

MARINE FISHERIES COMMISSION BUSINESS MEETING
Courtyard by Marriott, Jacksonville, N.C.
May 15-17, 2019

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).

May 15

6 p.m. Public Comment Period

May 16

9 a.m. Call to Order*
Moment of Silence and Pledge of Allegiance
Conflict of Interest Reminder
Roll Call

Approval of Agenda**
Approval of Meeting Minutes**

9:15 a.m. Public Comment Period

10:15 a.m. Chairman's Report

- Letters
- Ethics Training and Statement of Economic Interest Reminder
- 2019 Meeting Schedule
- Recreational Hook-n-Line Modifications

11:15 a.m. Committee Reports

- Wildlife Resources and Marine Fisheries Commission's Joint Committee on Delineation of Fishing Waters – Chairman Bizzell
- Southern Flounder Fishery Management Plan Advisory Committee
- Blue Crab Fishery Management Plan Advisory Committee
- N.C. Commercial Fishing Resource Fund Committee

Noon Lunch Break

1:30 p.m. Director's Report – Director Steve Murphey
Reports and updates on recent Division of Marine Fisheries activities

- Division of Marine Fisheries Quarterly Update
- Ongoing Status of Rule Development to Clarify Standard Commercial Fishing License Transfers and Assignments – Stephanie McInerny
- Atlantic States Marine Fisheries Commission – Chris Batsavage
- Mid-Atlantic Fishery Management Council Update – Chris Batsavage
- South Atlantic Fishery Management Council Update - Steve Poland
- Highly Migratory Species – Randy Gregory
- Informational Materials
 - Landings Update for Red Drum and Southern Flounder

- Protected Resources Update
 - Observer Program
 - Incidental Take Permit Updates
 - Rules Suspension Update
- 3 p.m. Biological Data Collection Programs and Sampling Design – Lee Paramore
 4 p.m. Stock Assessment Fundamentals– Laura Lee

May 17

- 9 a.m. Fishery Management Plans
- Status of ongoing plans– Catherine Blum
 - Blue Crab Fishery Management Plan Amendment 3 Update – Jason Rock and Corrin Flora
 - Southern Flounder Fishery Management Plan Amendment 2 - Mike Loeffler and Anne Markwith
- Receive draft goal and objectives and division recommendation for an amendment to implement management measures to end overfishing of the southern flounder stock.*
- **Vote on Goal and Objectives of Amendment 2****
 - **Vote to send Amendment 2 out for advisory committee and public review and comment****
- 11 a.m. Rulemaking Update – Catherine Blum
- Periodic Review and Expiration of Existing Rules per G.S. 150B-21.3A
 - 15A NCAC 18A report update
 - 15A NCAC 03 rule readoption update
 - 2018-2019 annual rulemaking cycle
 - 2019-2020 Annual Rulemaking Cycle
 - Rules Supplement – April 1, 2019
- 11:30 a.m. Issues from Commissioners
 11:45 a.m. Meeting Assignments/Preview of Agenda Items for August Meeting – Nancy Fish
 Noon Adjourn

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

***Potential Action Items*

Minutes



EMERGENCY MEETING of the MARINE FISHERIES COMMISSION
Lenoir County Courthouse
130 S. Queen St., Kinston
County Commissioners' Meeting Room
Kinston, N.C.
March 13, 2019

On March 10, 2019, Marine Fisheries Commission Chairman Rob Bizzell received separate requests from five commission members (Kornegay, Laughridge, Boltes, Koury and Bizzell) for an emergency meeting, pursuant to **G.S. 113-221.1 (d) Proclamations; emergency review**. Subsequently, Chairman Bizzell called an emergency meeting of the Marine Fisheries Commission for March 13 to review the desirability of directing the Director of the Division of Marine Fisheries to issue a proclamation regarding gill nets, similar if not identical to the one requested at the commission's February 2019 Meeting and listed below:

Motion by Cameron Boltes to ask the director of the DMF to issue a proclamation, effective in conjunction with the supplement, that restricts the use of gill nets that interact with striped bass upstream of the ferry lines and requires attendance of gill nets that interact with striped bass upstream of the tie-down lines. Second by Pete Kornegay. Motion carries 5-4.

The emergency meeting was held on March 13, 2019 at 10 a.m. at the Lenoir County Courthouse in Kinston, N.C. There was no public comment period and the meeting was not live-streamed.

Materials for this meeting, motions and the meeting audio can be found at <http://portal.ncdenr.org/web/mf/031319-emergency-meeting>.

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

BUSINESS MEETING - MOTIONS AND ACTIONS

Chairman Rob Bizzell convened an emergency meeting at 10 a.m. and reminded commissioners of their conflict of interest and ethics requirements.

The following commission members were in attendance: Rob Bizzell-Chairman, Mike Blanton, Cameron Boltes, Doug Cross, Tom Hendrickson, Pete Kornegay, Brad Koury, Chuck Laughridge and Sam Romano.

Motion by Cameron Boltes to approve the agenda. Second by Chuck Laughridge.
Motion carries unanimously.

Purpose of the Emergency Meeting

Chairman Bizzell explained the purpose of the emergency meeting was to discuss directing the Director of the Division of Marine Fisheries to issue a proclamation regarding gill nets, similar if not identical to the one requested at the commission's February Meeting.

As reference, Division of Marine Fisheries Director Steve Murphey had declined to voluntarily implement a motion passed at the commission's February meeting requesting he restrict the use of gill nets that interact with striped bass upstream of the ferry lines in the rivers and require attendance of gill nets that interact with striped bass upstream of the tie-down lines in the Central Southern Management Area (CSMA).

The February motion was made following the adoption of Supplement A to Amendment 1 to the N. C. Estuarine Striped Bass Fishery Management Plan, which provided for a year-round season closure for striped bass in internal waters in the CSMA – that area runs from just south of Oregon Inlet to the South Carolina state line.

In a [March 4 letter to the commission](#), Murphey wrote that he carefully considered the issue but concluded that scientific data does not support the requested management measure. The letter stated that gill nets are not the primary or even the most significant source of discard mortality in the CSMA striped bass fishery.

Chairman Bizzell advised the commission will also discuss requesting the Wildlife Resources Commission adopt concurrent regulations regarding recreational harvest of striped bass in the joint waters of the state to mirror regulations the commission passed in February for coastal fishing waters.

Overview of N.C.G.S. 113-221.1 (d) Proclamations; emergency review

The commission's counsel, Shawn Maier, Assistant Attorney General with the N.C. Department of Justice, reviewed the provisions of North Carolina General Statute 113-221.1(d), which authorizes the commission to review the desirability of directing the fisheries director to issue a proclamation.

The emergency meeting was called pursuant to this statute. Maier advised that if the commission votes under this provision to direct issuance of a proclamation, the fisheries director has no discretion to choose another management option and is bound by law to follow the commission decision. In these cases, under existing law, the decision of the commission to direct the director to issue a proclamation is final and can only be overruled by the courts.

Discussion on Directing the Division of Marine Fisheries Director to Issue a Proclamation

To start the discussion, Chairman Bizzell called on Commissioner Kornegay, as the scientist on the board, and because Kornegay had concerns about some of the science the division cited in declining to issue the original proclamation from the February meeting.

Commissioner Kornegay said we have determined by looking at a lot of different information is we've got two to three year classes of striped bass, plus stocked fish, that will soon be the size that will stick in nets. The original February motion asked the division director to take action on those gill nets, which he declined to do, which is why we are here today.

Several of us believe there are other restrictions that need to be done, he said. In researching the issue, Commissioner Kornegay found that gill nets are the greatest source of striped bass mortality in the CSMA. From 1972-2002, 59 percent of all striped bass were caught using gill nets (84 percent floating gill nets, 15 percent sink gillnets and 1 percent runaround gill nets). After reviewing recent data from the division, it is obvious that the low level of gill net observer

coverage results in a lack of information that would be called reliable, so we are not sure what the actual striped bass removals are, other than harvest. Consequently, gill net mortality of striped bass in the CSMA may be much higher than portrayed by division data. Prohibition of drift nets, floating nets and other large mesh nets would remove the primary source of discard mortality. Because there exists no observer coverage in the shad drift net fisheries, the magnitude of those discards is totally unknown.

