) Requirements for display of licenses and registrations for a vessel engaged in for-hire recreational fishing are set forth in Rule .0106 of this Section.

Authority G.S. 113-134; 113-168.6; 113-174.1; 113-174.3; 113-181; 143B-289.52.

SECTION .0200 - SHELLFISH LEASES AND FRANCHISES

15A NCAC 030 .0201 STANDARDS AND REQUIREMENTS FOR SHELLFISH LEASES AND FRANCHISES

(a) For the purpose of this Section:

- (1) "extensive shellfish culture" shall mean shellfish grown on the bottom without the use of cages, racks, bags, or floats.
(2) "intensive shellfish culture" shall mean shellfish grown on the bottom or in the water column using cages, racks, bags, or floats.
(3) "plant" shall mean providing evidence of purchasing shellfish seed or planting shellfish

seed or authorized cultch materials on a shellfish lease or franchise.

(4) "produce" shall mean the culture and harvest of oysters, clams, scallops, or mussels from a shellfish lease or franchise and lawful sale of those shellfish to the public at large or to a licensed shellfish dealer.

(a)(b) All areas of the public bottom underlying Coastal Fishing Waters shall meet the following standards and requirements, in addition to the standards in G.S. 113-202, in order to be deemed suitable for leasing for shellfish aquaculture purposes:

- (1) the proposed shellfish lease area shall not contain a "natural shellfish bed," as defined in G.S. 113-201.1, or have 10 bushels or more of shellfish per acre;
(2) the proposed shellfish lease area shall not be closer than 250 feet from a developed shoreline or a water-dependent shore-based structure, except no minimum setback is required when the area to be leased borders the applicant's property, the property of "riparian owners" as defined in G.S. 113-201.1 who have consented in a notarized statement, or is in an area bordered by undeveloped shoreline. For the purposes purpose of this Rule, a water-dependent shore-based structure shall include docks, wharves, boat ramps, bridges, bulkheads, and groins;
(3) the proposed shellfish lease area shall not be closer than 250 feet to an existing lease;
(4) the proposed shellfish lease area, either alone or when considered cumulatively with other existing leases in the area, lease areas in the vicinity, shall not interfere with navigation or with existing, traditional uses of the area; and
(5) the proposed shellfish lease area shall not be less than one-half acre and shall not exceed 10 acres.

(b)(c) To be suitable for leasing for shellfish aquaculture purposes, shellfish water column leases superjacent to a shellfish bottom lease shall meet the standards in G.S. 113-202.1 and shellfish water column leases superjacent to franchises recognized pursuant to G.S. 113-206 shall meet the standards in G.S. 113-202.2.

(e)(d) Franchises recognized pursuant to G.S. 113-206 and shellfish bottom leases Shellfish bottom leases and franchises granted on or before July 1, 2019 shall be terminated unless they meet the following requirements, in addition to the standards in and as allowed by G.S. 113-202:

- (1) they produce and market 10 bushels of shellfish per acre per year; and
(2) they are planted with 25 bushels of seed shellfish per acre per year or 50 bushels of cultch per acre per year, or a combination of cultch and seed shellfish where the percentage of required cultch planted and the percentage of required seed shellfish planted totals at least 100 percent.

~~(d)~~(e) Shellfish water column leases granted on or before July 1, 2019 shall be terminated unless they meet the following requirements, in addition to the standards in and as allowed by G.S. 113-202.1 and G.S. 113-202.2:

- (1) they produce ~~and market~~ 40 bushels of shellfish per acre per year; or
- (2) the underlying bottom is planted with 100 bushels of cultch or seed shellfish per acre per year.

(f) Shellfish bottom leases and franchises granted after July 1, 2019 shall be terminated unless they meet the following requirements, in addition to the standards in and as allowed by G.S. 113-202.2:

- (1) they produce a minimum of 20 bushels of shellfish per acre averaged over the previous three-year period beginning in year five of the shellfish bottom lease or franchise; or
- (2) for intensive culture bottom operations, the holder of the shellfish bottom lease or franchise provides evidence of purchasing a minimum of 23,000 shellfish seed per acre annually and for extensive culture bottom operations, the holder of the lease or franchise plants a minimum of 15,000 shellfish seed per acre per year.

(g) Shellfish water column leases granted after July 1, 2019 shall be terminated unless they meet the following requirements, in addition to the standards in and as allowed by G.S. 113-202.1 and 113-202.2:

- (1) they produce a minimum of 50 bushels of shellfish per acre averaged over the previous three-year period beginning in year five of the shellfish water column lease; or
- (2) the holder of the shellfish water column lease provides evidence of purchasing a minimum of 23,000 shellfish seed per acre annually.

~~(e)~~(h) The following standards shall be applied to determine compliance with Paragraphs ~~(e)~~ and ~~(d)~~(d), (e), (f), and (g) of this Rule:

- (1) ~~Only only~~ shellfish ~~marketed, planted, planted~~ or produced as defined in ~~15A-NCAC 03I.0104~~ as the fishing activities "shellfish marketing from leases and franchises," "shellfish planting effort on leases and franchises," or "shellfish production on leases and franchises" Paragraph (a) of this Rule shall be included in the annual shellfish lease and franchise production reports required by Rule .0207 of this Section.
- (2) ~~If~~ if more than one shellfish lease or franchise is used in the production of shellfish, one of the leases or franchises used in the production of the shellfish shall be designated as the producing lease or franchise for those shellfish. Each bushel of shellfish shall be produced by only one shellfish lease or franchise. Shellfish transplanted between shellfish leases or franchises shall be credited as planting effort on only one lease or franchise.
- (3) ~~Production and marketing~~ production information and planting effort information

shall be compiled and averaged separately to assess compliance with the requirements of this Rule. ~~The shellfish lease or franchise~~ Shellfish bottom leases and franchises granted on or before July 1, 2019 shall meet both the production requirement and the planting effort requirement within the dates set forth in G.S. 113-202.1 and G.S. 113-202.2 to be deemed in ~~compliance for shellfish bottom leases.~~ compliance. Shellfish bottom leases and franchises granted after July 1, 2019 and shellfish water column leases shall meet either the production requirement or the planting effort requirement within the dates set forth in G.S. 113-202.1 and G.S. 113-202.2 to be deemed in ~~compliance for shellfish water column leases.~~ compliance.

(4) ~~All~~ all bushel measurements shall be in standard U.S. bushels.

(5) ~~In~~ in determining production and marketing averages and planting effort averages for information not reported in bushel measurements, the following conversion factors shall be used:

- (A) 300 oysters, 400 clams, or 400 scallops equal one bushel; and
- (B) 40 pounds of scallop shell, 60 pounds of oyster shell, 75 pounds of clam shell, or 90 pounds of fossil stone equal one bushel.

(6) ~~Production and marketing~~ production rate averages shall be computed irrespective of transfer of the shellfish lease or franchise. The ~~production and marketing~~ rates shall be averaged for the following situations using the time periods described:

- (A) for an initial shellfish bottom lease or franchise, over the consecutive full calendar years remaining on the bottom lease or franchise contract after December 31 following the second anniversary of the initial bottom lease or franchise;
- (B) for a renewal shellfish bottom lease or franchise, over the consecutive full calendar years beginning January 1 of the final year of the previous bottom lease or franchise term and ending December 31 of the final year of the current bottom lease or franchise contract;
- (C) for a shellfish water column lease, over the first five-year period for an initial water column lease and over the most recent five-year period thereafter for a renewal water column lease; or
- (D) for a shellfish bottom lease or franchise issued an extension period



under Rule .0208 of this Section, over the most recent five-year period.

- (7) ~~In~~ in the event that a portion of an existing shellfish lease or franchise is obtained by a new lease or franchise holder, the production history for the portion obtained shall be a percentage of the originating lease or franchise production equal to the percentage of the area of lease or franchise site obtained to the area of the originating lease or franchise.

~~(f)(i) Persons To be eligible for additional shellfish lease acreage, persons holding five or more any acres under all a shellfish bottom leases and franchises combined lease or franchise shall meet the requirements established in Paragraph (e) of this Rule before submitting an application for additional shellfish lease acreage to the Division of Marine Fisheries. in:~~

- (1) Paragraphs (d), (e), (f), and (g) of this Rule;
- (2) Rule .0204 of this Section; and
- (3) Rule .0503(a) of this Subchapter.

*Authority G.S. 113-134; 113-182; 113-201; 113-202; 113-202.1; 113-202.2; 113-206; 143B-289.52; S.L. 2019-37, s. 3.*

**SECTION .0300 – RECREATIONAL COMMERCIAL GEAR LICENSES**

**15A NCAC 030 .0301 ELIGIBILITY AND REQUIREMENTS FOR RECREATIONAL COMMERCIAL GEAR LICENSES**

- (a) Recreational Commercial Gear Licenses shall only be issued to individuals.
- (b) If requested by the Division of Marine Fisheries, it shall be unlawful for a Recreational Commercial Gear License holder to fail to participate in and provide accurate information for data collection in accordance with 15A NCAC 03I .0113 and for survey programs administered by the Division.

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

**SECTION .0500 - PERMITS**

**15A NCAC 030 .0501 PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS**

- (a) To obtain a Division of Marine Fisheries permit, an applicant, responsible party, or person holding a power of attorney shall provide the following information:
- (1) the full name, physical address, mailing address, date of birth, and signature of the applicant on the application and, if the applicant is not appearing before a license agent or the designated Division of Marine Fisheries contact, the applicant's signature on the application shall be notarized;
  - (2) a current picture identification of the applicant, responsible party, or person holding a power of attorney, acceptable forms of which shall include 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) for permits that require a list of designees, the full names and dates of birth of the designees of the applicant who will be acting pursuant to the requested permit;
- (4) certification that the applicant and his or her 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) the business name;
  - (B) the type of business entity: corporation, "educational institution" as defined in 15A NCAC 03I .0101, limited liability company (LLC), partnership, or sole proprietorship;
  - (C) the 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 applying for a permit in a corporate name, the current articles of incorporation and a current list of corporate officers;
  - (E) for a partnership that 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 with the Register of Deeds office for the corresponding county 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:
- (1) Standard or Retired Standard Commercial Fishing License in order to hold:
    - (A) an Atlantic Ocean Striped Bass Commercial Gear Permit;
    - (B) a Permit for Weekend Trawling for Live Shrimp; or
    - (C) a Pound Net Set Permit.

The master designated on the single vessel corporation Standard Commercial Fishing License is the individual required to hold the Permit for Weekend Trawling for Live Shrimp.

- (2) Fish Dealer License in the proper category in order to hold dealer permits for monitoring fisheries under a quota or allocation for that category.
- (c) An individual who is assigned a valid Standard Commercial Fishing License with applicable endorsements shall be eligible to

hold any permit that requires a Standard Commercial Fishing License except a Pound Net Set Permit.

(d) If mechanical methods to take shellfish are used, a permittee and his designees shall hold a valid Standard or Retired Standard Commercial Fishing License with a Shellfish Endorsement in order for a permittee to hold a:

- (1) Depuration Permit;
- (2) ~~Permit to Harvest Rangia Clams from Prohibited (Polluted) Areas;~~
- (3)(2) Permit to Transplant Oysters from Seed Oyster Management Areas; or
- (4) ~~Permit to Transplant Prohibited (Polluted) Shellfish; or~~
- (5)(3) Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises, except as provided in G.S. 113-169.2.

(e) If mechanical methods to take shellfish are not used, 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 for a permittee to hold a:

- (1) Depuration Permit; or
- (2) ~~Permit to Harvest Rangia Clams from Prohibited (Polluted) Areas;~~
- (3)(2) Permit to Transplant Oysters from Seed Oyster Management Areas; or Areas.
- (4) ~~Permit to Transplant Prohibited (Polluted) Shellfish.~~

(f) Aquaculture Operation Permit and Aquaculture Collection Permit:

- (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.

(g) Atlantic Ocean Striped Bass Commercial Gear Permit:

- (1) An applicant for an Atlantic Ocean Striped Bass Commercial Gear Permit shall declare one of the following types of gear for an initial permit and at intervals of three consecutive license years thereafter:
  - (A) a gill net;
  - (B) a trawl net; or
  - (C) a beach seine.

For the purpose of this Rule, a "beach seine" shall mean 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 shall be 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 that person.

(h) 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 the deficiency in the application noted.

(i) A permit shall be issued only after the application is deemed complete and the applicant certifies his or her agreement to abide by the permit general and specific conditions established under 15A NCAC 03J .0501, .0505, 03K .0103, .0104, .0107, .0111, .0401, .0501 and .0505, 03K .0103 and .0107, Rule .0211 of this Subchapter, and Rules .0502 and .0503 of this Section, as applicable to the requested permit.

(j) In determining whether to issue, modify, or renew a permit, the Fisheries Director or his or her agent shall evaluate factors such as the following:

- (1) potential threats to public health or marine and estuarine resources regulated by the Marine Fisheries Commission;
- (2) the applicant's demonstration of a valid justification for the permit; and
- (3) whether the applicant has a history of eight or more fisheries violations within 10 years.

(k) 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) 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) For permit renewals, the permittee's signature on the application shall certify all information is true and accurate. Notarized signatures on renewal applications shall not be required.

(n) It shall be unlawful for a permit holder to fail to notify the Division of Marine Fisheries within 30 days of a change of name or address, in accordance with G.S. 113-169.2.

(o) It shall be 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.

(p) Permit applications shall be available at all Division of Marine Fisheries offices.

Authority G.S. 113-134; 113-169.1; 113-169.2; 113-169.3; 113-182; 113-210; 143B-289.52.