Next, we looked at impacts to other fisheries, he said. The CSMA estuarine gill net fishery is a year-round, multi-species fishery where netting used, and species targeted, varies by area and season. Species commonly caught in the gill net fishery are shad, croaker, flounder, red drum, spot, spotted seatrout, striped bass, striped mullet and weakfish. Prohibition of shad drift gill nets, which would affect about 33 people, would eliminate shad landings. The small mesh gill net fishery for white perch, which is very minor in magnitude, would also be reduced or eliminated. A major benefit to further restrictions on gill nets would be the reduction or possible elimination of interactions with endangered species, such as Atlantic sturgeon, shortnose sturgeon and sea turtles.

Striped bass discards occur year-round in all gill net fisheries and is the primary source of total discards. The hook and line fishery for striped bass is open from Oct. 1 – April 30, with a two fish per day creel limit. Hook and release fishing for striped bass occurs year-round and is considered by the division to be a significant source of discard mortality. The Wildlife Resources Commission has enacted a 26-inch minimum size limit on striped bass taken by hook and line in designated Inland Waters. This length regulation has effectively limited striped bass harvest in Inland Waters such that harvest is at or near zero. Consideration is being given to measures to reduce hook and release mortality, such as requiring the use of non-offset circle hooks or single, barbless hooks.

We looked at a gill net ban versus an attendance requirement and concluded that since gill net sets can extend up to 2,000 yards, given the time required to fish these net sets, requiring net attendance is ineffective in releasing non-targeted fish alive. In addition, shad drift nets only have to be fished once every 24 hours. Any reductions in striped bass gill net discards from net attendance is likely to occur only with very short sets that can be quickly and frequently fished and during cold weather when fish survival rates would be higher. Therefore, removal of all forms of gill nets from the CSMA, or portions thereof, is the only effective method available to eliminate or significantly reduce striped bass discard mortality. That ended Commissioner Kornegay's report.

Chairman Bizzell said he was going to open the floor to questions and comments, but first wanted to make sure that everybody understood what is going on with this issue and that everyone is fully informed on why the meeting was being held.

Commissioner Hendrickson had two questions:

- 1) Who is the "we" that Commissioner Kornegay referred to in his remarks; and
- 2) Can the commission get a copy of the study.

Commissioner Kornegay handed out copies of the study and Commissioner Hendrickson indicated it would have been good to have the study when the other meeting information was

provided. Commissioner Kornegay responded he got the last of the data from the division at 8:53 the previous night and that is why the commission did not get the study sooner.

Commissioner Hendrickson asked again who “we” was and Commissioner Kornegay responded that “we” was primarily the commission’s counsel, Shawn Maier, and himself going back and forth on research that Commissioner Kornegay had dug up himself.

There was a discussion between Commissioner Romano and Commissioner Kornegay regarding the species listed in Kornegay’s report as commonly caught in gill nets – American shad, Atlantic croaker, southern flounder, red drum, spot, spotted seatrout, striped bass, striped mullet and weakfish, and whether it was more appropriate for a gill net ban for these fisheries to be discussed by the pertinent advisory committee when fishery management plans (FMP) for those fisheries are being amended.

Commissioner Romano pointed out that the 1997 Fisheries Reform Act tasked the commission to manage our fisheries through FMPs and asked if it wouldn’t be better to follow that process.

Chairman Bizzell checked to make sure everyone had the chance to review Commissioner Kornegay’s report.

Commissioner Hendrickson asked to hear from the Division Director on the report.

Division of Marine Fisheries Director Steve Murphey responded this was the first time he had seen the report and what stood out to him is the paper cites the leading cause of striped bass mortality as gill nets and the data used is from 1972 – 2002. Director Murphey said it is now 2019 and measures put in place in 2007, as part of the initial Estuarine Striped Bass FMP that was developed jointly with the Wildlife Resources Commission, to reduce discard mortality, including tie down and distance from shore provisions, and those provisions have proven successful.

In referencing Commissioner Kornegay’s concerns about the level of observer coverage, Director Murphey said the Percent Standard Errors (PSEs) were high in data from the Observer Program, but the division does not see significant discard mortality in the tie-down fishery, which is primarily the large mesh flounder fishery. The measures just implemented in Supplement A require year-round tie-down and distance from shore restrictions to address commercial discard mortality, he said.

Director Murphey referenced a letter he sent the commission dated March 4, where he declined to voluntarily implement a motion from the commission’s February meeting that requested he restrict the use of gillnets that interact with striped bass upstream of the ferry lines in the Pamlico and Neuse river systems and require attendance of gill nets that interact with striped bass upstream of the tie-down lines in the CSMA. He acknowledged in the letter and in Supplement A that there are discards in both the recreational and commercial fisheries and pointed out that gill net restrictions put in place in the initial FMP resulted in reductions in discards in the striped bass commercial fishery. Our data indicates with much higher confidence levels that dead

discards in the recreational fishery have increased significantly and that is one of the pieces of evidence used in identifying the one or two successful year classes the CSMA is currently experiencing, he advised.

Director Murphey reiterated that implementation of gill net restrictions is best served through the continued development of the Estuarine Striped Bass FMP. Supplement A measures will certainly not stop discards and dead discards from occurring in the commercial or recreational fisheries; however, the division's data supports that Supplement A will reduce the overall number of fish being removed from the stock, thereby providing additional conservation protection to the two successful spawning year classes moving through the CSMA. Observer coverage of the gill net fishery will continue, with plans to increase that coverage as much as feasible in 2019. If significant spikes of discards are observed, Director Murphey said he reserves the right to consider additional measures if warranted.

Director Murphey talked about the professionalism of his staff said he supported the data and stood behind the data that the division has presented.

Commissioner Kornegay asked if the director could support the data with such minimal observer coverage in the Neuse and Tar rivers.

Director Murphey explained that the state's Incidental Take Permit requires 7% to 10% observer coverage and that the division gets that in the rivers, but its not all observer coverage, some is from alternative platform coverage. He explained that if you look at the Atlantic Coastal Cooperative Statistics Program, that 2% observer coverage is considered a very high standard for an observed fishery. Commissioner Kornegay said statistically he would argue that point.

Director Murphey said while we would like to have more robustness in the observer data, we do have much more robust data in our CSMA creel survey, he said. It is not an MRIP survey, but a creel survey designed with the Wildlife Resources Commission and N.C. State University and it shows a lot of discards and it is tracking those two year classes. That is what prompted our action to try and limit the discards; however, we know it cannot be eliminated.

Director Murphey then discussed the need for the commission to ask the Wildlife Resources Commission to develop concurrent regulations because striped bass are still being harvested in the Joint Fishing Waters of the state; whereas commercial fishermen are unable to pursue the fish in these waters.

Then Director Murphey advised he had talked to the secretary of the Department of Environmental Quality (DEQ), and the secretary has talked to the Governor's Office, and the secretary does not agree with the approach for this proceeding.

There was a discussion about floating and drift gill nets, with Commissioner Laughridge saying the commission had not heard anything from the division to indicate that the possible largest interaction with striped bass is with floating or drift gill nets and it has been since 1972 and he didn't think that had changed. He did not see evidence or reports on interactions with those fish.

The scientific reason he has gained from folks at N.C. State and the University of Maryland is the tiedown stuff is extremely interesting, but very ineffective for striped bass because at the time of year those fish are in spawning aggregations and in the same area as shad are and that is the reason for the large catch of striped bass in float and drift gill nets. Commissioner Laughridge questioned if the division observed float and drift gill nets

It was clarified that the division observes float gill nets, but does not observe drift gill nets. Charlton Godwin, the division's senior staff lead for striped bass, said the drift gill net fishery in the Neuse and Tar rivers was minimal as evidenced in the data the division ran for Commissioner Kornegay. Godwin also explained that a float gill net is different from a drift gill net, and that the Neuse and Tar rivers do not have enough area to use a drift gill net.

Commissioner Laughridge said a former division employee had asked a law enforcement officer if the terms drift gill net and floating gill net were interchangeable and was told yes, they were now used interchangeably. Godwin said that was incorrect, that one was anchored and one drifts and that they are different gears.

Commissioner Laughridge asked the maximum length for these nets. Godwin answered a float or runaround gill net is 800 yards and the drift gill net can be 1,000 yards, but that is not the amount used in these river systems. Godwin clarified that float gill nets are observed year-round in the Tar/Pamlico and Neuse rivers, but not drift gill nets.

Next Commissioners Laughridge and Boltes questioned the effectiveness of the tie-down and distance from shore provisions. Charlton Godwin reviewed results of a 2011/2012 study that showed a 75% reduction in discard mortality with the tie-down and distance from shore provisions. Commissioner Boltes pointed out that the discard estimates from 2004 forward are relatively static and Godwin explained the division had to hind cast the data from 2004 – 2008, so that is why the numbers are lower than the original FMP. This was followed by questions regarding the number of samples used in the 2011/2012 study, where Commissioner Boltes felt the sample size of 19 sets for small mesh gill net and 22 sets for large mesh gill net was inadequate and Godwin countered it was a fairly good sample size.

Chairman Bizzell again wanted to ensure that the commissioners had the opportunity to read the data in front of them and that everyone was comfortable with it.

John Batherson, with the Office of General Counsel at DEQ, wanted to make sure the meeting record was complete and entered into the record the materials contained in the March 12, 2019 email to the commission containing meeting and background information. In addition to materials listed in the email, Batherson requested audio recordings for the commission's February 2019, November 2018 and August 2018 meetings be entered into the meeting record. He pointed out the commission's counsel had advised the first step in this process is the review of the desirability to direct the division director to issue a proclamation and Batherson wanted to make sure each and every commission member had the opportunity to review these materials before a direction is given to the director.

Commissioner Cross and Commissioner Boltes talked about the desire to protect these year classes of striped bass in a fair and equitable manner and a discussion ensued about possibly banning treble hooks and the effectiveness of barbless hooks or circle hooks for the recreational fishery.

Commissioner Boltes expressed that a moratorium alone is an incomplete management measure to protect these wild classes of fish and that effort needed to also be reduced. He felt the division dramatically underestimated commercial effort in the CSMA striped bass fishery. He questioned the jurisdictional waters the division used to make its calculations, gill net impacts and mortality that occur outside of observer coverage, accounting for personal consumption in commercial harvest and discard mortality reductions from tie down and distance from shore restrictions. Commissioner Boltes said the most reasonable compromise between the resource and user groups would be to remove gill nets and reduce commercial effort inside the ferry lines and allow recreational effort with a no-possession limit. He hopes in two years the impacts of these management efforts, if implemented, will be dramatically evident in a healthy fishery.

Commissioner Blanton said he was disturbed by the way the meeting came about and that he was given data on which to base a decision when he got to the meeting. He said these restrictions would be impactful to a large number of people and it was based on commercial industry discards of less than 1,000 fish per year. He said the commission was working with assumptions, not a stock assessment. He talked about the impacts of Hurricane Florence and the hurricane relief funds the N.C. General Assembly had provided and now the commission was ending commercial fishing by taking away the tools fishermen use and that commercial fishermen want to avoid dead discards.

Chairman Bizzell explained the emergency meeting was called because of concerns of float and drift gill nets impacting the fishery.

Commissioner Laughridge referenced a striped bass spill that took place in the Atlantic Ocean off of Dare County in 2011, saying those were terrible times.

Commissioner Hendrickson asked, to avoid being arbitrary and capricious, if the commission had looked at the unintended consequences and economic impact of the proposed actions.

Commissioner Romano said it was depressing that the commission had already had so many 5-4 votes and that he felt the commission was over questioning the division.

Commissioner Hendrickson referenced the February 2019 meeting and said he felt Commissioner Cross' motion at to approve Supplement A was good. Then the following motion by Commissioner Boltes that passed undermined the previous motion. He cautioned the commission that they were trying to take action with incomplete data and vote to undermine the division director. Commissioner Boltes said things are not working when the commission sends the director a motion and he refuses to implement it. Commissioner Hendrickson said he was

not comfortable with the data and Commissioner Cross said we are not marine biologists and the division is there to do the job.

Chairman Bizzell said this is not a gill net ban, it is a prohibition for two years.

Director Murphey said if the commission voted for the motion he would be required to issue a proclamation and so that the motion needs to be very specific.

Commissioner Boltes moved to direct the Director of the Division of Marine Fisheries to issue a proclamation effective in conjunction with the supplement that prohibits the use of gill nets and trammel nets that interact with striped bass upstream of the ferry lines and requires attendance of gill nets that interact with striped bass upstream of the tie-down lines.

Director Murphey requested that the rivers and lines be specified, along with the 2-year time period that had been referenced.

There was then discussion about requiring recreational anglers to use single, barbless hooks upstream of the ferry lines, but commission counsel advised that issue could not be addressed at this meeting because it was not noticed to the public.

Commissioner Cross said he wanted it on the record that this motion passed it would be arbitrary and capricious towards one user group and the commission is headed towards another lawsuit.

Commissioner Blanton said he echoed Commissioner Cross' concerns and while Commission Boltes tried to include recreational provisions, the commission could not come to a conservation equivalency because it was not properly noticed. He said this could be viewed as arbitrary.

Chairman Bizzell asked for a suggestion and Commission Blanton said the motion could be tabled to discuss at a later meeting. Chairman Bizzell said the meeting was called so quickly because the shad fishery was ongoing right now. There was discussion about the recreational sector in Joint Waters not taking a reduction this year and that restrictions should be fair and equitable, followed by remarks that the Wildlife Resources Commission was prepared to act to implement concurrent harvest restrictions in joint waters.

Commissioner Cross asked if commissioners would be held personally liable if the action was deemed arbitrary and capricious.

Commissioners Laughridge and Blanton discussed mesh sizes of gill nets above the ferry lines.

Commissioner Hendrickson cautioned that the commission was only looking at impacts to the striped bass fishery with the gill net ban above the ferry lines and not at other impacts and that is information the commission should know before making a decision. He said this was a bad move for the commission to create dissonance with the division and that they do a great job. Chairman Bizzell said this was not about staff not doing a great job, but there are differences of opinion.

After deliberation, the commission passed a motion directing Division of Marine Fisheries Director Steve Murphey to implement the year-round closure by proclamation upstream of the

Bayview/Aurora Ferry in the Pamlico River system and upstream of the Minnesott Beach/Cherry Branch Ferry in the Neuse River system.

Motion by Cameron Boltes to direct the director of the Division of Marine Fisheries to issue a proclamation, effective in conjunction with the Supplement, that prohibits the use of gill nets upstream of the ferry lines, dock to dock from the Bayview to Aurora Ferry on the Pamlico River and dock to dock from the Minnesott Beach to Cherry Branch Ferry on the Neuse River, within the Central Southern Management Area. Second by Pete Kornegay. Motion carries 5-4.

The division indicated a proclamation will be issued within the next few days implement the motion and that the closure is expected to continue for about two years until Amendment 2 to the N. C. Estuarine Striped Bass Fishery Management Plan is adopted. Amendment 2 could continue the provision or recommend other management actions.

Discussion on Requesting Concurrent Rules from the Wildlife Resources Commission

The commission discussed the need to ask the Wildlife Resources Commission to adopt a year-round closed season for striped bass for recreational harvest in joint fishing waters to mirror actions the commission took at its February 2019 meeting when it adopted Supplement A to Amendment 1 of the N.C. Estuarine Stiped Bass Fishery Management Plan.

Research has shown that striped bass in the Central Southern Management Area are not a self-sustaining population and that fishermen are mainly catching hatchery-raised fish; however, data suggest there have been two recent naturally-spawned year classes. The no-possession management measure in Supplement A will offer additional protection for those non-hatchery fish and protect larger females which could increase natural spawning stock biomass.

Motion by Chuck Laughridge to ask the N.C. Wildlife Resources Commission to adopt concurrent regulations for recreational harvest in Supplement A in joint coastal waters. Second by Pete Kornegay. Motion carries with no opposition.

At the end of the meeting, Commissioner Cross commented about the timing of the chairman's receipt of the five letters calling for the emergency meeting and why the meeting room had been reserved on Friday, March 8, 2019, several days prior to the letters being sent. Chairman Bizzell said he reserved the meeting venue in anticipation that he would need to call an emergency meeting.

The meeting adjourned.

Marine Fisheries Commission Business Meeting Minutes
Senator Bob Martin Eastern Agricultural Center
Williamston, North Carolina
Feb. 20-22, 2019

The commission held a business meeting Feb. 20-22 at the Senator Bob Martin Eastern Agricultural Center in Williamston, North Carolina.

The briefing book, presentations and audio from this meeting can be found at <http://portal.ncdenr.org/web/mf/02-2019-briefing-book>.

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

BUSINESS MEETING - MOTIONS AND ACTIONS

On Feb. 20, a public comment session was held beginning at 6 p.m. Chairman Rob Bizzell called the meeting to order. The following individuals spoke:

Larry Boomer, a Hyde County recreational fisherman, talked about recreational flounder fishing. He said anglers can only keep four fish while commercial harvest is unlimited. The stock has been overfished since 1993 and this makes no sense, he said. He feels recreational fishermen are the whipping boy of the Division of Marine Fisheries and he recommended a quota to reduce overfishing and that recreational fishermen should get half of the quota. Boomer closed by saying a gill net ban was the solution to the problem.