**15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC**

- (a) Aquaculture Operation Permit and Aquaculture Collection Permit:



- (1) It shall be unlawful to conduct aquaculture operations using marine and estuarine resources without first securing an Aquaculture Operation Permit from the Fisheries Director.
- (2) It shall be 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 pursuant to an Aquaculture Collection Permit; or
  - (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 of Marine Fisheries, stating the amount and disposition of marine and estuarine resources collected under authority of an Aquaculture Collection Permit.
- ~~(3) Lawfully permitted shellfish-relaying activities authorized by 15A NCAC 03K .0103 and .0104 shall be exempt from requirements to have an Aquaculture Operation Permit or Aquaculture Collection Permit issued by the Fisheries Director.~~
- ~~(4)~~(3) Aquaculture Operation Permits and Aquaculture Collection Permits shall be issued or renewed on a calendar year basis.
- ~~(5)~~(4) It shall be unlawful to fail to provide the Division with a listing of all designees acting pursuant to an Aquaculture Collection Permit at the time of application.
- (b) Atlantic Ocean Striped Bass Commercial Gear Permit:
  - (1) It shall be 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 shall be unlawful to obtain more than one Atlantic Ocean Striped Bass Commercial Gear Permit during a license year, regardless of the number of Standard Commercial Fishing licenses, Retired Standard Commercial Fishing licenses, or assignments.
- (c) Blue Crab Shedding Permit: It shall be 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) Coastal Recreational Fishing License Exemption Permit:
  - (1) It shall be 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 impairment;
  - (B) members of the United States Armed Forces and their dependents, upon presentation of a valid military identification card;
  - (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 as set forth in 42 U.S. Code 12511.

For the purpose of this Paragraph, educational institutions include high schools and other secondary educational institutions.
- (3) The Coastal Recreational Fishing License Exemption Permit shall be valid for the date, time, and physical location of the organized fishing event for which the exemption is granted and the duration of the permit shall not exceed one year from the date of issuance.
- (4) The Coastal Recreational Fishing License Exemption Permit shall only be issued if all of the following, in addition to the information required in Rule .0501 of this Section, is submitted to the Fisheries Director, in writing, at least 30 days prior to the event:
  - (A) the name, date, 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.
- (e) Dealer permits for monitoring fisheries under a quota or allocation:
  - (1) During the commercial season opened by proclamation or rule for the fishery for which a dealer permit for monitoring fisheries under a quota or allocation shall be issued, it shall be unlawful for a fish dealer issued such permit to fail to:
    - (A) fax or send via electronic mail by noon daily, on forms provided by the Division of Marine Fisheries, the previous day's landings for the permitted fishery to the Division.

- Landings for Fridays or Saturdays shall be submitted on the following Monday. If the dealer is unable to fax or electronically mail the required information, the permittee shall call in the previous day's landings to the Division;
- (B) submit the required form set forth in Part (e)(1)(A) of this Rule 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 Division daily, regardless of whether 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) Atlantic Ocean Flounder Dealer Permit:
- (A) It shall be 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 shall be 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.
- (3) Black Sea Bass North of Cape Hatteras Dealer Permit: It shall be 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.
- (4) Spiny Dogfish Dealer Permit: It shall be unlawful for a fish dealer to purchase or possess more than 100 pounds of spiny dogfish per day per commercial fishing operation unless the dealer has a Spiny Dogfish Dealer Permit.
- (5) Striped Bass Dealer Permit:
- (A) It shall be 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) the Atlantic Ocean;
    - (ii) the Albemarle Sound Management Area as designated in 15A NCAC 03R .0201; or
    - (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 valid Division of Marine Fisheries-issued 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. Division striped bass tags shall not be bought, sold, offered for sale, or transferred. Tags shall be obtained at the Division offices. The Division shall specify the quantity of tags to be issued based on historical striped bass landings. It shall be unlawful for the permittee to fail to surrender unused tags to the Division upon request.
- (f) Horseshoe Crab Biomedical Use Permit:
- (1) It shall be unlawful to use horseshoe crabs for biomedical purposes without first obtaining a permit.
  - (2) It shall be unlawful for persons who have been issued a Horseshoe Crab Biomedical Use Permit to fail to submit an annual 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, a statement of percent mortality up to the point of release, the harvest method, the number or percent of males and females, and the disposition of bled crabs prior to release.
  - (3) It shall be 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. The Atlantic States Marine Fisheries Commission Interstate Fishery Management

Plan for Horseshoe Crab is incorporated by reference including subsequent amendments and editions. Copies of this plan are available via the Internet from the Atlantic States Marine Fisheries Commission at <http://www.asmfc.org/fisheries-management/program-overview> and at the Division of Marine Fisheries, 3441 Arendell Street, P.O. Box 769, Morehead City, NC 28557, at no cost.

(g) Permit for Weekend Trawling for Live Shrimp:

- (1) It shall be unlawful to take shrimp with trawls from 9:00 p.m. on Friday through 12 noon on Saturday without first obtaining a Permit for Weekend Trawling for Live Shrimp.
- (2) It shall be unlawful for a holder of a Permit for Weekend Trawling for Live Shrimp to use trawls from 12:01 p.m. on Saturday through 4:59 p.m. on Sunday.
- (3) It shall be unlawful for a permit holder during the timeframe specified in Subparagraph ~~(k)(1)~~(g)(1) of this Rule to:
  - (A) use trawl nets to take live shrimp except from areas open to the harvest of shrimp with trawls;
  - (B) take shrimp with trawls that have a combined headrope length of greater than 40 feet in Internal Coastal Waters;
  - (C) possess more than one gallon of dead shrimp (heads on) per trip;
  - (D) fail to have a functioning live bait tank or a combination of multiple functioning live bait tanks, with aerators or circulating water, with a minimum combined tank capacity of 50 gallons; or
  - (E) fail to call the Division of Marine Fisheries Communications Center at 800-682-2632 or 252-726-7021 prior to each weekend use of the permit, specifying activities and location.

(h) Pound Net Set Permit: The holder of a Pound Net Set Permit shall follow the Pound Net Set Permit conditions as set forth in 15A NCAC 03J .0505.

(i) Scientific or Educational Activity Permit:

- (1) It shall be 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 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 15A NCAC 03I .0101.

- (4) It shall be unlawful for the responsible party issued a Scientific or Educational Activity Permit to fail to submit an annual report on collections and, if authorized, sales to the Division, 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 shall be unlawful to sell marine or estuarine species taken under a Scientific or Educational Activity Permit without:
  - (A) the required license for such sale;
  - (B) an authorization stated on the permit for such sale; and
  - (C) providing the information required by 15A NCAC 03I .0114 if the sale is to a licensed fish dealer.
- (6) It shall be unlawful to fail to provide the Division with a list 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~~ no later than 24 hours prior to use of the permit, specifying activities and location.
- (j) Under Dock Oyster Culture Permit:
  - (1) It shall be 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), demonstrating 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.

Authority G.S. 113-134; 113-169.1; 113-169.2; 113-169.3; 113-182; 113-210; 143B-289.52.

**SUBCHAPTER 03R - DESCRIPTIVE BOUNDARIES**

**SECTION .0100 - DESCRIPTIVE BOUNDARIES**

**15A NCAC 03R .0117 OYSTER SANCTUARIES**

The Oyster Sanctuaries referenced in 15A NCAC 03K .0209 are delineated in the following ~~coastal water areas~~: Coastal Fishing Waters:

- (1) Pamlico Sound area:
  - (a) Croatan Sound: within the area described by a line beginning at a point 35° 48.2842' N - 75° 38.3360' W; running southerly to a point 35° 48.1918' N - 75° 38.3360' W; running westerly to a point 35° 48.1918' N - 75° 38.4575' W; running northerly to a point 35° 48.2842' N - 75° 38.4575' W; running easterly to the point of beginning.
  - (b) Crab Hole: within the area described by a line beginning at a point 35° 43.6833' N - 75° 40.5083' W; running southerly to a point 35° 43.5000' N - 75° 40.5083' W; running westerly to a point 35° 43.5000' N - 75° 40.7500' W; running northerly to a point 35° 43.6833' N - 75° 40.7500' W; running easterly to the point of beginning.
  - (c) Pea Island: within the area described by a line beginning at a point ~~35° 05.4760' N - 76° 23.5370' W~~ 35° 40.0800' N - 75° 36.7998' W; running southerly to a point ~~35° 05.4760' N - 76° 23.4040' W~~ 35° 39.8400' N - 75° 36.7998' W; running westerly to a point ~~35° 05.3680' N - 76° 23.4040' W~~ 35° 39.8400' N - 75° 37.0800' W; running northerly to a point ~~35° 05.3680' N - 76° 23.5370' W~~ 35° 40.0800' N - 75° 37.0800' W; running easterly to the point of beginning.
  - (d) Long Shoal: within the area described by a line beginning at a point ~~35° 33.8600' N - 75° 49.9000' W~~ 35° 33.8600' N - 75° 49.7670' W; running southerly to a point ~~35° 33.8600' N - 75° 49.7670' W~~ 35° 33.7510' N - 75° 49.7670' W; running westerly to a point ~~35° 33.7510' N - 75° 49.7670' W~~ 35° 33.7510' N - 75° 49.9000' W; running northerly to a point ~~35° 33.7510' N - 75° 49.9000' W~~ 35° 33.7510' N - 75° 49.9000' W

- (e) Gibbs Shoal: within the area described by a line beginning at a point 35° 27.3550' N - 75° 55.9190' W; running southerly to a point 35° 27.1010' N - 75° 55.9190' W; running westerly to a point 35° 27.1010' N - 75° 56.2300' W; running northerly to a point 35° 27.3550' N - 75° 56.2300' W; running easterly to the point of beginning.
- (f) Gull Shoal: within the area described by a line beginning at a point 35° 23.4520' N - 75° 58.0533' W; running southerly to a point 35° 22.9481' N - 75° 58.0721' W; running westerly to a point 35° 22.9596' N - 75° 58.5359' W; running northerly to a point 35° 23.4638' N - 75° 58.5173' W; running easterly to the point of beginning.
- (~~f~~)(g) Deep Bay: within the area described by a line beginning at a point 35° 22.9126' N - 76° 22.1612' W; running southerly to a point 35° 22.7717' N - 76° 22.1612' W; running westerly to a point 35° 22.7717' N - 76° 22.3377' W; running northerly to a point 35° 22.9126' N - 76° 22.3377' W; running easterly to the point of beginning.
- (~~g~~)(h) West Bluff: within the area described by a line beginning at a point ~~35° 18.3160' N - 76° 10.2960' W~~ 35° 18.3160' N - 76° 10.0690' W; running southerly to a point ~~35° 18.3160' N - 76° 10.0690' W~~ 35° 18.1290' N - 76° 10.0690' W; running westerly to a point ~~35° 18.1290' N - 76° 10.0690' W~~ 35° 18.1290' N - 76° 10.2960' W; running northerly to a point ~~35° 18.1290' N - 76° 10.2960' W~~ 35° 18.1290' N - 76° 10.2960' W; running easterly to the point of beginning.
- (~~h~~)(i) Middle Bay: within the area described by a line beginning at a point 35° 14.1580' N - 76° 30.1780' W; running southerly to a point 35° 14.1150' N - 76° 30.1780' W; running westerly to a point 35° 14.1150' N - 76° 30.3320' W; running northerly to a point 35° 14.1580' N - 76° 30.3320' W; running easterly to the point of beginning.
- (~~i~~)(j) Swan Island: within the area described by a line beginning at a point ~~35° 05.6170' N - 76° 27.5040' W~~ 35° 05.6414' N - 76° 26.7651' W;

running southerly to a point ~~35° 05.6020' N - 76° 26.7650' W~~ 35° 05.4846' N - 76° 26.7638' W; running westerly to a point ~~35° 05.4850' N - 76° 26.7640' W~~ 35° 05.4992' N - 76° 27.5033' W; running northerly to a point ~~35° 05.4990' N - 76° 27.5030' W~~ 35° 05.6554' N - 76° 27.5041' W; running easterly to the point of beginning.

~~(j)~~(k) Raccoon Island: within the area described by a line beginning at a point ~~35° 05.4760' N - 76° 23.5370' W~~ 35° 05.4760' N - 76° 23.4040' W; running southerly to a point ~~35° 05.4760' N - 76° 23.4040' W~~ 35° 05.3680' N - 76° 23.4040' W; running westerly to a point ~~35° 05.3860' N - 76° 23.4040' W~~ 35° 05.3680' N - 76° 23.5370' W; running northerly to a point ~~35° 05.3680' N - 76° 23.5370' W~~ 35° 05.4760' N - 76° 23.5370' W; running easterly to the point of beginning.

(l) Cedar Island: within the area described by a line beginning at a point 35° 03.4632' N - 76° 22.5603' W; running southerly to a point 35° 03.1653' N - 76° 22.5699' W; running westerly to a point 35° 03.1731' N - 76° 22.9321' W; running northerly to a point 35° 03.4710' N - 76° 22.9226' W; running easterly to the point of beginning.

~~(k)~~(m) West Bay: within the area described by a line beginning at a point 34° 58.8517' N - 76° 21.3632' W; running southerly to a point 34° 58.7661' N - 76° 21.3632' W; running westerly to a point 34° 58.7661' N - 76° 21.4735' W; running northerly to a point 34° 58.8517' N - 76° 21.4735' W; running easterly to the point of beginning.

(2) Neuse River area:

(a) Little Creek: within the area described by a line beginning at a point ~~35° 02.6940' N - 76° 30.9840' W~~ 35° 02.6940' N - 76° 30.7940' W; running southerly to a point ~~35° 02.6940' N - 76° 30.7940' W~~ 35° 02.5380' N - 76° 30.7940' W; running westerly to a point ~~35° 02.5380' N - 76° 30.7940' W~~ 35° 02.5380' N - 76° 30.9840' W; running northerly to a point ~~35° 02.5380' N - 76° 30.9840' W~~ 35° 02.6940' N - 76° 30.9840' W; running easterly to the point of beginning.

(b) Neuse River: within the area described by a line beginning at a point 35° 00.4910' N - 76° 31.9350' W; running southerly to a point 35° 00.3750' N - 76° 31.9350' W; running westerly to a point 35° 00.3750' N - 76° 32.0750' W; running northerly to a point 35° 00.4910' N - 76° 32.0750' W; running easterly to the point of beginning.

Authority G.S. 113-134; 113-182; 113-201; 113-204; 143B-289.52.

**CHAPTER 18 - ENVIRONMENTAL HEALTH**

**SUBCHAPTER 18A - SANITATION**

**SECTION .0300 – SANITATION OF SHELLFISH - GENERAL**

**15A NCAC 18A .0301 DEFINITIONS**

The following definitions shall apply throughout Sections .0300 to ~~.0900~~ through .0800 of this Subchapter:

- (1) "Adulterated" ~~means the following:~~ means:
- (a) ~~Any~~ any shellfish that have been harvested from ~~prohibited areas;~~ polluted areas as defined in 15A NCAC 03I .0101;
  - (b) ~~Any~~ any shellfish that have been shucked, packed, or otherwise processed in a plant ~~which that~~ which that has not been permitted by the Division of Marine Fisheries in accordance with these rules or by another state shellfish control "authority" as defined in the National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish, Section I: Purposes and Definitions, in accordance with these Rules; This definition is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp>, at no cost;
  - (c) any shellfish that may have been contaminated by flood waters in accordance with Rule .0405 of this Subchapter;
  - ~~(e)~~(d) ~~Any~~ any shellfish ~~which that~~ which that exceed the ~~bacteriological~~ bacteriological standards in Rule .0430 of this Subchapter; and
  - ~~(d)~~(e) ~~Any~~ any shellfish ~~which are that~~ which are that have been deemed to be an imminent ~~hazard;~~ hazard.



- (2) ~~"Approved area" means an area determined suitable for the harvest of shellfish for direct market purposes.~~
- (3) ~~"Bulk shipment" means a shipment of loose shellstock.~~
- (4) ~~"Buy boat or buy truck" means any boat which that complies with Rule .0419 of this Subchapter or truck which complies with Rule .0420 of this Subchapter that is used by a person permitted under these Rules to transport shellstock from one or more harvesters to a facility permitted under these Rules.~~
- (5)(2) "Certification number" means the unique identification number assigned by the state shellfish dealer agency to each certified shellfish ~~dealer.~~ dealer for each location. It consists of a ~~one to five digit~~ one-to-five-digit number preceded by the ~~two letter~~ two-letter state abbreviation and followed by the ~~two letter symbol~~ two-letter abbreviation designating the type of operation certified.
- (3) "Clean" means free from dirt, debris, dust, marks, stains, waste materials, litter, or foreign material.
- (6)(4) "Critical control point" means a point, ~~step~~ step, or procedure in a food process at which control can be applied, and a food safety hazard can as a result be prevented, ~~eliminated~~ eliminated, or reduced to acceptable levels.
- (7)(5) "Critical limit" means the maximum or minimum value to which a physical, ~~biological~~ biological, or chemical parameter must be controlled at a critical control point to prevent, ~~eliminate~~ eliminate, or reduce to an acceptable level the occurrence of the identified food safety hazard.
- (8)(6) ~~"Depurate" or "Depuration" "deputation" means mechanical purification or the removal of adulteration from live shellstock by any artificially controlled means. the process of reducing the pathogenic organisms that may be present in shellstock by using a controlled aquatic environment as the treatment process.~~
- (9)(7) "Depuration facility" means ~~the physical structure wherein depuration is accomplished, including all the appurtenances necessary to the effective operation thereof. any establishment or place where the depuration of shellfish occurs by a shellfish dealer.~~
- (10)(8) "Division" means the Division of Environmental Health ~~or its authorized agent.~~ Marine Fisheries.
- (9) "Easily cleanable" has the same meaning as defined in the 2017 U.S. Food Code. This definition is incorporated by reference, not including subsequent amendments and editions. A copy of the reference material can be found at <https://www.fda.gov/food/fda-food-code/food-code-2017>, at no cost.
- (10) "Food contact surface" means the parts of equipment, including auxiliary equipment, that may be in contact with the food being processed, or that may drain into the portion of equipment with which food is in contact.
- (11) "Food safety hazard" means any biological, ~~ehemical~~ chemical, or physical property that may cause a food to be unsafe for human consumption.
- (12) "Good repair" means maintained to function as designed and without defect.
- (12)(13) "HACCP plan" means a written document that delineates the procedures a shellfish dealer follows to implement food safety controls.
- (13)(14) "Hazard analysis critical control point (HACCP)" means a system of inspection, ~~control~~ control, and monitoring measures initiated by a shellfish dealer to identify microbiological, ~~ehemical~~ chemical, or physical food safety hazards ~~which that~~ are likely to occur in shellfish products produced by the dealer.
- (14)(15) "Heat shock process" means the practice of heating shellstock to facilitate removal of the shellfish meat from the shell.
- (15)(16) ~~"Imminent hazard" means a situation which is likely to cause an immediate threat to human life, and immediate threat of serious physical injury, an immediate threat of serious physical adverse health effects, or a serious risk of irreparable damage to the environment if no immediate action is taken. has the same meaning as defined in G.S. 130A-2.~~
- (14)(17) "In-shell product" means non-living, processed shellfish with one or both shells present.
- (16)(18) "Misbranded" means the following: as defined in G.S. 106-30 shall include any shellfish that are not labeled in compliance with these Rules.
- (a) Any shellfish which are not labeled with a valid identification number awarded by regulatory authority of the state or territory of origin of the shellfish; or
- (b) Any shellfish which are not labeled as required by these Rules.
- (19) "National Shellfish Sanitation Program (NSSP)" means the cooperative federal-state-industry program for the sanitary control of shellfish that is adequate to ensure that the shellfish produced in accordance with the NSSP Guide For The Control Of Molluscan Shellfish will be safe and sanitary.
- (17) ~~"Operating season" means the season of the year during which a shellfish product is processed.~~
- (18) ~~"Person" means an individual, corporation, company, association, partnership, unit of government or other legal entity.~~



- (20) "Pests" means animals or insects, including dogs, cats, birds, rodents, flies, and larvae.
- (21) "Plant" means the establishment or place where shellfish processing occurs by shellfish dealers.
- (22) "Processing" or "processed" means any activity associated with the handling, shucking, freezing, packing, labeling, or storing of shellfish in preparation for distribution. This includes the activities of a shellstock shipper, shucker-packer, repacker, reshipper, or depuration processor.
- (19) ~~"Prohibited area" means an area unsuitable for the harvesting of shellfish for direct market purposes.~~
- (20)(23) "Recall procedure" means the detailed procedure the permitted shellfish dealer will use to retrieve product from the market when it is determined that the product may not be safe for human consumption as determined by the State Health Director, is adulterated or misbranded.
- (21) ~~"Relaying or transplanting" means the act of removing shellfish from one growing area or shellfish grounds to another area or ground for any purpose.~~
- (22)(24) "Repacking plant" means a shipper, the establishment or place where a shellfish dealer, other than the original shucker-packer, who repacks shucked shellfish into other containers for delivery to the consumer, containers.
- (23)(25) ~~"Reshipper" means a shipper who ships shucked shellfish in original containers, or shellstock, from permitted shellstock dealers to other dealers or to consumers. person that purchases shellfish from a shellfish dealer and sells the product without repacking or relabeling to another shellfish dealer, wholesaler, or retailer.~~
- (26) "Responsible individual" means the individual present at a shellfish dealer that is the supervisor at the time of the inspection. If no individual is the supervisor, then any employee is the responsible individual.
- (24) ~~"Sanitary survey" means the evaluation of factors having a bearing on the sanitary quality of a shellfish growing area including sources of pollution, the effects of wind, tides and currents in the distribution and dilution of polluting materials, and the bacteriological quality of water.~~
- (25)(27) "Sanitize" means the a bactericidal treatment by a process which meets the temperature and chemical concentration levels in 15A NCAC 18A .2619, has the same meaning as defined in 21 CFR 110.3, which is incorporated by reference including subsequent amendments and editions. A copy of the reference material can be found at <https://www.ecfr.gov/current/title-21/chapter->
- [/subchapter-B/part-110/subpart-A/section-110.3, at no cost.](#)
- (26)(28) "SELL BY date" means a date conspicuously placed on a container or tag by which a consumer is informed of the latest date the product will remain suitable for sale.
- (27)(29) "Shellfish" means oysters, mussels, scallops scallops, and all varieties of clams. However, clams, whether shucked or in the shell, fresh, frozen, whole, or in part, the term The requirements of Sections .0300 through .0800 of this Subchapter shall not include apply to scallops when if the final product is the shucked adductor muscle only.
- (30) "Shellfish dealer" means a plant to which a Shellfish Dealer Permit and Certificate of Compliance is issued by the Division for the activities of shellstock shipping, shucking or packing, repacking, reshipping, or depuration.
- (28)(31) "Shellstock" means any live molluscan shellfish which that remain in their shells.
- (29)(32) "Shellstock conveyance" means all trucks, vessels, trailers, or other conveyances used to transport shellstock.
- (30) ~~"Shellstock dealer" means a person who buys, sells, stores, or transports or causes to be transported shellstock which was not obtained from a person permitted under these Rules.~~
- (31)(33) "Shellstock plant" means any establishment or place where shellstock are washed, packed, or otherwise prepared for sale. sale by a shellfish dealer.
- (32)(34) "Shucking and packing plant" means any establishment or place where shellfish are shucked and packed for sale. sale by a shellfish dealer.
- (35) "Use" means employ, set, operate, or permit to be operated or employed.
- (33)(36) "Wet storage" means the temporary placement storage by a shellfish dealer of shellstock from approved areas, a growing area in the open status and classified as "approved" or "conditionally approved" as defined in Rule .0901 of this Subchapter, in containers or floats in natural bodies of water water, or in tanks containing natural or synthetic sea water. water at any permitted land-based activity or facility.

Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0302 PERMITS**

(a) It shall be unlawful to operate any of the following facilities without first obtaining a Shellfish Dealer Permit and Certificate of Compliance from the Division of Marine Fisheries:

- (1) depuration facilities;
- (2) repacking plants;
- (3) shellstock plants; and
- (4) shucking and packing plants.

(b) It shall be unlawful to operate as a ~~shellstock~~ shellfish dealer without first obtaining a Shellfish Dealer Permit and Certificate of Compliance from the Division.

(c) It shall be unlawful to operate as a reshipper without first obtaining a Shellfish Dealer Permit and Certificate of Compliance from the Division if shellfish are purchased and shipped out of state.

(d) Approval for wet storage of shellstock shall be granted only to persons permitted pursuant to this Rule.

(e) Application for a permit shall be submitted in writing to the Division. Application forms may be obtained from the Division, P.O. Box 769, 3441 Arendell Street, Morehead City, NC 28557.

(f) No permit shall be issued by the Division until an inspection by the Division shows that the facility and equipment comply with all applicable Rules in Sections .0300 through .0800 of this Subchapter. The owner or responsible ~~person~~ individual shall sign the completed inspection sheet to acknowledge receipt of the inspection sheet.

(g) All permits shall be posted in a conspicuous place in the facility.

(h) All permits shall expire on April 30 of each year and are non-transferrable.

(i) Plans and specifications for proposed new construction, expansion of operations, or changes in operating processes shall be submitted to the Division for review and approval prior to beginning construction or making a change.

(j) A permit may be revoked or suspended in accordance with 15A NCAC 030 .0504.

Authority G.S. 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0305 APPEALS PROCEDURE**

Authority G.S. 130A-230.

**SECTION .0400 - SANITATION OF SHELLFISH - GENERAL OPERATION STANDARDS**

**15A NCAC 18A .0401 APPLICABILITY OF RULES**

The rules in this Section shall apply to the operation of all facilities and persons permitted in Rule .0302 of this Subchapter, including shellfish dealers, shellstock plants, reshippers, shucking and packing plants, repacking plants, depuration facilities, permittees with facilities approved for wet storage, and all other businesses and persons that buy, sell, transport, or ship shellfish. ~~These Rules do~~ rules shall not apply to ~~persons~~ individuals possessing shellfish for personal use.

Authority G.S. ~~130A-230;~~ 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0402 GENERAL REQUIREMENTS FOR OPERATION**

~~(a) During the operating season the plant shall be used for no purpose other than the handling of shellfish. All unnecessary equipment and materials shall be removed from the plant and the floors kept clear for thorough cleaning.~~

~~(b)(a) All floors, walls, shucking benches and stools, shucking blocks, tables, skimmers, blowers, colanders, buckets, or any~~

~~other equipment or utensils used in the processing operation shall be cleaned and sanitized daily, or more frequently as may be necessary during the day's operation to prevent the introduction of undesirable microbiological organisms and filth into the shellfish product. Shellfish dealers shall provide mechanical refrigeration that is capable of maintaining an ambient temperature of 45°F or less and be sized to handle one day's production. The mechanical refrigeration shall include an automatic temperature regulating control and be equipped with an accurate, operating thermometer in the refrigerated storage area. If the sole means of refrigeration is a portable unit, that unit shall be capable of operating utilizing alternating current electrical power that will allow the unit to be plugged into a power supply during transport and at the certified facility.~~

~~(e)(b) Ceilings and windows shall also be kept clean. Refrigerators, refrigeration rooms, and ice boxes shall be washed and sanitized. Food contact surfaces shall be easily cleanable, corrosion-resistant, constructed of non-toxic and food-grade materials, and shall be kept in good repair. Shellfish dealers shall only use food contact surface equipment that conforms to standards found in the guidance document within the National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish, Section II: Model Ordinance titled "Shellfish Industry Equipment Construction Guide", which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp> at no cost.~~

~~(c) Food contact surfaces of equipment, utensils, and containers shall be cleaned at the end of each day or operation and shall be sanitized prior to the start-up of each day's activities. Food contact surfaces shall also be cleaned and sanitized following any interruption during which the surfaces have become contaminated.~~

~~(d) Non-food contact surfaces such as equipment, floors, walls, ceilings, and windows shall be kept clean and in good repair.~~

~~(d)(e) Wheelbarrows, measures, baskets, shovels, and other implements used in the handling of shellstock shall not be used for any other purpose and shall be cleaned and stored in the shellstock room when not in prior to use.~~

~~(f) Shellfish dealers shall provide a temperature measuring device accurate to +/- 2°F for use in monitoring product temperatures.~~

Authority G.S. ~~130A-230;~~ 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0403 SUPERVISION AND TRAINING**

(a) The ~~owner~~ shellfish dealer shall personally supervise or shall designate ~~an~~ a responsible individual whose principal duty shall be to supervise and be responsible for compliance with the ~~Rules~~ rules of this Subchapter. No unauthorized ~~persons~~ individuals shall be allowed in any processing area of the plant during periods of operation. For the purpose of this Rule, "unauthorized individual" shall mean an individual that is not designated and trained by the shellfish dealer or responsible individual to perform specific processing tasks in the facility.