William Harris, an avid recreational fisherman that lives in Greenville, but fishes in Hyde County, was concerned recreational fishermen were limited in their harvest, but commercial fishermen were not. He said recreational fishermen put money into the economy and that the amount of shrimp trawling in Pamlico Sound needs to be reduced.

William Hopkins, who has fished commercially and recreationally and has owned fish camps in Louisiana, said there was a better way to make a living than using destructive gear. Hopkins said commercial fishermen can make money as fishing guides and that fish stocks have rebounded in other states where commercial fishing gear has been removed from the water.

Bert Owens, a recreational fisherman from Beaufort, said Louisiana has a bigger commercial fishery than North Carolina. He said the commission has tried to do good and that they passed a supplement for flounder that was stopped in court, and flounder is still overfished. The red drum fishery is steady but has been rebuilt on the backs of recreational fishermen. He also talked about seatrout anglers cut from 10 fish to 4 fish and that commercial fishermen can keep 75 fish now. Owens said the Fisheries Reform Act specified that the commission must manage for commercial and recreational fishermen, but that is not the case. He closed by encouraging the commission to get gill nets off striped bass and not implementing a moratorium for anglers.

Randy Wood said he was too old to follow a PowerPoint but noticed there was a line we didn't want to go below, so the state lowered the line. He offered that maybe the commission should get help from the Environmental Defense Fund. He said one striped bass was worth more

recreationally than commercially and that the recreational industry contributes more to the economy. Wood said things he recommended doing was eliminate gill nets, kill cormorants, make striped bass a game fish and allow fishermen to keep the first four fish they catch and then they would have to stop fishing.

Steve Braddy said years ago, when there was a lot of seaweed, the stocks were healthy. He encouraged the commission to work on restoring grasses that give off oxygen to improve the fisheries.

Eric Braddy talked about water quality being the problem, not commercial or recreational fishermen. He challenged the commission to take greater responsibility with the environment and focus on water quality and habitat. He said farmers focus on soil, fishermen should focus on water quality.

Glenn Skinner, Executive Director of the N.C. Fisheries Association, said his organization supported the supplement for striped bass if the Wildlife Resources Commission supported the same restrictions and move to protect the spawning grounds for striped bass. He said for the next Shrimp Fishery Management Plan Amendment, the only goal should be to look for ways to reduce bycatch. For striped bass, he said the state has not found a way to reduce recreational harvest and the resulting dead discards, while commercial landings and discards have decreased in most cases.

Stuart Creighton, a recreational fisherman from Oriental, said that the commission needs to address commercial dead discards. The statistics being used by the division came from observer coverage that was at the 3% level, when it should have been 7% to 10% level and the information had high error values. Creighton said gill nets should be removed above the ferry lines, and that the division had found ways to ignore the overharvest of flounder for 30 years and it needed to be addressed.

David Sneed, Executive Director of the CCA-NC, handed out a chart that showed expected Nov. 1, 2019 recreational fish limits for Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Texas. He said recreational fishermen are willing to take cuts, but if North Carolina is willing to allow trawling and gill nets in state waters, then those recreational fishermen will go to other states to fish until North Carolina learns to manage properly. He closed by saying North Carolina was first in bycatch and the state needs to get trawlers out of nursery areas and gill nets out of the water.

The meeting recessed at 6:20 p.m.

Chairman Rob Bizzell convened the Marine Fisheries Commission business meeting at 9 a.m. on Feb. 21 and reminded commissioners of their conflict of interest and ethics requirements.

The following commission members were in attendance: Rob Bizzell-Chairman, Mike Blanton, Cameron Boltes, Doug Cross, Tom Hendrickson, Pete Kornegay, Brad Koury, Chuck Laughridge and Sam Romano.

**Motion by Tom Hendrickson to approve agenda. Second by Chuck Laughridge.
Motion carries with no opposition.**

Motion by Chuck Laughridge to approve minutes from the November 2018 meeting. Second by Brad Koury.
Motion carries with no opposition.

Public Comment Period

Chris McCaffity, a commercial fisherman from Carteret County, asked the commission to ask the Bureau of Ocean Energy Management to ask for one round of seismic testing to see what is out there, rather than five rounds, and make the findings public. He said platforms can be a good attracter for fish but it needs to be looked at in a transparent manner.

Joe Albea, with the N.C. Coastal Fisheries Reform Group, walked the commission through a management plan the group was proposing for spotted seatrout, that was based on what Florida had done to manage its spotted seatrout fishery. Albea's comments were followed by members of the group expressing various reasons why they thought their plan was needed.

Richard Andrews, a full-time fishing guide from Bath, said we need a healthy, sustainable fishery for stopped seatrout and the existing fishery is not consistent. If fish are wiped out overnight, it hurts tourism and one commercial fisherman can wipe out a school that a fishing guide could enjoy all season. Due to weather and poor management the fish are being wiped out and the state needs to be more proactive.

Dwayne Bevell, with E-Z Bait & Tackle in Goldsboro, said 40% of his business was from folks buying tackle to catch spotted seatrout and that the state was wasting a natural resource. The goal should be to survive and thrive and leave a legacy for the children, but his dream may not be possible with the current management of this stock.

Dave Sammons, from Wilmington, moved to the area four years ago and was excited because he heard the fishing for spotted seatrout was great. He was disappointed to learn the fishery was in decline and the catch limit was embarrassing compared to other states. He said he witnessed a fight between a recreational and commercial fisherman and said the resource belongs to the citizens. He proposed that only hook-and-line gear be allowed to harvest spotted seatrout.

Ricky Kellum, from Swansboro, has run charters out of New River for over 40 years and specializes in spotted seatrout. He said people come from all over to fish and North Carolina has the potential to be a world class fishing destination, but he cautioned this fishery can get wiped out overnight and different management strategies are needed.

Bob Dillard, from Oriental, was concerned for the resource and has fished for over 70 years. He said that to help striped bass, he would like to see gill nets and dead discards controlled above the ferry lines.

Chris Elkins, with the CCA – NC, said he remains convinced that the major factor in the decline of striped bass is gill net regulatory discards and he feels like the tie down line would be a more appropriate closure line to maximize conservation and that a tagging study should be done to better understand the movement and range of these fish. He said the division is asking recreational fishermen to endure a moratorium while allowing the major culprit, gill nets, to

continue to kill stocked fish. Elkins also talked about preventing recreational fishing but allowing netting being the antithesis of the USFWS stocking program mission.

Blakley Hildebrand, with the Southern Environmental Law Center on behalf of the N.C. Wildlife Federation, expressed disappointment about the division's handling of the fiscal note for the federation's petition for rulemaking. She said the petition proposed common sense, research-based strategies to protect and conserve important natural resources. In spite of the division opposing the petition, the commission granted it and tasked the division with developing a fiscal analysis. The division produced a legally and technically deficient document which included outlandish estimates, she said. It is no surprise the Office of State Budget and Management declined to certify the analysis. She said the division sought to block the petition through the fiscal analysis process, but that cannot happen. She emphasized it is in the commission authority to adopt rules; the commission must complete the rulemaking process; and the public deserves the chance to comment on the rules. She said the commission should send the fiscal note back to the division to address the deficiencies.

Terry Pratt, with Albemarle Sound Fisheries Association, said he supported Glenn Skinner's earlier comments and that there was an abundance of river herring at or above historical levels and that the moratorium should be lifted. He said there will not be a wild rush to participate in the fishery because there are few processors or fishermen left. Pratt advised a resource is only a resource if you use it. He closed by saying the division staff did a great job of the Coastal Habitat Protection Plan and it all begins on the land.

Chairman's Report

Chairman Bizzell reviewed correspondence that had been sent and received by the commission since the last business meeting and the commission was reminded of their ethics education requirements and the April 15 deadline to file their Statement of Economic Interest.

Commissioners were reminded of the meeting schedule for 2019:

- Feb. 20-22 in Williamston
- May 15-17 in Morehead City/New Bern area
- Aug. 21-23 in Raleigh area
- Nov. 13-15 in Morehead City/New Bern area

The 2019 committee assignments for commissioners was included in the briefing materials and commissioners were asked to review and let the chairman know if they had any questions or concerns.