(b) The shellfish dealer shall ensure that all employees that manufacture, process, pack, or hold food obtain training in the principles of food hygiene and food safety, including the

importance of employee health and personal hygiene, in accordance with 21 CFR 117.4, which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-117/subpart-A/section-117.4> at no cost. Employees shall complete the training within 30 days following the initial hire date. The shellfish dealer or responsible individual shall maintain a record of the completed training.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0404 CONSTRUCTION**

Shellfish plants shall be ~~adequate in size and construction~~ sized and constructed to permit compliance with the operational provisions of Sections .0300 through .0800 of this Subchapter.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0405 PLANT LOCATION FACILITY FLOODING**

(a) Shellfish plants shall be located so that they will not be subject to flooding by high tides.

(b) If the facility floors are flooded, processing shall be discontinued until flood waters have receded and the facility and equipment are cleaned and sanitized.

(c) Any shellfish that may have been contaminated by flood waters shall be deemed adulterated and shall be destroyed.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 113-221.4; 143B-289.52.*

**15A NCAC 18A .0406 FLOORS**

Floors shall be ~~of~~ concrete or other equally impervious material, constructed so that they ~~may be~~ are easily and thoroughly cleaned cleanable, and shall be sloped so that water drains completely and rapidly. For new construction, the joints between walls and floors shall be rounded to expedite cleaning, completely, and kept in good repair. The junction between floors and walls shall be sealed to render them impervious to water in areas where the floor gets wet and is used to store shellfish, process food, or clean equipment and utensils.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0407 WALLS AND CEILINGS**

Walls to a height of at least two feet above the floor shall be constructed of smooth concrete or other equally impervious material. The remainder of the walls and ceilings shall be smooth concrete, cement plaster, or other material approved by the Division and shall be painted with a light color washable paint.

(a) Walls and ceilings in areas where shellfish are stored, handled, processed, or packaged or where food handling equipment or packaging materials are stored shall be constructed of smooth, easily cleanable, non-corrosive, impervious material. The walls

and ceilings in these areas shall also be light-colored, such as white in color, so that unclean surfaces can be detected.

(b) Doors and windows shall be tightly fitted and kept in good repair so as to keep pests and weather out of the facility.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0408 LIGHTING**

(a) Natural or artificial lighting shall be provided in all parts of the plant. ~~Light bulbs, fixtures, or other glass suspended within the plant shall be safety type or otherwise protected to prevent contamination in case of breakage.~~ Lighting intensities shall be a minimum of 25 ~~foot-candles~~ foot-candles on working surfaces in packing and shucking ~~rooms, rooms~~ and a minimum of 10 foot-candles measured at a height of 30 inches above the floor throughout the rest of the processing portion of the facility.

(b) Light bulbs, fixtures, or other glass within the plant shall be shatterproof or shielded to prevent food contamination in case of breakage.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0409 VENTILATION**

Ventilation shall be provided to ~~eliminate prevent~~ odors and ~~econdensation, condensation~~ from contaminating shellfish, food contact surfaces, or food packaging materials.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0410 FLY PEST CONTROL**

(a) All ~~outside exterior~~ openings shall be ~~screened, screened~~ or provided with wind ~~curtains curtains~~, or be provided with other fly control methods approved by the Division to prevent the entrance of pests. All screens shall be kept in good repair. All ~~outside exterior~~ doors shall open outward and shall be self-closing.

(b) The use and storage of pesticides and rodenticides shall comply with all applicable ~~state State~~ and federal ~~guidelines, laws~~ and rules.

(c) No pets or other animals shall be allowed in those portions of the facility where shellfish, food handling equipment, or packaging materials are stored, handled, processed, or packaged.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0411 RODENT AND ANIMAL CONTROL**

*Authority G.S. 130A-230.*

**15A NCAC 18A .0412 PLUMBING AND HAND WASHING FACILITIES**

(a) All plumbing shall be in compliance with applicable plumbing codes.

(b) Hand washing facilities shall be provided with running water at a minimum temperature of 100°F dispensed from a hot and cold combination faucet.

(c) Hand washing facilities shall be provided in or adjacent to each bathroom and in shucking and packing rooms. Hand washing facilities in packing areas shall be located where supervisors can observe employee use.

(d) Hand washing facilities shall be separate from three-compartment or other sinks used for cleaning equipment and utensils.

(e) Soap, single service towels in protected dispensers, and an easily cleanable waste receptacle shall be available and used at hand washing facilities. Other hand drying devices may be used if approved by the Division of Marine Fisheries based upon being equally effective at drying hands without the potential for recontamination.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0413 WATER SUPPLY**

~~(a) The water supply shall be from a source approved by the Division.~~

~~(b) The water supply used shall be located, constructed, maintained, and operated in accordance with the Commission for Public Health's rules governing water supplies. Copies of 15A NCAC 18A .1700 and 15A NCAC 18C may be obtained from the Division.~~

(a) The water supply used shall be in accordance with 15A NCAC 18A .1720 through .1728, 15A NCAC 18C, or 02 NCAC 09C .0703, which are incorporated by reference, including subsequent amendments.

(b) If the water supply is from a private source, samples for bacteriological analysis shall be collected by the Division of Marine Fisheries prior to use and after the water supply has been repaired or disinfected, and submitted for analysis to the State Laboratory of Public Health or other laboratory that is certified in accordance with 10A NCAC 42C .0102, which is incorporated by reference, including subsequent amendments.

(c) Cross-connections with unapproved water supplies shall be prohibited. A backflow or back siphonage of a solid, liquid, or gas containment into the water supply shall be precluded by use of an air gap or backflow prevention device in accordance with applicable plumbing codes.

(d) Hot and cold running water under pressure shall be provided to food preparation, utensil, and hand washing areas and any other areas in which water is required for cleaning. Running water under pressure shall be provided in sufficient quantity to carry out all food preparation, utensil washing, hand washing, cleaning, and other water-using operations.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0414 TOILET FACILITIES**

~~Separate and convenient toilet facilities shall be provided for each sex employed and shall comply with the N.C. State Building Code, Volume 2, Plumbing. Floors, walls, and ceilings shall be smooth, easily cleanable and kept clean. Fixtures shall be kept~~

~~clean. All toilet wastes and other sewage shall be disposed of in a public sewer system or in the absence of a public sewer system, by an on site sewage disposal system approved by the Department in accordance with G.S. 130A-335.~~

(a) Toilets shall be provided in the plant by the owner or responsible individual and shall be kept clean and in good repair.

(b) Toilet tissue, in a holder, shall be provided by the owner or responsible individual.

(c) Toilet room doors shall not open directly into a processing area and shall be tight-fitting and self-closing.

(d) All toilet wastes and other sewage shall be disposed of in accordance with 15A NCAC 18A .1900 or 15A NCAC 02H .0200, which are incorporated by reference, including subsequent amendments.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0415 WASTE DISPOSAL PREMISES**

~~Shells, washings, and other wastes shall be disposed of in a sanitary landfill or in a sanitary manner approved by the Division.~~

(a) The premises shall be maintained free from conditions that may constitute an attractant, breeding place, or harborage for pests such as unmowed weeds or grass, uncontained litter or waste, or unused equipment.

(b) To prevent pests and odors, shells and other solid waste shall not be permitted to accumulate on the premises.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0416 PERSONAL HYGIENE**

(a) All employees shall wash their hands thoroughly with soap and running water before beginning work and again after each ~~interruption~~ interruption or if their hands may have become soiled or contaminated. ~~Signs to this effect shall be posted in conspicuous places in the plant by the operator.~~ Hand washing signs shall be posted by the owner or responsible individual at each hand washing facility in a language understood by employees.

~~(b) All persons handling shucked shellfish shall sanitize their hands before beginning work and again after each interruption.~~

(e)(b) All persons ~~individuals~~ employed or engaged in the ~~handling, shucking, or packing~~ packing, or repacking of shellfish shall wear clean, washable outer clothing. Clean plastic or rubber aprons, overalls, and rubber gloves shall be considered satisfactory.

(c) All individuals employed or engaged in the shucking, packing, or repacking of shellfish shall wear hair restraints and have clean fingernails free from nail polish and that are short enough to not extend past the fingertips. Employees shall not wear jewelry other than easily cleanable rings. The use of absorbent wraps or absorbent finger cots shall not be permitted.

(d) Employees shall not eat, drink, use electronic cigarettes or vaping products, or use tobacco in any form in the rooms where shellfish are stored, processed, or handled.

(e) ~~All persons~~ An individual known to be a carrier of any disease which that can be transmitted through the handling of shellfish or who have has an infected wound or open lesion on any exposed



portion of ~~their bodies~~ the body shall be prohibited from handling ~~shellfish~~ shellfish or coming into contact with food contact surfaces.

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0417 LOCKERS EMPLOYEES' PERSONAL ARTICLES**

~~A separate room or locker shall be provided for storing employees' street clothing, aprons, gloves, and personal articles. Employees' street clothing, aprons, gloves, food, drink, and personal articles shall be stored in a room or locker separate from any area where shellfish are shucked or packed or any area that is used for the cleaning or storage of utensils.~~

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0418 SUPPLY STORAGE**

~~(a) Storage room shall be provided for storing shipping containers, tags, and other supplies. Shipping containers, boxes, and other supplies shall be stored in a storage room or area. The storage room or area shall be kept clean.~~

~~(b) Pesticides, rodenticides, chemical agents, sanitizers, and other toxic substances shall be stored separate from processing areas or food contact surfaces. Each of the following categories of toxic substances shall be stored separate from one another:~~

- ~~(1) pesticides and rodenticides;~~
- ~~(2) detergents, sanitizers, and cleaning agents; and~~
- ~~(3) caustic acids, polishes, and other chemicals.~~

~~(c) Cleaning compounds, sanitizers, and other toxic substances shall be labeled and used in accordance with the manufacturer's label directions.~~

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0419 HARVEST BOATS VESSELS AND VEHICLES**

~~All boats used in the harvesting and handling of shellstock shall be kept clean and repaired such that the shellstock thereon shall not be subject to adulteration by bilge water, by leakage of water from prohibited areas, or by other means. Decks, holds, or bins used for shellstock on boats shall not be washed with water from prohibited areas. Human wastes shall not be discharged into shellfish waters.~~

~~(a) It shall be unlawful to use vessels or vehicles that are engaged in the commercial harvest, handling, or transport of shellstock in such a manner that allows contact of shellstock with bilge water, standing water, or other sources of contamination in the vessel or vehicle.~~

~~(b) It shall be unlawful to allow dogs or other animals on or inside vessels or vehicles that are engaged in the commercial harvest or transport of shellstock.~~

~~(c) It shall be unlawful to discharge human waste overboard from vessels or vehicles used in the harvesting of shellstock.~~

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0420 TRANSPORTING SHELLSTOCK SHELLFISH**

~~(a) All shellstock shellfish storage areas in trucks, buy boats, buy trucks, vessels, trailers, and other conveyances used for transporting shellstock shellfish shall be enclosed, tightly constructed, painted with a light color washable paint, kept clean, and shall be subject to inspection by the Division. Division of Marine Fisheries.~~

~~(b) Shellstock shall be shipped under temperature and sanitary conditions in accordance with these Rules which will keep them alive and clean and will prevent adulteration or deterioration. All shellstock shall be kept under mechanical refrigeration at a temperature of 45°F (7.1°C) or below. All conveyances used to transport shellstock shall be equipped with an operating thermometer. It shall be unlawful to transport shellstock and in-shell product unless shipped under mechanical refrigeration and the shipping conveyance is pre-chilled and maintained at an ambient temperature of 45°F or below. The storage area of the shipping conveyance shall be equipped with an accurate, operating thermometer.~~

~~(c) Buy boats and buy trucks shall be kept clean with water from a source approved by the Division under Rule .0413 of this Subchapter. Buy boats and buy trucks shall provide storage space for clean shipping containers, identification tags, and records. It shall be unlawful to transport shucked shellfish unless maintained under temperature control of 45°F or below.~~

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0421 DAILY RECORD RECORDS**

~~(a) All permitted persons shellfish dealers who conduct any business of buying, selling, or shipping shellfish shall keep an accurate, daily record which that shall show the names and addresses of all persons from whom shellfish are received, the address of any shellfish dealer from whom shellfish are received, the location of the source of shellfish, and the names and addresses of all persons to whom shellfish are sold or shipped. shipped with the exception of retail sales. These records shall be recorded and shall be kept on file for a minimum of one year. year for fresh shellfish, and a minimum of two years for frozen shellfish. All records shall be open to inspection by the Division of Marine Fisheries at the dealer facility at any time during business hours.~~

~~(b) All shellfish dealers who receive shellstock from licensed harvesters shall record the following information at the time of receipt:~~

- ~~(1) harvester name;~~
- ~~(2) harvest area;~~
- ~~(3) time of the start of harvest;~~
- ~~(4) quantity and type of shellfish received;~~
- ~~(5) time shellfish were received; and~~
- ~~(6) time shellfish were mechanically refrigerated.~~

~~(c) Each shellfish shipment shipped by a shellfish dealer shall be accompanied by a shipping document that includes:~~

- (1) name, address, and certification number of shipping dealer;
- (2) name and address of major consignee;
- (3) type and quantity of shellfish product;
- (4) date and time of shipment;
- (5) documentation that shipping conveyance is pre-chilled at 45°F or below prior to shipment; and
- (6) temperature of shellstock recorded by shipping dealer at time of shipment.

(d) A dealer receiving a shellfish shipment from another shellfish dealer shall record the temperature of the shipping conveyance and the temperature of the shellfish product received. These records shall be kept on file for a minimum of one year for fresh shellfish, and a minimum of two years for frozen shellfish. All records shall be open to inspection by the Division at the dealer facility at any time during business hours.

(e) Within 72 hours of any purchase or sale of shellfish, each purchase or sale shall be entered into a permanently bound ledger book, computer record, or any other method that permanently records the information and is organized so that it can be reviewed by the Division.

*Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0422 SHELLSTOCK CLEANING**

No person shall offer for sale any shellstock ~~which~~ that have not been washed free of ~~bottom~~ harvest area sediments and detritus. Water used for shellstock washing shall be obtained from a water source in accordance with Rule .0413 of this Section or from a growing area in the open status and classified as "approved" or "conditionally approved" as defined in Rule .0901 of this Subchapter.

*Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0423 SALE OF LIVE SHELLSTOCK (READOPTED WITHOUT SUBSTANTIVE CHANGES)**

**15A NCAC 18A .0424 SHELLFISH RECEIVING**

No ~~person~~ shellfish dealer shall receive or ~~accept~~ accept:

- (1) any shellfish shellstock from:
  - (a) a licensed shellfish harvester unless unless:
    - (i) the container or package bears the harvest tag ~~or label~~ required by these Rules, as required in Rule 15A NCAC 03K .0109 and in accordance with the HACCP plan; and
    - (ii) the shellstock was harvested from a growing area in the open status and classified as "approved" or "conditionally approved" as defined in Rule .0901 of this Subchapter and as indicated on the harvest tag; or

- (b) another shellfish dealer unless the container or package bears the tag as required in Rule .0425 of this Section or, in the case of a bulk shipment, Rule .0426 of this Section; and

- (2) any shellfish from another shellfish dealer unless:

- (a) it is accompanied by the documentation required in Rule .0421(c) of this Section; and
- (b) the shellfish temperature and other critical limits are in compliance with the HACCP plan.

*Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0426 BULK SHIPMENTS BETWEEN SHELLFISH DEALERS**

(a) For the purpose of this Rule:

- (1) "bulk shipment" shall mean a shipment of a shellstock lot between shellfish dealers.
- (2) "shellstock lot" shall mean a single type of bulk shellstock or containers of shellstock of no more than one day's harvest from a single growing area harvested by one or more harvesters.

(b) ~~Shipment in bulk~~ Bulk shipments shall not be made except ~~where~~ if the shipment is from only one consignor to one ~~consignee~~ and accompanied by the uniform shipping tag, consignee, both of which shall be shellfish dealers.

(c) When a shellstock lot is shipped, if multiple containers are used they shall be on a wrapped pallet, in a tote, in a net bailer, or other container and the unit shall be tagged with a single tag in accordance with Rule .0425 of this Section. The single tag shall also include a statement that "All shellstock containers in this lot have the same harvest date and area of harvest" and shall include the number of individual containers in the unit.

(d) The shellfish dealer shall provide a transaction record that accompanies the bulk shipment that contains the same information required on a dealer's tag in Rule .0425 of this Section and additionally states the name of the consignee, which shall be a shellfish dealer.

(e) Bulk shipments shall be kept above the floor using pallets to prevent the shellstock from becoming contaminated, unless the shipping conveyance has a channeled floor.

*Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0427 SHELLSTOCK SHELLFISH STORAGE**

Shellstock held in wet or dry storage must be kept so that they will not become adulterated. All shellstock held in dry storage shall be kept under mechanical refrigeration at a temperature of 45°F (7.1°C) or below. All refrigerated shellstock storage areas shall be equipped with an operating thermometer.

(a) It shall be unlawful to fail to keep shellstock and in-shell product under mechanical refrigeration at a temperature of 45°F



or below unless otherwise required by proclamation issued under the authority of 15A NCAC 03K .0110 or otherwise specified in the HACCP plan.

(b) Refrigerated storage areas shall be equipped with an accurate, operating thermometer.

(c) It shall be unlawful to fail to keep shucked shellfish under temperature control at a temperature of 45°F or below.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0428 SAMPLING AND TESTING**

Samples of shellfish may be taken and bacteriologically examined for any public health reason under the authority of the Marine Fisheries Commission by agents of the Division of Marine Fisheries at any time or place. This may include bacteriological examination or analysis for poisonous or deleterious substances as listed in the latest approved edition of the National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish, Section IV: Guidance Documents, Chapter II: Growing Areas; Action Levels, Tolerances and Guidance Levels for Poisonous or Deleterious Substances in Seafood, which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp>, at no cost. Samples of shellfish shall be furnished, upon request, request of the Division, by operators of plants, trucks, carriers, stores, restaurants, and other places where shellfish are sold.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0429 STOPSALE EMBARGO OR DISPOSAL OF SHELLFISH**

(a) When it has been determined by the Division of Marine Fisheries that shellfish have not been grown, harvested, stored, treated, transported, handled, shucked, packed, or offered for sale in compliance with 15A NCAC 18A Sections .0300 through .0900 of this Subchapter, those shellfish shall may be deemed adulterated, adulterated in accordance with Rule .0438 of this Section, except as required in Rules .0405 and .0430 of this Section.

(b) Shellfish or shellfish products processed or prepared for sale to the public determined to be adulterated or misbranded shall be subject to stopsale or disposal by the Division. The Division may temporarily or permanently issue an order to stop sale or condemn, destroy, or otherwise dispose of all shellfish or shellfish containers found to be adulterated or misbranded, embargo or disposal by the Division in accordance with G.S. 113-221.4. The authority of marine fisheries inspectors to seize shellfish or shellfish products pursuant to G.S. 113-137 shall not be affected by this Rule.

(c) All shellfish shall be disposed of in a manner prescribed by the Division or by a court of appropriate jurisdiction.

(c) If voluntary disposal of adulterated or misbranded shellfish or shellfish products is alternatively chosen by the shellfish dealer, responsible individual, or other person or facility specified in Rule

.0401 of this Section, the product disposal shall be observed by a Division employee.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 113-221.4; 143B-289.52.

**15A NCAC 18A .0430 BACTERIOLOGICAL AND CONTAMINATION STANDARDS**

Shellfish shucked or in the shell and intended or offered for sale in North Carolina that exceed an Escherichia coli Most Probable Number of 230 per 100 grams of sample or a total bacteria count of more than 500,000 per gram or contain pathogenic organisms in sufficient numbers to be hazardous to the public health shall be deemed adulterated by the Division. Shellfish contaminated by any other substance which renders it unsafe for human consumption shall be deemed adulterated by the Division. shall be deemed adulterated by the Division of Marine Fisheries if:

- (1) the concentration of Escherichia coli exceeds a Most Probable Number (MPN), as defined in Rule .0901 of this Subchapter, of 230 per 100 grams of sample;
- (2) the total bacteria count, as determined by a standard plate count, exceeds 500,000 colony-forming units, as defined in Rule .0901 of this Subchapter; or
- (3) the shellfish contain any contaminant that renders it unsafe for human consumption in accordance with the latest approved edition of the National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish, Section IV: Guidance Documents, Chapter II: Growing Areas; Action Levels, Tolerances and Guidance Levels for Poisonous or Deleterious Substances in Seafood, which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp>, at no cost.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0432 PUBLIC DISPLAY OF CONSUMER ADVISORY**

All facilities and persons shellfish dealers permitted in by Rule .0302 of this Subchapter and all other businesses and persons that sell or serve raw shellfish shall post one of the following consumer advisories or an equivalent statement in a conspicuous place where it may be readily observed by the public the following consumer advisory: in the area where raw shellfish is sold or served:

- (1) "Consumer Advisory  
Eating raw or undercooked oysters, clams, clams, whole scallops, or mussels may cause severe illness. People with the following conditions are at especially high risk: liver disease, alcoholism, diabetes, cancer, stomach

or blood disorder, or weakened immune system. Ask your doctor if you are unsure of your risk. If you eat shellfish and become sick, see a doctor ~~immediately.~~ immediately.; or

- (2) "Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk of foodborne illness, especially if you have certain medical conditions."

Nothing in this Rule is intended to supersede regulation of restaurants or other establishments subject to 15A NCAC 18A .2600 or the U.S. Food Code.

*Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~*

**15A NCAC 18A .0433 HAZARD ANALYSIS**

Each shellfish dealer shall conduct a hazard analysis to determine the food safety hazards that are reasonably likely to occur for each kind of shellfish product processed by that dealer and to identify the preventative measures that the dealer can apply to control those hazards. For the purpose of this Rule, "reasonably likely to occur" shall mean a food safety hazard for which a processor would establish controls because experience, illness data, scientific reports, or other information provide a basis to conclude that there is a reasonable possibility that it will occur in the absence of those controls, as defined in 21 CFR 123.6, which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-123>, at no cost.

*Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~*

**15A NCAC 18A .0434 HACCP PLAN**

(a) Each shellfish dealer shall have and implement a written HACCP Plan. plan specific to each kind of shellfish product processed. The owner or authorized designee individual shall sign the plan when implemented and after any modification. implemented, which shall signify that the plan has been accepted for implementation by the dealer. The HACCP plan shall also be signed by the owner or authorized individual after any modification or verification of the plan as required by this Rule. The plan shall be reviewed and updated, if necessary, at least annually. The plan shall, at a minimum:

- (1) ~~List~~ list the food safety hazards that are reasonably likely to occur;
- (2) ~~List~~ list the critical control points for each of the food safety hazards;
- (3) ~~List~~ list the critical limits that must be met for each of the critical control points;
- (4) ~~List~~ list the procedures, and frequency thereof, that will be used to monitor each of the critical control points to ensure compliance with the critical limits;
- (5) ~~List~~ list any corrective action plans to be followed in response to deviations from critical limits at critical control points;

- (6) ~~Provide~~ provide a record keeping system that documents critical control point monitoring; and
- (7) ~~List~~ list the verification procedures, and frequency thereof, that the dealer will use.

For the purpose of this Rule, "reasonably likely to occur" shall mean a food safety hazard for which a processor would establish controls because experience, illness data, scientific reports, or other information provide a basis to conclude that there is a reasonable possibility that it will occur in the absence of those controls, as defined in 21 CFR 123.6, which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-123>, at no cost.

(b) With the exception of a shellfish dealer that has not been permitted for interstate commerce, the following functions shall be performed by an individual who has successfully completed training in the application of HACCP principles to shellfish processing:

- (1) developing a HACCP plan;
- (2) reassessing and modifying the HACCP plan; and
- (3) performing the record review specified in Paragraph (d) of this Rule.

(c) If a deviation from a critical limit occurs, the shellfish dealer shall take corrective action in accordance with 21 CFR 123.7, which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at [https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-123/subpart-A/section-123.7#p-123.7\(b\)](https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-123/subpart-A/section-123.7#p-123.7(b)), at no cost.

(d) At least annually, each shellfish dealer shall verify that the HACCP plan is being implemented to control food safety hazards. Verification procedures shall include:

- (1) a reassessment of the plan when a change occurs that could affect the hazard analysis, and a review of any consumer complaints that have been received; and
- (2) a review, including signing and dating by the trained individual or responsible individual, of the records that document the monitoring of critical control points, the taking of corrective actions, and the calibrating of any process-monitoring instruments. This review shall occur within one week of the day that the records are made.

(e) All records required by this Rule shall be retained at the dealer facility for at least one year after the date they were prepared in the case of refrigerated products, and at least two years after the date they were prepared in the case of frozen products and shall include:

- (1) the name and location of the dealer;
- (2) the date and time of the activity that the record reflects;
- (3) the signature or initials of the individual performing the operation; and
- (4) the identity of the product and the production code, if any.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 113-221.4; 143B-289.52.

**15A NCAC 18A .0435 SANITATION MONITORING REQUIREMENTS**

(a) Each shellfish dealer shall ~~monitor, at a minimum,~~ monitor the following sanitation ~~items:~~ items when the plant is operational:

- (1) ~~Safety~~ safety of water;
- (2) ~~Condition~~ condition and cleanliness of food contact surfaces;
- (3) ~~Prevention~~ prevention of ~~cross-contamination;~~ cross-contamination;
- (4) ~~Maintenance~~ maintenance of hand ~~sanitizing~~ sanitizing, and toilet facilities;
- (5) ~~Protection~~ protection of shellfish, shellfish packaging ~~materials~~ materials, and food contact surfaces from ~~adulteration;~~ becoming adulterated;
- (6) ~~Proper~~ proper labeling, ~~storage~~ storage, and use of toxic compounds;
- (7) ~~Control~~ control of employees with adverse health conditions; and
- (8) ~~Exclusion~~ exclusion of pests from the facility.

(b) Monitoring records of these sanitation items shall be recorded at least daily and shall include the date and time of the activity that the record reflects, and the signature or initials of the individual performing the operation. The records shall be reviewed and signed by the owner or designated individual within one week of recording.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0436 MONITORING RECORDS**

Authority G.S. 130A-230.

**15A NCAC 18A .0437 IN-SHELL PRODUCT**

(a) In-shell product shall be kept under mechanical refrigeration at a temperature of 45°F or below.