WRC/MFC Joint Committee on Delineation of Fishing Waters

Chairman Bizzell provided an overview of the first meeting of the WRC/MFC Joint Committee on Delineation of Fishing Waters that was held on Jan. 23 at Craven Community College in New Bern. The committee was formed to help integrate the work of the two commissions as they fulfill their statutory responsibilities to jointly determine the boundaries that define Inland, Coastal and Joint Fishing Waters. The first meeting was primarily an organizational, to look at timelines and meeting schedules and review background and statutory charges. The committee agreed that meeting monthly or bi-monthly would be necessary to meet deadlines. The next Joint Committee meeting will be March 21 at 1 pm at WRC Headquarters, 1751 Varsity Drive, in Raleigh. The committee will alternate meeting locations between Raleigh and the coast.

Proposed Legislative Changes

Chairman Bizzell presented the commission with concepts of proposed legislative changes for G.S. 113-168.2 and 113-169.3 related to commercial fishing licenses. The commission supported the concept of legislation to amend GS 113-168.2 (i) to require reporting of all catch with commercial gear (except for harvest under a Recreational Commercial Gear License) and through tournaments.

Motion by Chuck Laughridge to support the concept of legislation to require reporting of all catch with commercial gear, except for RCGL, and through tournaments. Second by Mike Blanton.

Amendment by Doug Cross to add general statute to original motion. Second by Tom Hendrickson.

Motion carries with no opposition.

Motion as amended

Motion by Chuck Laughridge to support the concept of legislation to amend GS 113-168.2 (i) to require reporting of all catch with commercial gear, except for RCGL, and through tournaments. Second by Mike Blanton.

Motion carries with no opposition.

Commission Liaison Nancy Fish will work with the chairman to send a letter to the General Assembly supporting the concept of the legislation

Illustration of Definition of Overfished and Overfishing

To aid the commission is carrying out its duties and responsibilities, Chairman Bizzell offered an illustration on the meanings of overfish/overfishing is occurring.

Fiscal Analysis of Rules Associated with N.C. Wildlife Federation's Petition for Rulemaking

Chairman Bizzell asked commission counsel Shawn Maier to explain the status of the N.C. Wildlife Federations' petition for rulemaking and the associated fiscal note. Maier reviewed the timeline of the petition from when it was submitted to when it was granted by the commission, along with the various opportunities where the public commented on the petition. Once the petition was granted, the division began the rulemaking process, which starts with the drafting of a fiscal note, Maier explained. The division was in contact with OSBM during the development of the analysis. Once completed, the fiscal note was submitted to OSBM. OSBM has responded that it could not certify the note because the state agency lacked the funds to implement the rules. A certified fiscal analysis is a requirement of Chapter 150B and is needed to be able to publish notice of text and move forward with the rulemaking process. Maier advised that the petition is done and the process had stopped. He said the commission had done what it was required to do in Chapter 150B, which was initiate the rulemaking process. He told the commission if there are parts of the petition it wants to move forward, that while the petition process has stopped, the Shrimp Fishery Management Plan process is ongoing and there are opportunities to take the ideas from the petition and include them in that process.

Commissioner Laughridge felt that the commission would have to vote for the petition to end or that the commission could vote for the petition to move forward and he questioned why that

could not be done. He said he felt like what was offered as the fiscal note was more of a position statement by the division.

The chairman recognized John Batherson, the division's counsel from the Department of Environmental Quality's Office of General Counsel. Batherson concurred with the commission counsel's assessment of the rulemaking process and the conclusions of law. He said the division had received many criticisms of the fiscal note, but the department rejects those claims and stands by the division's thoughtful and comprehensive fiscal analysis. The division completely satisfied legal obligations under the Administrative Procedure Act. He noted the division met with OSBM three separate times during the development of the fiscal note and incorporated that agency's feedback and carefully considered comments by the petitioner. Batherson said the division's analysis is reliable and supports OSBM's determination that sufficient state funds are not available to implement the proposed rules without undue detriment to the agency's existing activities.

Commissioner Boltes questioned when the commission was going to have the opportunity to ask questions about the fiscal note and expressed concern that there were no checks and balances with the fiscal note process. Commissioner Hendrickson thanked the counsels for their explanation and advised it was not unique that there was frustration with the process. Commissioner Laughridge thanked both counsels for trying to explain the process and for clarifying the roles and responsibilities of the commission and the division.

Open Meeting Law Overview

Commission Counsel Shawn Maier explained the commission was a public body and was required to conduct public business in an open manner so that the public can observe the proceedings. He went on to state an official meeting was any meeting, assembly or gathering of a majority of commissioners present where the commission is communicating simultaneously whether that is in person, by phone or by email. He offered that the best way to distribute information to the entire commission is to send it through the chairman or staff and that he was available to answer any questions that commissioners may have.

N.C Commercial Fishing Resource Fund Committee

Division staffer William Brantley gave an overview of the Dec. 19, 2018 meeting of the commission's N.C. Commercial Resource Funding Committee. The committee reviewed and approved proposals and Requests for Proposals.

Commissioner Laughridge had questions about the economic impact benefit of one of the proposals and requested the division provide a presentation at the next commission business meeting on how economic impacts in general are calculated.

Amendment 2 to the Shrimp Fishery Management Plan

At the November 2018 meeting, a motion from Commissioner Laughridge was tabled related to the goals and objectives for Amendment 2 to the Shrimp Fishery Management Plan. at this point in the agenda, Commissioner Laughridge announced he was willing to withdraw the tabled motion.

**Motion by Chuck Laughridge to withdraw the motion tabled from the November meeting.
Second by Doug Cross.**

Motion carries unanimously.

After deliberation, the commission voted to refer the N.C. Wildlife Federation's Petition for Rulemaking (excluding aspects pertaining to spot and croaker) to the Shrimp Fishery Management Plan Advisory Committee for consideration in developing Amendment 2 to the plan and recommend the following goals and objectives for the shrimp plan:

- Reduce takes and interactions of non-targeted species and threatened species.
- Improve the survival of non-target and threatened species at the population level.
- Continue to minimize bycatch and enhance the economic value of shrimp.
- Promote habitat enhancement and provide environmental quality necessary to improve the shrimp resource.
- Review nursery areas with an updated look at secondary nursery areas.
- Implement research and education programs to allow a better understanding of the public, industry and consumers of shrimp bycatch impact on fish population dynamics.

Motion by Chuck Laughridge to refer the Wildlife Federation's Petition for Rulemaking (excluding spot and croaker) to the Shrimp FMP Advisory Committee for consideration in developing Amendment 2 to the FMP and that the goals and objectives for the Shrimp FMP include:

- **Reduce takes and interactions of non-targeted species and threatened species.**
- **Improve the survival of non-target and threatened species at the population level.**
- **Continue to minimize bycatch and enhance the economic value of shrimp.**
- **Promote habitat enhancement and provide environmental quality necessary to improve the shrimp resource.**
- **Review nursery areas with an updated look at secondary nursery areas.**
- **Implement research and education programs to allow a better understanding of the public, industry and consumers of shrimp bycatch impact on fish population dynamics.**

Second by Brad Koury.

Motion by Tom Hendrickson to strike the wording in reference to referring the Wildlife Federation Petition to the Advisory Committee and pick up at "the goals and objectives for the Shrimp FMP include." Second by Doug Cross.

Motion fails 4-4.

Motion by Chuck Laughridge to refer the Wildlife Federation's Petition for Rulemaking (excluding spot and croaker) to the Shrimp FMP Advisory Committee for consideration in developing Amendment 2 to the FMP and to consider the following goals and objectives for the Shrimp FMP:

- **Reduce takes and interactions of non-targeted species and threatened species.**
- **Improve the survival of non-target and threatened species at the population level.**
- **Continue to minimize bycatch and enhance the economic value of shrimp.**
- **Promote habitat enhancement and provide environmental quality necessary to improve the shrimp resource.**
- **Review nursery areas with an updated look at secondary nursery areas.**
- **Implement research and education programs to allow a better understanding of the public, industry and consumers of shrimp bycatch impact on fish population dynamics.**

**Second by Brad Koury.
Motion carries 5-3, with one abstention.**

Commissioner Cross put forward a motion to look at alternated openings of areas that are now closed to trawling to observe if trawling can improve the bottom. The motion was withdrawn and Commissioner Romano advised there were three studies that he felt were relevant to the withdraw motion that he would distribute to the commission.

**Motion by Doug Cross that the Division of Marine Fisheries look at alternated openings of now closed areas to trawling be considered as test sites to observe if trawling and the cultivation of bottom can improve general bottom conditions and improve recruitment of bait fishes and general food sources. Second by Sam Romano.
Motion withdrawn.**

Atlantic States Marine Fisheries Commission and Mid-Atlantic Fisheries Management Council

Chris Batsavage, the division's representative on the Atlantic States Marine Fisheries Commission and Mid-Atlantic Fisheries Management Council, updated the commission on the actions of these two boards since February.

Director's Report

Division of Marine Fisheries Director Steve Murphey updated the commission on the status of Amendment 2 to the Southern Flounder Fishery Management Plan. He explained Department of Environmental Quality (DEQ) Secretary Michael Regan had asked the division to address additional considerations before presenting its management recommendations to the commission. These considerations are related to the multi-state stock assessment update based on data from North Carolina, South Carolina, Georgia and Florida.

John Nicholson, DEQ's Chief Deputy Secretary, advised that it was the division's and the department's intent to bring an amendment on southern flounder forward at this meeting, but Secretary Regan took a step back and because this was a multi-state stock, he wanted the division to reach out to the other states to see where they are on flounder management. Nicholson reiterated DEQ supports the science the division has brought forward and they still want to make the timeline to have measures in place for the fall. He said the division was also asked to look at environmental factors impacting the fishery.

Director Murphey then updated the commission on division activities occurring since the November 2018 business meeting, including:

- The naming of Carter Whitten as the new colonel of the Marine Patrol.
- A review of the Hurricane Florence Commercial Fishing Assistance Program. The General Assembly authorized \$11.6 million to compensate commercial fishermen and shellfish harvesters for equipment and income losses from harvest reductions due to Hurricane Florence. Losses from harvest reductions were based on trip tickets compared over a prior comparable period for the months of September, October and November. After a \$250,000 set aside for administrative costs, the following amounts have been distributed:
 - September - \$3,518,500
 - October - \$4,199,500
 - November - \$3,632,000

- Submission of the Shellfish Mariculture Advisory Committee (SMAC) report to the General Assembly. The SMAC's goal was to develop a comprehensive plan to grow the shellfish industry while balancing the needs of diverse North Carolina stakeholders. Director Murphey anticipates that legislation will move forward to implement many of the report's recommendations.
- Continuing work on the Shrimp Bycatch Reduction study combining the Year 1, Year 2 and Year 3 studies into one manuscript for peer review. Edits and reviews are occurring internally between the division, Sea Grant and NOAA co-authors.
- Division biologists Laura Lee, Jacob Boyd and Mike Loffler were co-authors on a paper by Dr. Liza Hoos, a Marine Fisheries Management Fellow at CMAST. The paper looked at the effect of time-area closures on the displacement of fishing effort in an estuarine gill fishery and was published in *PLOS One*.

Staff also updated the commission on activities of the South Atlantic Fishery Management Council and Highly Migratory Species.

Status of Rule Development to Clarify Standard Commercial Fishing License Transfers

The commission had expressed interest in clarifying the circumstances under which standard or Retired Standard Commercial Fishing License transfers are allowed. Concern had been raised about third-party transfers allowing individuals to get a license without going through the eligibility board. Stephanie McInerney, the chief of the division's License and Statistics Section, updated the commission on continuing rule development to clarify Standard Commercial Fishing License transfers. The commission requested further refinements be brought back at the February 2019 meeting.

Rulemaking

Catherine Blum, the division's rulemaking coordinator, updated the commission on the status of rulemaking in support of the Period Review and Expiration of Existing Rules per G.S. 150B-21.3A and the division's desire for commission input on the proposed tarpon rule change that will be part of the 2019-2020 annual rulemaking cycle.

The commission voted to go forward with a proposed amendment to Marine Fisheries Commission Rule 15A NCAC 03M .0509 to make it unlawful to puncture or harvest tarpon, but still allow catch-and-release. The current rule limits tarpon harvest to one fish per person per day by hook-and-line only with no allowance to sell.

Motion by Cameron Boltes to accept Option 2 of the proposed Tarpon Rule. Second by Brad Koury.

Motion carries unanimously.

The meeting recessed for the day.

The meeting reconvened at 9 a.m. on Feb. 22.

Fishery Management Plan Update

Catherine Blum, the division's Fishery Management Plan Coordinator, gave the commission an update on the status of North Carolina's ongoing fishery management plans.

Blue Crab Fishery Management Plan Amendment 3 Update

Jason Rock, one of the co-leads for the Blue Crab Fishery Management Plan, updated the commission on the status of the ongoing plan development and the progress of the advisory committee.

Supplement A to the Estuarine Striped Bass Fishery Management Plan Amendment 1

Charlton Godwin, lead division striped bass biologist, reviewed Supplement A to the Estuarine Striped Bass Fishery Management Plan Amendment 1, which proposes a temporary management measure for no possession of striped bass in the Central Southern Management Area to protect important year classes while the next fishery management plan amendment is being developed.

Research has shown that striped bass in the Central Southern Management Area are not a self-sustaining population and that fishermen are mainly catching hatchery-raised fish; however, data suggest there have been two recent naturally-spawned year classes. The no-possession management measure will offer additional protection for those non-hatchery fish and protect larger females which could increase natural spawning stock biomass.

The management measure applies to both commercial and recreational fishing in in the Central Southern Management Area, which encompasses all internal waters from just south of Oregon Inlet to the South Carolina line. The waters that will be impacted include, but are not limited to, the Pamlico and Core sounds and the Tar, Pamlico, Pungo, Bay, Neuse and White Oak rivers and their tributaries.

The management change will not impact striped bass fishing in the Atlantic Ocean, Albemarle Sound Management Area, Roanoke River Management Area, and inland waters under the jurisdiction of the N.C. Wildlife Resource Commission. The change also will not impact the Cape Fear River and its tributaries, where a no-possession rule already exists.

The management measure will still allow recreational catch-and-release of striped bass in the impacted areas.

This presentation can be found at:

http://portal.ncdenr.org/c/document_library/get_file?p_l_id=1169848&folderId=32657012&name=DLFE-140070.pdf

During deliberation, there was discussion about the impacts of discard mortality and the need to protect the two year classes of striped bass moving through the Central Southern Management Area. After deliberation, the commission adopted a no-possession limit for striped bass in internal waters in the central and southern coastal areas of the state.

The commission adopted Supplement A to Amendment 1 to the N. C. Estuarine Striped Bass Fishery Management Plan, which includes a no-possession limit, which is essentially a year-round closed season. Supplement A is meant to be a temporary restriction to protect possible naturally-spawned year classes of striped bass until Amendment 2 to the N. C. Estuarine Striped Bass Fishery Management Plan is adopted. Amendment 2 could continue the no-possession provision or recommend other management actions.

Immediately following the vote to adopt Supplement A, the commission voted to ask the director

of the Division of Marine Fisheries to issue a proclamation that restricts the use of gill nets that interact with striped bass upstream of the ferry lines in the rivers and requires attendance of gill nets that interact with striped bass upstream of the tie-down lines.

There was discussion that this issue/vote was not noticed on the agenda, but the chairman said this was not a unique situation and he was going to allow it unless counsel objected.

Discard mortality from recreational hook-and-line fishing and commercial gear in this fishery was discussed, along with the impact of these restrictions on fishermen.

Motion by Doug Cross to adopt Supplement A to Amendment 1 to the N.C. Striped Bass Fishery Management Plan as presented and recommended by the Division of Marine Fisheries. Second by Pete Kornegay.

Motion carries 7-2.

Motion by Cameron Boltes to ask the director of the DMF to issue a proclamation, effective in conjunction with the supplement, that restricts the use of gill nets that interact with striped bass upstream of the ferry lines and requires attendance of gill nets that interact with striped bass upstream of the tie-down lines. Second by Pete Kornegay.

Motion carries 5-4.

Coastal Habitat Protections Plan Overview and Implementation

Jimmy Johnson, DEQ's Coastal Habitat Protection Plan Coordinator, provided the commission with an overview of the plan and implementation highlights.

This presentation can be found at:

http://portal.ncdenr.org/c/document_library/get_file?p_1_id=1169848&folderId=32657012&name=DLFE-140071.pdf

There were no items brought up under *Issues from Commissioners*.

The meeting adjourned at 10:49 a.m.

DRAFT

Chairman's Report





NORTH CAROLINA MARINE FISHERIES COMMISSION DEPARTMENT OF ENVIRONMENTAL QUALITY

COMMISSIONERS

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

ROB BIZZELL
Chairman

MIKE BLANTON
Elizabeth City
CAMERON BOLTES
Washington
DOUG CROSS
Grantsboro
TOM HENDRICKSON
Zebulon

PETE KORNEGAY
Camden
BRAD KOURY
Burlington
CHUCK LAUGHRIDGE
Harkers Island
SAM ROMANO
Wilmington

Feb. 28, 2019

Dear Members of the North Carolina General Assembly:

At its Feb. 20-22, 2019 business meeting, the Marine Fisheries Commission voted to support requesting legislation to require reporting of (1) all catch with commercial gear, except for Recreational Commercial Gear License catch, and (2) all catch from recreational salt water fishing tournaments other than the Governor's Cup series.