(b) In-shell product shall be tagged or labeled to contain the following indelible and legible information listed in sequential order:

- (1) the shellfish dealer's name, address, and certification number assigned by the shellfish control agency in the state of the shellfish dealer's location;
- (2) the original shipper's certification number, except if the in-shell product is depurated, the original shipper's certification number is not required;
- (3) a "SELL BY DATE" that indicates the shelf-life or the words "BEST IF USED BY" followed by a date when the product would be expected to reach the end of its shelf-life. The date shall include month, day, and year;
- (4) if the in-shell product is depurated, the depuration cycle number or lot number;

(5) the most precise identification of the harvest location as is practicable, including the initials of the state of harvest, and the state or local shellfish control authority's designation of the growing area by indexing, administrative, or geographic designation. If the authority in another state has not indexed growing areas, then a geographical or administrative designation shall be used (e.g., Long Bay, shellfish lease or franchise number, or lot number);

(6) the type and quantity of in-shell product; and  
(7) the following statement in bold type on each tag or label: "THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE, IN CHRONOLOGICAL ORDER, FOR 90 DAYS." "RETAILERS: DATE WHEN LAST SHELLFISH FROM THIS CONTAINER SOLD OR SERVED (INSERT DATE) \_\_\_\_\_." OR "THIS LABEL IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RELABELED AND THEREAFTER KEPT ON FILE, IN CHRONOLOGICAL ORDER, FOR 90 DAYS." "RETAILERS: DATE WHEN LAST SHELLFISH FROM THIS CONTAINER SOLD OR SERVED (INSERT DATE) \_\_\_\_\_."

(c) In-shell product shall include one of the following consumer advisories, or equivalent statement:

(1) "Consumer Advisory Eating raw or undercooked oysters, clams, whole scallops, or mussels may cause severe illness. People with the following conditions are at especially high risk: liver disease, alcoholism, diabetes, cancer, stomach or blood disorder, or weakened immune system. Ask your doctor if you are unsure of your risk. If you eat shellfish and become sick, see a doctor immediately."

(2) "Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk of foodborne illness, especially if you have certain medical conditions."

(d) The statement "Keep Refrigerated" or an equivalent statement shall be included on the tag or label.

(e) If in-shell product for retail sale is packed in individual containers of five pounds or less and shipped in a master container that includes a tag in compliance with Paragraph (b) of this Rule, the individual containers of five pounds or less shall not require tags as specified in Paragraph (b) of this Rule if a lot code number is included on each container that allows traceback of the in-shell product to the master container. A consumer advisory shall be included on each retail package in accordance with Paragraph (c) of this Rule.

Authority G.S. 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0438 INSPECTIONS AND COMPLIANCE SCHEDULE**

(a) If a critical deficiency is detected during an inspection of a shellfish dealer by a Division of Marine Fisheries inspector:

- (1) the deficiency shall be corrected by the shellfish dealer during that inspection; or
- (2) the shellfish dealer shall immediately cease production affected by the deficiency.

If the shellfish dealer fails to correct the deficiency during the inspection, the Division shall initiate the suspension or revocation process for the Shellfish Dealer Permit and Certificate of Compliance as set forth in 15A NCAC 03O .0504. For the purpose of this Rule, "critical deficiency" shall mean a condition or practice that results in the production of a shellfish product that is adulterated or presents a threat to the health or safety of the consumer.

(b) Shellfish products affected by a critical deficiency shall be controlled to prevent adulterated product from reaching consumers. The Division shall:

- (1) embargo or destroy adulterated shellfish in accordance with Rule .0429 of this Section;
- (2) initiate a recall of adulterated shellfish; and
- (3) notify enforcement officials for the United States Food and Drug Administration, as well as shellfish control authorities in states that are known to have received adulterated shellfish.

(c) If a key or other deficiency is detected during an inspection of a shellfish dealer by a Division inspector, a compliance schedule shall be issued by the Division inspector that provides a time frame by which the deficiency shall be corrected by the shellfish dealer. For the purpose of this Rule, "key or other deficiency" shall mean a deficiency other than a critical deficiency.

(d) If a shellfish dealer fails to meet the compliance schedule, the Division shall proceed with one of the following options:

- (1) revise the existing compliance schedule;
- (2) initiate the suspension or revocation process for the Shellfish Dealer Permit and Certificate of Compliance as set forth in 15A NCAC 03O .0504; or
- (3) seek other administrative remedies.

(e) Nothing in this Rule shall be construed to limit or make null any option for remedy in accordance with Rule 15A NCAC 03O .0504 or other available administrative remedy.

Authority G.S. 113-134; 113-182; 113-221.2; 113-221.4; 143B-289.52.

**15A NCAC 18A .0439 RECALL PROCEDURE**

Each shellfish dealer shall adopt and adhere to a written procedure for conducting recalls of adulterated or misbranded shellfish products. This written procedure shall be based on, and complementary to, the FDA Enforcement Policy on Recalls, CFR Title 21, Chapter 1, Subchapter A., Part 7-Enforcement Policy. This procedure shall include shellfish dealers notifying the Division of Marine Fisheries and any consignee receiving affected product when a recall begins, as well as removal or correction of the affected product.

Authority G.S. 113-134; 113-182; 113-221.2; 143B-289.52.

**SECTION .0500 - OPERATION OF SHELLSTOCK PLANTS AND RESHIPERS**

**15A NCAC 18A .0501 GENERAL REQUIREMENTS FOR SHELLSTOCK PLANTS AND RESHIPERS**

The rules in Section .0400 and the rules of this Section shall apply for the operation of shellstock plants and reshippers.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0502 GRADING SHELLSTOCK AND COMMINGLING**

(a) For the purpose of this Rule:

- (1) "commingling" shall mean the act of combining different lots of shellfish harvested on different days in the same growing area or combining different lots of shellstock harvested from different growing areas.
- (2) "lot" shall mean clams from one day's harvest, from a single growing area, harvested by one or more harvesters.

~~(a)~~(b) The grading of shellstock by a shellfish dealer shall be conducted only in a permitted shellstock plant.

~~(b)~~(c) A separate grading room or area separate from other processing operations shall be required for the grading of shellstock.

(d) The grader used to grade shellstock, and any other accessories or tables used in the grading operation, shall be constructed to be easily cleanable and shall be kept in good repair.

(e) Shellfish dealers shall not commingle any shellfish, except for clams with prior approval of a commingling plan by the Division of Marine Fisheries. A commingling plan shall be approved by the Division based on limiting the dates of harvest and growing areas and maintaining lot identity so that each individual lot of shellfish can be traced back to its harvest source.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0503 GRADER**

Authority G.S. 130A-230.

**15A NCAC 18A .0504 RESHIPERS**

~~(a) Reshippers shall meet all applicable requirements for shellstock plants. When shucked shellfish are reshipped, they shall be obtained from a permitted shipper. The shucked shellfish shall be received in approved shipping containers at a temperature of 40°F (4°C) or below. The temperature of the shellfish shall not exceed 40°F (4°C) during the holding and shipping periods.~~

~~(b) Reshippers shall keep adequate and accurate records indicating the source from which shellfish were purchased, the date purchased, the name of the waters from which the shellfish were harvested, and the names and addresses of persons to whom the shellfish were sold for a period of one year.~~



Reshippers shall only purchase shellfish from other shellfish dealers and sell the product to other shellfish dealers, wholesalers, or retailers without repacking or relabeling.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**SECTION .0600 - OPERATION OF SHELLFISH SHUCKING AND PACKING PLANTS AND REPACKING PLANTS**

**15A NCAC 18A .0601 ~~GENERAL REQUIREMENTS FOR SHUCKING AND PACKING PLANTS AND REPACKING PLANTS~~**

The rules in Section .0400 and the rules of this Section shall apply for the operation of shucking and packing plants and repacking plants.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0602 SEPARATION OF OPERATIONS**

A shucking and packing plant shall provide separate ~~rooms~~ areas for shellstock storage, shucking, heat shock, and general storage. A ~~separate~~ packing area with delivery shelf that is separate from other processing areas and with a delivery window or shelf as set forth in Rule .0605 of this Section shall be required.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0603 HOT WATER SYSTEM**

An automatically regulated hot water system shall be provided ~~which that~~ has sufficient capacity to furnish water at a temperature of at least 130°F (54°C) during all hours of shucking and packing plant operation.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0604 HANDWASHING FACILITIES**

*Authority G.S. 130A-230.*

**15A NCAC 18A .0605 DELIVERY WINDOW OR SHELF**

(a) A delivery window or a non-corrosive shelf shall be installed in the partition between the shucking room area and packing area. No shuckers or unauthorized personnel shall be allowed in the packing room or area. The If a delivery window is used it shall be equipped with a shelf completely covered with smooth, non-corrosive metal or other impervious material approved by the Division for such purpose, and shall be sloped to drain towards the shucking room area.

(b) No shuckers or individuals that are not designated as packers by the owner or responsible individual shall be allowed in the packing area.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0606 NON-FOOD CONTACT SURFACES**

All non-food contact surfaces of equipment such as cabinets and shelving shall be ~~non-absorbent~~, impervious and constructed to be easily ~~cleaned~~; cleanable.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0607 SHUCKING BENCHES**

Shucking benches, tables, and contiguous walls to a height of at least two feet above the bench top, shall be of smooth concrete, non-corrosive metal, or other durable ~~non-absorbent~~ impervious material, free from cracks and pits, and ~~so~~ constructed so that drainage is complete ~~and rapid~~ and is directed away from the stored shellfish. Shucking blocks shall be solid, one-piece construction, removable, and easily cleanable. The stands, ~~stalls~~ stalls, and stools shall be of smooth material and shall be painted with a ~~light colored~~ light-colored washable ~~paint~~; paint, such as white in color, so that unclean surfaces can be detected.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0608 EQUIPMENT CONSTRUCTION**

(a) All pails, skimmers, measures, tanks, tubs, blowers, paddles, and other equipment, ~~which that~~ come into contact with shucked shellfish or with ice used for direct cooling of shellfish, shall be made of smooth, non-corrosive, impervious materials and constructed so as to be easily cleanable and shall be kept clean and in good repair.

(b) All equipment, including external and internal blower lines and hoses below a point two inches above the overflow level of the tank and blower drain valves, shall be constructed as to be easily ~~cleanable~~; cleanable and there shall be no V-type threads in the food-product zone of the blower.

(c) The blower and skimmer drain shall not be directly connected with the sewer. There shall be an air ~~gap, approved by the Division~~; gap between the blower and skimmer outlets. A floor drain shall be provided.

(d) Air-pump intakes shall be located in a place protected from dirt and other contamination, and shall be equipped with filters.

*Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0609 SANITIZING EQUIPMENT**

Washing and sanitizing facilities, including a three-compartment wash sink of adequate size to wash the largest utensils used in the ~~plant~~ shucking and packing plant, shall be provided in a section of the plant ~~convenient to~~ so that it can service the work areas. The sink shall be kept in good repair. Permanent hot and cold water connections, with combination supply faucets, shall be installed so that all vats may receive hot and cold water. Either steam, hot water, or a sanitizing solution shall be used to sanitize utensils and equipment.

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0610 EQUIPMENT SANITATION**

All utensils and tools, such as opening knives, shucking pails, measures, skimmers, colanders, tanks, tubs, paddles, and containers ~~which that~~ come in contact with the shellfish shall be thoroughly cleaned and then ~~sanitized; sanitized by:~~

- (1) ~~by steam in a steam chamber or box equipped with an indicating thermometer located in the coldest zone, by exposure to a temperature of 170°F (76°C) for at least 15 minutes, or to a temperature of 200°F (93°C) for at least five minutes;~~
- (2) ~~by immersion in hot water at a temperature of 170°F (76°C) for at least two minutes (a thermometer is required); minutes;~~
- (3) ~~by immersion for at least one minute in, or exposure for at least one minute to, to a constant flow of of, a solution containing not less than 100 parts per million chlorine residual. Utensils and equipment which have to that must be washed in place will shall require washing, rinsing, and sanitizing; or~~
- (4) ~~by a bactericidal treatment method which will provide equivalent sanitization to that provided by the methods authorized in (1), (2), or (3), as determined by the Division. If the bactericidal immersion or spray treatment is employed, testing kits shall be used to ensure that minimum solution strengths are maintained throughout the cleaning process. other equivalent products and procedures approved in 21 CFR 178.1010, which is incorporated by reference, including subsequent amendments and editions. A copy of the reference material can be found at <https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-178/subpart-B/section-178.1010>, at no cost.~~

A testing method or equipment shall be available and used to test chemical sanitizers to ensure minimum prescribed strengths.

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0611 EQUIPMENT STORAGE**

Equipment and utensils ~~which that~~ have been cleaned and ~~given bactericidal treatment~~ sanitized shall be stored in a manner to protect against prevent contamination.

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0612 ICE**

(a) Ice shall be obtained from a water supply approved by the Division of Marine Fisheries pursuant to Rule .0413 of this Subchapter and shall be stored and handled in a sanitary manner, manner to prevent contamination and keep the ice clean.

(b) All equipment used in the handling of ice shall be used for no other purpose and shall be cleaned and sanitized at least once each day the facility is in operation.

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0613 SHELLFISH SHUCKING**

(a) Shellfish shall be shucked in a manner ~~that they are not subject to adulteration. to prevent contamination.~~ Shellstock shall be ~~reasonably~~ free of ~~mud when excessive sediment prior to being~~ shucked. Only live shellstock shall be shucked.

(b) Shucking of shellstock shall only be permitted on ~~approved~~ shucking tables or ~~benches. benches in accordance with Rules .0402 and .0607 of this Subchapter.~~ Floors ~~used by shuckers~~ shall not be used for the storage of shellfish or the retention of shucking pails or other food contact containers.

(c) When shellstock are stored in the shucking room, protection shall be provided for the storage space to prevent ~~possible adulteration~~ the shellstock from becoming adulterated from wash water wastes and from the feet of the employees.