Commercial fishermen may only sell their catch to or through a commercial fish dealer. The fish dealer is required to report the species and quantity of the catch to the Division of Marine Fisheries on a trip ticket. Fish donated or kept for personal consumption by a fisherman are not currently required to be reported. Likewise, recreational fishing tournaments are not obligated to report fish landed during the tournament. The proposed provision would require that fish harvested under these circumstances be reported to the Division.

113-168.2. Standard Commercial Fishing License.

...

(i) Record-Keeping Requirements. - The fish dealer shall record each transaction at the time and place of landing on a form provided by the Division. The transaction form shall include the information on the SCFL or shellfish license, the quantity of the fish, the identity of the fish dealer, and other information as the Division deems necessary to accomplish the purposes of this Subchapter. The person who records the transaction shall provide a completed copy of the transaction form to the Division and to the other party of the transaction. The Division's copy of each transaction form shall be transmitted to the Division by the fish dealer on or before the tenth day of the month following the transaction. Any person who takes fish not sold to a licensed dealer using commercial gear, and who does not otherwise comply with Recreational Commercial Gear License requirements, shall file a transaction form with the Division. The organizer of a salt water fishing tournament, excepting the Governor's Cup series, shall report the quantity of the fish taken during the tournament, and other pertinent information, to the Division. For purposes of this section, a salt water tournament is defined as any organized fishing event where participants pay an entry fee. The Marine Fisheries Commission is authorized to adopt rules to require record keeping to document harvest from commercial licenses and tournaments where the harvest is not sold to a dealer. (1997-400, s. 5.1; 1998-225, s. 4.11; 2001-213, s. 2; 2013-360, s. 14.80); 2013-384, s. 2014-100, s. 14.9(b).)

Thank you for your consideration of this request; please feel free to contact me at r.bizzell.mfc@ncdenr.gov or 252-521-1306 if I may be of assistance to you in this or any other matter.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Robert Bizzell".

W. Robert Bizzell, Chairman
N.C Marine Fisheries Commission

From: Patrick White patrickwhite74@yahoo.com

Sent: Thursday, April 18, 2019 1:32 AM

To: Bizzell, Rob

Subject: [External] NC Coastal Waters

Dear sir,

With all the discussion about preserving North Carolina's fragile coast line how do we propose legislation to declare NC coastal waters a National Marine Sanctuary with all the protection that comes with this designation? For example Stellwagen National Marine Sanctuary has traffic lanes and speed limits for commercial shipping and many other clear set rules which make it clear how to navigate and operate in those fragile waters of the Gulf of Maine. At the moment we do not even have a simple traffic separation scheme and as you know the area around Cape Hatteras is known as the Graveyard of the Atlantic.

As a commercial Merchant Mariner and a North Carolina resident on the outer banks I can't understand how we haven't taken these simple steps to guard our shorelines from potential spills.

Sincerely

Patrick R White

Master 1600 Oceans, Master of Towing Unlimited Oceans

Sent from my iPhone

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220
CHAPEL HILL, NC 27516-2356

Facsimile 919-929-9421

April 26, 2019

Via email

Robert Bizzell, Chairman
N.C. Marine Fisheries Commission
3441 Arendell Street
Morehead City, NC 28557
r.bizzell.mfc@ncdenr.gov

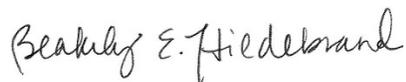
Re: Request for time on N.C. Marine Fisheries Commission Agenda on May 16

Dear Chairman Bizzell,

On behalf of the North Carolina Wildlife Federation, I am writing to request time on the N.C. Marine Fisheries Commission agenda on Thursday, May 16, 2019. The Federation wishes to present a Petition for Rulemaking to the Commission for its consideration on that date. The Federation will provide the Commission with advance copies of the Petition and all supporting documents no later than Monday, May 13.

Thank you in advance for your consideration of this request. Please do not hesitate to contact me should you have any questions or wish to discuss this request further.

Sincerely,



Blakely E. Hildebrand
Staff Attorney

CC:

Nancy Fish, Liaison to Marine Fisheries Commission
Shawn Maier, Assistant Attorney General, Counsel to Marine Fisheries Commission

Dear Rob Bizzell,

The purpose of this letter is to inform you that the Monterey Bay Aquarium Seafood Watch program has updated our recommendation for blue crab caught in pots in North Carolina and provide a channel if you'd like to share new information or technical feedback.

The Seafood Watch program raises awareness of important ocean conservation issues and helps consumers and businesses choose seafood that's fished or farmed in ways that support a healthy ocean. We provide [recommendations](#) that indicate which seafood items are Best Choices or Good Alternatives, and which ones you should Avoid until improvements are made.

A solid foundation of science and collaboration underpins our recommendations—ensuring our audiences have robust and accurate information. Each recommendation is supported by an assessment which synthesizes and analyzes the most current science against our [standards](#). Our assessments are subject to an external review process which relies upon outreach to stakeholders.

Additional information on how we develop our recommendations and our external review process can be accessed [here](#). Our standards are updated every three to four years based on input from a diversity of experts from industry and academia.

Our assessment of the blue crab caught in pots in North Carolina identified several sustainability concerns, resulting in an Avoid recommendation. The limiting factor in this assessment for blue crab is the high risk of population-level impacts to diamondback terrapins from the fishery and a lack of management measures being implemented to mitigate that impact.

The full assessment can be accessed [here](#).

We welcome any new information or technical feedback regarding this assessment and will consider new information promptly. Please share this letter with other marine resource managers or experts in your agency, as appropriate, and contact us with any questions.

Sincerely,
The Seafood Watch



NORTH CAROLINA

State Board of Elections & Ethics Enforcement

Mailing Address:
P.O. Box 27255
Raleigh, NC 27611-7255

Phone: (919) 814-0700
Fax: (919) 715-0135

Ethics & Lobbying Education

The following information applies to public servants, legislators, legislative employees, and ethics liaisons. For information on lobbying education and awareness presentations for lobbyists and lobbyist principals.

Mandatory Education. The N.C. State Board of Elections and Ethics Enforcement provides mandatory ethics and lobbying education for *public servants, legislators, legislative employees* and *ethics liaisons*. Topics covered include:

- Filing a Statement of Economic Interest ("SEI")
- Monitoring and avoiding conflicts of interest
- The gift ban and its exceptions
- Prohibition on use of public position for private gain
- Lobbying and how it affects individuals covered by the State Government Ethics Act

Ethics education is the primary way individuals subject to the State Government Ethics Act are made aware of their public duties and responsibilities as well as the consequences for violating the ethics laws.

Who Must Participate

- **Public Servants & Ethics Liaisons.** All public servants and ethics liaisons are required to attend a Commission-approved basic ethics and lobbying education presentation within six (6) months of the person's election appointment, or employment and attend a refresher presentation at least every two (2) years thereafter.
- **Legislators & Legislative Employees.** The Commission, jointly with the Legislative Ethics Committee, makes mandatory ethics education and lobbying presentations to all legislators within two (2) months of the legislator assuming his or her office. Legislative employees must also participate in ethics education within three (3) months of employment and attend a refresher at least every two (2) years.
- **Education Presentations & Schedule.** Ethics and lobbying education presentations for public servants and ethics liaisons are offered [online](#) and [live at Raleigh-only and distance education sites](#). Completing an online presentation or attending a live session meets either the basic or refresher mandatory education requirements. Visit <https://www.ncsbe.gov/Ethics/Education> to access online and live training options.

Ethics education for **legislators** is conducted in live sessions. Legislative employees may participate in ethics education online through the General Assembly.

- **Consequences for Failure to Attend.** Failure to attend an ethics and lobbying education presentation is a violation of the State Government Ethics Act and may result in the individual being recommended for removal from his or her public position or disciplined in his or her State job.

Contact Information

For education related questions, contact:
NC State Board of Elections and Ethics Enforcement
Phone: (919) 814-3600
E-mail: Education.Ethics@doa.nc.gov

2019 STATEMENT OF ECONOMIC INTEREST REMINDERS:

Completed SEIs must be filed on or before April 15, 2019. If you have already filed a 2019 SEI, do not refile. The forms and instructions can be found at <https://ethics.ncsbe.gov/sei/blankForm.aspx>.