(d) Shucking pails shall be placed so as to exclude the drippings from shells and from the hands of shuckers. The pails shall be rinsed with running tap water before each filling.

(e) ~~Shucked shellfish, when washed, shellfish~~ shall be ~~thoroughly~~ washed on a skimmer or a container approved by the Division of Marine Fisheries with cold running water from a source ~~approved by the Division under in accordance with Rule .0413 of this Subchapter.~~

(f) The return of excess shucked shellfish from the packing room shall not be allowed. All shucked shellfish shall be packed before ~~leaving it leaves~~ the packing room.

(g) If blowers are used for cleansing, the total time that shellfish are in contact with water after leaving the shucker, including the time of washing, rinsing, and any other contact with ~~water water,~~ shall not be more than 30 minutes. In computing the time of contact with water, the length of time that shellfish are in contact with water that is ~~agitated, agitated~~ shall be calculated at twice ~~its~~ the actual length. length of time that the shellfish are in contact with the water. Before packing into containers for shipment or delivery for consumption, the shellfish shall be ~~drained and packed drained.~~ Shellfish shall be packed without any added substance.

~~(h) Pre cooling of shucked shellfish shall be done in equipment which meets National Sanitation Foundation standards or the equivalent.~~

Authority G.S. ~~130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.~~

**15A NCAC 18A .0614 CONTAINERS**

(a) Containers used for transporting shucked shellfish shall be made from ~~food safe materials approved by the United States Food and Drug Administration. food-safe materials.~~ These containers shall not be reused for packing shellfish.

(b) ~~Shucked shellfish shall be packed and shipped in containers, sealed so that tampering can be detected. Each individual container shall have permanently recorded container, so as to be conspicuous, the shucker/packer's, repacker's, or distributor's~~



~~name and address, and the shucker/packer's or repacker's certification number. The shucker/packer's or repacker's name and address and certification number shall be permanently and visibly recorded on the label of each container used for shucked shellfish.~~

~~(c) Any container of shucked shellfish which that has a capacity of 64 fluid ounces or more shall be dated as of the date shucked include the words "DATE SHUCKED" followed by the date shucked permanently recorded on both the lid and sidewall or bottom, bottom of the container. The date shall consist of either the abbreviation for the month and number of the day of the month or the Julian format (YDDD), the last digit of the four-digit year and the three-digit number corresponding to the day of the year.~~

~~(d) Any container of shucked shellfish which that has a capacity of less than 64 fluid ounces shall indicate a SELL BY date. include the words "SELL BY" or "BEST IF USED BY" followed by a date when the product will reach the end of its projected shelf life. The date shall consist of the abbreviation for the month and number of the day of the month.~~

~~(e) For fresh frozen shellfish, the year shall be added to the date for non-Julian format. If fresh frozen, the container shall be labeled as frozen in equal size type immediately adjacent to the type of shellfish. If a frozen container of shucked shellfish is thawed and repacked, the container shall be labeled as previously frozen.~~

~~(f) Each container of shucked shellfish shall include a consumer advisory. The following statement, or an equivalent statement, shall be included on all containers: "Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk of foodborne illness, especially if you have certain medical conditions."~~

~~(g) No person shall use containers bearing a certification number other than the number assigned to him, him or her.~~

*Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0615 SHELLFISH COOLING**

~~Shucked shellfish shall be cooled to an internal temperature of 45°F (7°C) or less within two hours after delivery to the packing room. Storage temperatures shall be 40° F (4° C) or below. No ice or other foreign substance shall be allowed to come into contact with the shellfish after processing has been completed.~~

~~(a) For shellstock that has not been refrigerated prior to processing, shucked meats and in-shell product shall be chilled to an internal temperature of 45°F or less within three hours of shucking or processing.~~

~~(b) For shellstock that has been refrigerated prior to processing, shucked meats and in-shell product shall be chilled to an internal temperature of 45°F or less within four hours after removal from refrigeration.~~

~~(c) If heat shock is used, once shellstock is shucked, the shucked shellfish meats shall be cooled to an internal temperature of 45°F or less within two hours from the time of heat shock.~~

~~(d) Shucked and packed shellfish shall be stored in covered containers at an ambient temperature of 45°F or less or covered in ice.~~

*Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0616 SHELLFISH FREEZING**

~~(a) If shellfish are to be frozen, they shall be frozen within three days of shucking and packing and the shucked date shall be preceded by the letter (F). packing. Containers of frozen shellfish shall be labeled in accordance with Rule .0614 of this Section.~~

~~(b) A temperature of 0° F (-18° C) 0°F or less shall be maintained in the frozen storage rooms.~~

*Authority G.S. 130A-230; 113-134; 113-182; 113-221.2; 143B-289.52.*

**15A NCAC 18A .0617 SHIPPING**

*Authority G.S. 130A-230.*

**15A NCAC 18A .0618 HEAT SHOCK METHOD OF PREPARATION OF SHELLFISH**

~~(a) Facilities. If a shucking and packing plant uses the heat shock process, it shall be done in a separate room adjacent to the shellstock storage room and the shucking room.~~

~~(b) Tank construction. The heat shock tank shall be constructed of smooth, non-corrosive metal, designed to drain quickly and completely and to be easily and thoroughly cleaned. cleanable.~~

~~(c) Booster heaters. All heat shock tanks shall be equipped with booster heaters that are thermostatically controlled.~~

~~(d) Shellstock washing. All shellstock subjected to the heat shock process shall be thoroughly washed with flowing potable water immediately prior to the heat shock operation.~~

~~(e) Water temperature. During the heat shock process the water shall be maintained at not less than 140°F (60°C) or more than 150°F (65°C). 150°F. An accurate thermometer shall be available and used to determine the temperature during the heat shock process. The heat shock tanks shall be drained and cleaned at the end of each day's operation.~~

~~(f) Alternatives to heat shock method. Nothing in these Rules this Rule shall be construed to prohibit any other process which that has been found by the Division of Marine Fisheries to be equally effective.~~

~~(g) Water requirements. At least eight gallons of heat shock water shall be maintained in the tank for each one-half one-half bushel of shellstock being treated. All water used in the heat shock process shall be from a source approved by the Division under in accordance with Rule .0413 of this Subchapter.~~

~~(h) Cooling. Immediately after the heat shock process, all treated shellstock shall be subjected to a cool-down with flowing potable tap water. All heat-shocked heat-shocked shellstock shall be handled in a manner to prevent adulteration of the product. the product from becoming adulterated. Shellfish which that have been subjected to the heat shock process shall be cooled to an internal temperature of 45°F (7°C) or below within two hours after this process and shall be placed in storage at 40°F (4°C) 45°F or below.~~

~~(i) Cleaning. At the close of each day's operation, the heat shock tank shall be completely emptied of all water, mud, and detritus, and thoroughly cleaned and then rinsed with flowing potable water.~~

- (j) ~~Sanitizing~~. All heat shock tanks shall be sanitized immediately before starting each day's operation.
- (k) The procedure for the heat shock process shall be posted in a location that can be viewed by employees to help ensure the correct procedure can be followed.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0619 REPACKING OF SHELLFISH**

- (a) If repacking is practiced, it shall be ~~done strictly conducted~~ in accordance with all the requirements ~~stipulated~~ for shucking and packing plants in the rules of this Section except those for requirements related to shucking.
- (b) The shucked shellfish to be repacked shall be received at the repacking plant ~~in approved shipping containers~~ at a temperature of ~~32° - 40°F (0° - 4°C)~~ 45°F or less.
- (c) Shellfish shall not be repacked more than one time.
- (d) The temperature of the shellfish shall not exceed an internal temperature of 45°F (7°C) for more than two hours during the repacking process.
- (e) ~~Containers with a capacity of 64 fluid ounces or less in which shucked shellfish are repacked shall indicate a SELL BY date preceded by the letter R. Containers with a capacity above 64 fluid ounces in which shucked shellfish are repacked shall be dated to show the original shucking date and repacking date, which will be preceded by the letter (R).~~ Containers of repacked shellfish shall be repacked and labeled in accordance with Rule .0614 of this Section, except that the original date of shucking shall be added to the new repacked container or the original date of shucking shall be used in establishing the "SELL BY" or "BEST IF USED BY" date.
- (f) Repackers shall keep ~~accurate~~ records indicating the source from which shellfish were purchased, the date packed, the date of purchase, ~~the area within the state or territory from which the shellfish were harvested,~~ and the names and addresses of ~~persons shellfish dealers~~ to whom ~~the~~ shellfish were sold.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0620 SHELLFISH THAWING AND REPACKING**

- (a) Frozen shellfish shall be thawed ~~under temperatures not to exceed 45° F (7° C)~~ at a temperature of 45°F or less.
- (b) Shellfish held for thawing shall be separated from other shellfish.
- (c) Thawed shellfish shall not exceed ~~45° F (7° C)~~ 45°F for more than two hours during the repacking process.
- (d) Containers of repacked, thawed shellfish shall be labeled as required in Rule .0619 of this Section and shall also be labeled as "PREVIOUSLY FROZEN", or equivalent.
- (e) Thawed ~~shellfish, which shellfish that~~ remain in original ~~containers, containers~~ shall be labeled as required in Rule .0614 of this Section and shall also be labeled as "PREVIOUSLY FROZEN", or equivalent.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0621 RECALL PROCEDURE**

Authority G.S. 130A-230.

**SECTION .0700 - OPERATION OF DEPURATION (MECHANICAL PURIFICATION) FACILITIES**

**15A NCAC 18A .0701 GENERAL REQUIREMENTS FOR DEPURATION**

- (a) ~~The Rules in Section .0400 shall apply for the operation of depuration facilities. In addition to and to the extent not inconsistent with other applicable provisions of North Carolina Marine Fisheries Commission rules, requirements for depuration shall be in accordance with the 2019 Revision of the National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish chapter titled "Depuration", which is incorporated by reference, not including subsequent amendments and editions. A copy of the reference material is available online at:~~ <https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp>, at no cost.
- (b) All laboratory analyses used to evaluate the effectiveness of the depuration process shall be performed by a laboratory found by a Food and Drug Administration (FDA) Shellfish Laboratory Evaluation Officer or by an FDA-certified State Shellfish Laboratory Evaluation Officer to conform or provisionally conform to the requirements established under the National Shellfish Sanitation Program (NSSP).
- (c) If there is an immediate or ongoing critical need for a method for the analysis of depuration process water and shellfish that are used to evaluate the effectiveness of the depuration process and no method approved for use within the NSSP exists, the following may be used:
  - (1) a validated Association of Analytical Communities, Bacteriological Analysis Manual, or Environmental Protection Agency method; or
  - (2) an Emergency Use Method as set forth in the latest approved edition of the NSSP Guide for the Control of Molluscan Shellfish.

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0702 FACILITY SUPERVISION  
15A NCAC 18A .0703 FACILITY DESIGN AND SANITATION**

Authority G.S. 130A-230.

**15A NCAC 18A .0704 LABORATORY PROCEDURES**

Authority G.S. 113-134; 113-182; 113-221.2; 143B-289.52.

15A NCAC 18A .0705 FACILITY OPERATIONS  
 15A NCAC 18A .0706 SHELLFISH SAMPLING PROCEDURES  
 15A NCAC 18A .0707 DEPURATION PROCESS  
 WATER CONTROL - SAMPLING PROCEDURES  
 15A NCAC 18A .0708 DEPURATION TREATMENT  
 PROCESS WATER - STANDARDS  
 15A NCAC 18A .0709 DEPURATION - SHELLFISH  
 MEAT STANDARDS  
 15A NCAC 18A .0710 ULTRAVIOLET UNIT  
 15A NCAC 18A .0711 SHELLSTOCK STORAGE  
 15A NCAC 18A .0712 DEPURATION - TAGGING AND  
 RELEASE OF SHELLFISH  
 15A NCAC 18A .0713 DEPURATION - RECORDS

Authority G.S. 130A-230.

**SECTION .0800 - WET STORAGE OF SHELLSTOCK**

**15A NCAC 18A .0801 GENERAL REQUIREMENTS FOR WET STORAGE OF SHELLSTOCK**

(a) The rules in Section .0400 shall apply for wet storage of shellstock. In addition to and to the extent not inconsistent with other applicable provisions of North Carolina Marine Fisheries Commission Rules, requirements for wet storage shall be in accordance with the 2019 Revision of the National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish (hereinafter referred to as "Model Ordinance") chapter titled "Wet Storage in Approved and Conditionally Approved Growing Areas", which is incorporated by reference except as provided in Paragraph (b) of this Rule, not including subsequent amendments and editions. A copy of the reference material is available online at: <https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp>, at no cost.

(b) Amendments and exceptions to the Model Ordinance chapter titled "Wet Storage in Approved and Conditionally Approved Growing Areas" incorporated by reference include:

- (1) Section @.01, .04, C(1)(a) is amended to read: "Except for a water source in accordance with Rule .0413 of this Subchapter, the quality of the surface source water prior to treatment shall meet, at a minimum, the bacteriological standards for the conditionally approved classification in the open status. Water classified as prohibited or restricted shall not be used as source water."
- (2) the following sections are not incorporated by reference and shall not apply: Sections @.01, .04, C(2)(a)(ii), @.01, .04, C(2)(b), @.01, .04, C(2)(c), and @.01, .04, C(2)(d).

Authority G.S. ~~130A-230~~; 113-134; 113-182; 113-221.2; 143B-289.52.

15A NCAC 18A .0802 PLANT DESIGN: SANITATION:  
 AND WET STORAGE  
 15A NCAC 18A .0803 WET STORAGE WATER  
 15A NCAC 18A .0804 SHELLSTOCK CLEANING  
 15A NCAC 18A .0805 WET STORAGE TANKS  
 15A NCAC 18A .0806 SHELLSTOCK CONTAINERS

Authority G.S. 130A-230.

**SECTION .0900 - CLASSIFICATION OF SHELLFISH GROWING WATERS**

**15A NCAC 18A .0901 DEFINITIONS**

The following definitions shall apply to this Section.

- (1) "Approved" means shellfish growing waters determined suitable by the Division for the harvesting of shellfish for direct market purposes.
- (2) "Closed-system marina" means a marina constructed in canals, basins, tributaries, or any other area with restricted tidal flow.
- (3) "Colony forming unit" means an estimate of the number of viable bacteria cells in a sample as determined by a plate count.
- (4) "Commercial marina" means a marina that offers one or more of the following services: fuel, transient dockage, haul-out facilities, or repair services.
- (5) "Conditionally approved" means shellfish growing waters that are subject to predictable intermittent pollution but that may be used for harvesting shellfish for direct market purposes when management plan criteria are met.
- (6) "Division" means the Division of Marine Fisheries or its authorized agent.
- (7) "Estimated 90<sup>th</sup> percentile" means a statistic that measures the variability in a sample set that shall be calculated by:
  - (a) calculating the arithmetic mean and standard deviation of the sample result logarithms (base 10);
  - (b) multiplying the standard deviation in Sub-Item (a) of this Item by 1.28;
  - (c) adding the product from Sub-Item (b) of this Item to the arithmetic mean; and
  - (d) taking the antilog (base 10) of the results from Sub-Item (c) of this Item to determine the estimated 90<sup>th</sup> percentile.
- (8) "Fecal coliform" means bacteria of the coliform group that will produce gas from lactose in a multiple tube procedure liquid medium (EC or A-1) within 24 plus or minus two hours at 44.5° C plus or minus 0.2° C in a water bath.
- (9) "Geometric mean" means the antilog (base 10) of the arithmetic mean of the sample result logarithm.

- (10) "Marina" means any water area with a structure (such as a dock, basin, floating dock) that is utilized for docking or otherwise mooring vessels and constructed to provide temporary or permanent docking space for more than 10 boats.
- (11) "Marine biotoxins" means any poisonous compound produced by marine microorganisms and accumulated by shellstock.
- (12) "Median" means the middle number in a given sequence of numbers, taken as the average of the two middle numbers when the sequence has an even number of numbers.
- (13) "Most probable number (MPN)" means a statistical estimate of the number of bacteria per unit volume and is determined from the number of positive results in a series of fermentation tubes.
- (14) "National Shellfish Sanitation Program (NSSP)" means the cooperative federal-state-industry program for the sanitary control of shellfish that is adequate to ensure that the shellfish produced in accordance with the NSSP Guide For The Control Of Molluscan Shellfish will be safe and sanitary.
- (15) "Open-system marina" means a marina constructed in an area where tidal currents have not been impeded by natural or man-made barriers.
- (16) "Private marina" means any marina that is not a commercial marina as defined in this Rule.
- (17) "Prohibited" means shellfish growing waters unsuitable for the harvesting of shellfish for direct market purposes.
- (18) "Public health emergency" means any condition that may immediately cause shellfish waters to be unsafe for the harvest of shellfish for human consumption.
- (19) "Restricted" means shellfish growing waters from which shellfish may be harvested only by permit and are subjected to a treatment process through ~~relaying or~~ depuration that renders the shellfish safe for human consumption.
- (20) "Sanitary survey" means the written evaluation of factors that affect the sanitary quality of a shellfish growing area including sources of pollution, the effects of wind, tides, and currents in the distribution and dilution of polluting materials, and the bacteriological quality of water.
- (21) "Shellfish" means the term as defined in G.S. 113-129, except the term shall not include scallops when the final product is the shucked adductor muscle only.
- (22) "Shellfish growing area" means a management unit that defines the boundaries of a sanitary survey and that is used to track the location where shellfish are harvested.

- (23) "Shellfish growing waters" means marine or estuarine waters that support or could support shellfish life.
- (24) "Shellstock" means live molluscan shellfish in the shell.
- (25) "Shoreline survey" means an in-field inspection by the Division to identify and evaluate any potential or actual pollution sources or other environmental factors that may impact the sanitary quality of a shellfish growing area.
- (26) "Systematic random sampling strategy" means a sampling strategy designed to assess the bacteriological water quality of shellfish growing waters impacted by non-point sources of pollution and scheduled sufficiently far in advance to support random collection with respect to environmental conditions.

Authority G.S. 113-134; 113-182; 113-221.2; 143B-289.52.

**15A NCAC 18A .0906 RESTRICTED AREAS**

- (a) Shellfish growing waters may be classified as restricted if:
  - (1) a sanitary survey indicates there are no significant point sources of pollution; and
  - (2) levels of fecal pollution, human pathogens, or poisonous or deleterious substances are at such levels that shellstock can be made safe for human consumption by either relaying or depuration.
- ~~(b) Relaying of shellfish shall be conducted in accordance with all applicable rules, including 15A NCAC 03K and 15A NCAC 18A .0300.~~
- ~~(c)~~(b) Depuration of shellfish shall be conducted in accordance with all applicable rules, including 15A NCAC 03K and 15A NCAC 18A .0300 and .0700.
- ~~(d)~~(c) For shellfish growing waters classified as restricted and used as a source of shellstock for depuration, the microbiological survey, as set forth in Rule .0903(c)(3) of this Section, shall indicate the bacteriological water quality does not exceed the following standards based on results generated using the systematic random sampling strategy:
  - (1) a median fecal coliform most probable number (MPN) or geometric mean MPN of 88 per 100 milliliters;
  - (2) a median fecal coliform colony-forming units (CFU) or geometric mean CFU of 88 per 100 milliliters;
  - (3) an estimated 90<sup>th</sup> percentile of 260 MPN per 100 milliliters for a five-tube decimal dilution test; or
  - (4) an estimated 90<sup>th</sup> percentile of 163 CFU per 100 milliliters for a membrane filter membrane-Thermotolerant Escherichia coli (mTEC) test.

Authority G.S. 113-134; 113-182; 113-221.2; 143B-289.52.

\*\*\*\*\*

---

Release: Immediate  
Date: Aug. 1, 2023

Contact: [Patricia Smith](#)  
Phone: 252-726-7021

---

**MEDIA ADVISORY: Comment period opens, public hearing scheduled for 103 marine fisheries rules**

**MOREHEAD CITY** – The N.C. Marine Fisheries Commission is accepting public comment on 103 proposed rules pertaining to data collection and the prevention of harassment of N.C. Division of Marine Fisheries staff, the Shellfish Relay Program and shellfish leases and franchises, oyster sanctuaries, and shellfish sanitation procedures.

A public hearing will be held by web conference on Aug. 16 at 6 p.m. A listening station will be established at the N.C. Division of Marine Fisheries Central District Office at 5285 Highway 70 West, Morehead City. The public may join the meeting online; however, those who wish to comment during the hearing must register to speak by noon on the day of the hearing. Those who wish to speak at the listening station may sign up when they arrive.

Members of the public may also submit written comments through an online form or through the mail to N.C. Marine Fisheries Commission Rules Comments, P.O. Box 769, Morehead City, N.C. 28557. Comments must be posted online or be received by the N.C. Division of Marine Fisheries by 5 p.m. Oct. 2, 2023.

Links to the public hearing registration form and online comment form, as well as text of the proposed rules and links to join the meeting, can be found on the N.C. Marine Fisheries Commission's [2023-2024 Proposed Rules Page](#).

**Data Collection and Harassment Prevention** -- Proposed amendments to 15A NCAC 03I .0113 broaden and enhance protections for Division of Marine Fisheries employees from verbal, physical or sexual harassment by those engaging in fishing activities while the employees are in the process of obtaining data about fishing activity. Proposed amendments also strengthen rule language that requires fishermen to cooperate with Division data collection programs. The proposed amendments are needed because the Division has had increasing occurrence and severity of harassment incidences and decreasing participation in its data collection initiatives.

**Shellfish Relay Program and Shellfish Leases and Franchises** – The proposed repeals of 15A NCAC 03K .0104, .0401, .0403, and .0405 and amendments to 15A NCAC 03I .0101, 03K .0101, .0301, 03O .0201, .0501, .0503, 18A .0901, and .0906 remove outdated shellfish relay requirements, reflecting the discontinuation of the Division of Marine Fisheries Shellfish Relay Program. Proposed changes to a shellfish lease rule (15A NCAC 03O .0201) require shellfish lease or franchise holders to meet the listed production, marking, and permit requirements for current shellfish leases before being eligible for additional shellfish lease acreage. Doing so would help ensure more efficient and meaningful use of the public trust bottom by preventing persons not in good standing from precluding potential applicants from applying for a shellfish lease in affected areas.



**Oyster Sanctuaries** – Proposed amendments to 15A NCAC 03R .0117 add the boundaries of the two newest oyster sanctuaries (Cedar Island and Gull Shoal) and correct boundaries for three other oyster sanctuaries (Pea Island, Raccoon Island, and Swan Island). These changes were implemented by proclamation while the rulemaking process is undertaken.

**Commercial Shellfish Sanitation and Processing Procedures** – Rules in 15A NCAC 03 and 18A are proposed for readoption, amendment, or repeal under a state-mandated periodic review schedule. The proposed changes are to ensure that North Carolina remains in compliance with National Shellfish Sanitation Program requirements. Many of the proposed rules codify existing practices or regulations implemented by proclamation.

The proposed rule changes will be presented to the N.C. Marine Fisheries Commission for final approval in November 2023 and have an earliest effective date of April 1, 2024.

For questions about the N.C. Marine Fisheries Commission rulemaking process, email [Catherine Blum](#), rules coordinator for the N.C. Division of Marine Fisheries.

<b>WHO:</b>	Marine Fisheries Commission
<b>WHAT:</b>	Public Hearing for Proposed Rules
<b>WHEN:</b>	Aug. 16 at 6 p.m.
<b>WHERE:</b>	Meeting by Web Conference <a href="#">Click Here</a> for Information and to Sign Up to Speak

###



MFC 2023-2024 Proposed Rules-Public Comments

Created	Name	Address: City	Address: State	Are your comments for or against the proposed rulemaking?	Please enter your comments on proposed changes to the rules and cite the rule or rules on which you are commenting.
8/2/2023 10:06	Chris Potter	Morehead City	North Carolina	Against	<p>If you pass the legislation as referenced below, I will sue. There is no wiggle room when it comes to freedom of speech; you do not get an inch. The Director and his/her team's delicate sensibilities do not trump my God-given rights to Freedom of Speech, recognized in the first amendment of the U.S.A to which North Carolina belongs. Attempts to limit speech are in direct violation of my rights. I would now like to celebrate those rights by inviting the Director and team to lick my freedom-lovin' body and all it's parts.</p> <p>The following is the legislation I am opposed to:            It shall be unlawful for any responsible person to harass the Fisheries Director or the Fisheries Director's agents<sup>29</sup>            in any way related to the requirements of Paragraphs (b) and (c) of this Rule, including verbal or physical harassment<sup>30</sup>            or sexual harassment. For the purpose of this Rule, "harassment" shall be defined consistent with 50 CFR 600.725(o),<sup>31</sup>            (t), and (u), including to:<sup>32</sup>            (1) harass;<sup>33</sup>            (2) sexually harass, including making sexual connotations;<sup>34</sup>            (3) oppose;<sup>35</sup>            (4) impede;<sup>36</sup>            (5) intimidate</p>
8/18/2023 17:49	John Williams	Leland	North Carolina	Against	I do not support shellfish leases you are taking our public shoreline away for profit. I do not support being bothered while in the act of fishing

**MARINE FISHERIES COMMISSION  
SUMMARY OF PUBLIC HEARING FOR PROPOSED RULES  
DIVISION OF MARINE FISHERIES  
CENTRAL DISTRICT OFFICE, MOREHEAD CITY, N.C.  
AUGUST 16, 2023, 6 PM**

**Marine Fisheries Commission:** Donald Huggins

**Division of Marine Fisheries Staff:** Catherine Blum, Marla Chuffo, Brian Gupton, Neil Kendrick, Elizabeth McCormick, Shawn Nelson, Brandi Salmon, Hope Wade, David Wallen, Jason Walsh, Travis Williams

**Public:** Christian Bayer, M.C. Hayes, Neal Register

**Media:** None

Marine Fisheries Commission member Donald Huggins, serving as the hearing officer, opened the public hearing for Marine Fisheries Commission proposed rules at 6 p.m. He explained that there are changes to 103 rules proposed by the Marine Fisheries Commission and the proposed effective date of these rules is April 1, 2024, unless the rules are automatically subject to legislative review per S.L. 2019-198. He said public comments on the proposed rules will be presented to the Marine Fisheries Commission at its November 2023 business meeting prior to its vote on final approval of the rules. 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*.

Division staff member Catherine Blum reviewed the proposed rules by explaining the reason for proposed action as published in Volume 38, Issue 03 of the *N.C. Register*. She said the comment period for these 103 rules ends at 5 p.m. October 2, 2023. Mrs. Blum said comments may be submitted via U.S. mail to the Division of Marine Fisheries, P.O. Box 769, Morehead City, NC 28557; written comments may also be submitted via an online form available on the Division of Marine Fisheries website, on the "2023-2024" proposed rules webpage.

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

Christian Bayer provided comments about shellfish relay. He said he has been participating in shellfish relay for years and his father has been participating in it for about 20 years. They have tried aquaculture for several years and have seen first hand how well it is not working, both on their own aquaculture farm and other nearby aquaculture farms. He said it is unacceptable to shut down something that has been working, namely shellfish relay. Mr. Bayer said he understands some people's concerns about it, but for no more people than are participating in the relay program and as many families benefit from it, he said it is the wrong path to discontinue it in the face of people trying to grow N.C. seafood in the N.C. oyster program. He said it needs to be understood where other people are coming from and he wants everyone to be aware of the situation, rather than just one person that may not see his point of view.

Hearing no further public comments on the proposed rules, Commissioner Huggins closed the hearing at 6:18 p.m.

/cb