If you filed a 2018 SEI ***and*** you have had ***no changes*** since your 2018 filing, you may file a 2019 SEI No Change Form, located on the website.

You must file a 2019 Long Form if any of the following apply to you:

- a. You filed a 2018 SEI ***but*** you have had changes since your 2018 filing;
- b. You did not file a 2018 SEI; or
- c. You are a first-time filer or have been appointed to a new or additional position/board.

This year, the State Board of Elections and Ethics Enforcement will roll out a new electronic process for filing SEIs. That electronic filing option will be available in **early February**.

You are encouraged to file your SEI electronically. However, if you want to file your SEIs before the updated electronic version is available, hard copies are available for filing now at the link above.

New commissioners will need to file a 2019 SEI; however, if you have not had any changes since you last filed, you can use the No Change Form, which is fairly easy to complete.

Please file by April 15th to avoid fines and other penalties.

SEI HELPFUL TIPS

1. PUBLIC RECORDS. The State Board of Elections and Ethics Enforcement (State Board) is required to collect and maintain disclosures from certain persons covered by the State Elections and Ethics Enforcement Act Government Ethics Act (Elections and Ethics Act). By law, the information requested is public record and available to the public upon request. As public records, Statements of Economic Interest (SEI) are available on the Commission's website. Personal contact information, however, is not.

2. CONTACT INFORMATION PAGE. The Contact Information page, which includes your personal contact information, will not be available on the Commission's website, but is a public record.

3. CHILDREN'S INITIALS. Only list minor children's INITIALS on the SEI. List each child's full legal name on the Confidential Unemancipated Children's Form. If you are filing electronically, the form will be generated at the end of the SEI from the information that you provided on your electronic SEI. The Confidential Form is not a public record, and the State Board will not make it available to the public.

4. READ EACH QUESTION CAREFULLY. Read each question carefully and pay close attention to the time periods in each question as they do vary.

5. ANSWER EACH QUESTION. It is important to answer each question, including all applicable subparts. Even if your answer is "no" or "not applicable," make certain you answer each question. Many of the questions have "yes" and "no" boxes to check for your convenience. Incomplete SEIs may cause delays and negatively impact your public service on a covered board or as an employee.

6. WHY ARE YOU FILING. You must list the complete name of the state board or state agency employer for which you are filing the SEI. Without this information, your SEI may be delayed and negatively impact your public service on a covered board or as an employee.

7. HOW TO FILE. The State Board strongly recommends electronic on-line filing as it is secure, allows easy information updates, and gives you access to your electronic SEIs previously filed. Filing your SEI on-line is easy, quick, convenient, and reduces the chance of reporting errors. Getting started is easy. Follow the simple steps to create your own account and get access today: <https://EFILE.ncsbe.gov/> To file a paper version of the SEI, you must provide the State Board with a signed, original SEI form. Each SEI includes an "affirmation" and is a legally binding document. Faxed or emailed copies of your SEI CANNOT be accepted.

SEI Helpful Tips, continued

8. INCOME. List each source of income as requested on the SEI. The actual dollar amount is not required. Be sure to list your employer as a source of income in Question # 6 of the SEI.

9. READ CAREFULLY. Read each question carefully, as the Elections and Ethics Act requires that you disclose your financial holdings and obligations, personal property, and real property and may also include your knowledge of the holdings of both your immediate family and your extended family. "Immediate family" and "extended family" are defined terms in the Elections and Ethics Act, and those definitions are included with this document.

10. REFLECT. Think carefully about WHY you are filing, and whether it has any relationship to your position. Does your board or commission license or regulate you? For many of the boards, a subject matter expert like a licensee is needed. Answering "yes" does not prohibit your service on the board, and your perspective is valued.

11. MAKE A COPY. Make a copy of the SEI for your own records, and make a note in your calendar when you submit it, whether on-line or by mail or hand delivery. When you successfully submit your SEI electronically on-line, the final screen will provide a confirmation number and will be proof that you have satisfied your filing obligation. Please print the **confirmation screen for your records.**

12. ETHICS LIAISON. Contact your Ethics Liaison to assist you in your obligations under the Elections and Ethics Act. Your Ethics Liaison is good source of information about how to fill out your SEI.

13. ON-LINE HELP. The State Board has on-line resources to answer questions you may have about your SEI. For more information, please visit the State Board website which has education offerings.

14. DEFINITIONS. As noted above, certain terms are defined in the Elections and Ethics Act (“immediate family”). These definitions may be helpful to you in completing your SEI. A complete list of all definitions used in the Elections and Ethics Act is available on the State Board’s website, under “Ethics”. Some of the more common ones are attached to this document.

15. YOUR INTERNET BROWSER. Consider using Internet Explorer or Chrome to submit your SEI. Some users have had trouble using other browsers. **16. WE ARE HERE TO HELP YOU.** In addition to on-line resources and written materials, the State Board has expert staff ready to answer any questions you might have and assist you in completing and filing your SEI. Do not hesitate to contact us at sei@ncsbee.gov (919) 814-3600.

2019 Meeting Planning Calendar

| January | | | | | | |
|---------|----|----|----|----|----|----|
| 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 | | |

| 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 | | |

| 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 | 29 | 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 | 27 | 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 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 15 | 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 | 31 |

| September | | | | | | |
|-----------|----|----|----|----|----|----|
| 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 |
| 26 | 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 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 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 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

- | | |
|---|--|
| <ul style="list-style-type: none"> MFC ASMFC SAFMC MAFMC State Holiday Tentative Joint AC | <ul style="list-style-type: none"> Southern Regional AC Northern Regional AC Finfish AC Habitat and Water Quality AC Shellfish/Crustacean AC Tentative Special MFC |
|---|--|

Committee Reports





EXHIBIT A
March 21, 2019

N.C. Wildlife Resources Commission and N.C. Marine Fisheries Commission
Joint Committee on Delineation of Fishing Waters

Meeting Minutes
January 23, 2019
Craven Community College
Bosch and Siemens Advanced Manufacturing Center Room 104
College Court
New Bern, NC 28562

The first meeting of the Joint Committee on Delineation of Fishing Waters (JCDFW) was called to order on January 23, 2019 at 1:00 pm. Committee members and visitors introduced themselves.

ATTENDANCE

Joint Committee Members

Rob Bizzell – NCMFC

Pete Kornegay – NCMFC

Doug Cross – NCMFC

John Stone - NCWRC

Tommy Fonville - NCWRC

Monty Crump – NCWRC

Visitors

Gordon Myers – NCWRC

Kyle Briggs – NCWRC

Betsy Haywood – NCWRC

Ashton Godwin – NCWRC

Christian Waters – NCWRC

Tim Hergenrader

Glenn Skinner – NC Fisheries Assoc.

Jess Hawkins – NCFA

Terry Pratt – Commercial Fisherman

Ray Howell – CCA NC

Steve Murphey – NCDMF

Nancy Fish – NCDMF

Katy West – NCDMF

Mike Blanton - NCMFC

Carrie Ruhlman – NCWRC

W. Gardner Culpepper – NC Sound Economy

Jerry Schill – NCFA

Wes Potter – NCFA

Rocky Carter – Coastal Conservation Assn. NC

Chris Elkins – CCA NC

BACKGROUND AND STATUTORY CHARGE

NC Wildlife Resources Commission Executive Director Gordon Myers provided and reviewed a background document that described the underlying basis for the establishment of the JCDFW, including relevant statutes and rules. Director Myers outlined the statutory responsibility conferred by the General Assembly in 2013, which amended the Administrative Procedure Act for the Periodic Review and Expiration of Rules (Periodic Review). Pursuant to NCGS §113-129 (4), (9), and (10a), the NC Marine Fisheries Commission (MFC) and NC Wildlife Resources Commission (WRC) jointly determine the boundaries that define North Carolina's Inland, Coastal, and Joint Fishing Waters.

Pursuant to NCGS §113-132(e) the two commissions are authorized to jointly designate Joint Fishing Waters and adopt regulations governing responsibilities of each agency for those waters in which are found a significant number of freshwater fishes, as agreed upon by the MFC and WRC.

Director Myers stated that based on historical review of General Statutes, Session Law 1965-957 renamed "Commercial Fishing Waters" to "Coastal Fishing Waters" and established a definition for Coastal Fishing Waters, but it does not appear that the delineation between Coastal and Inland Fishing waters was adjusted to align with the statutory definition. He further stated that because there are waters currently designated as Coastal Fishing Waters in MFC 03Q .0202 that do not meet the definition in 113-129 (4) and (9), and WRC 10C .0108 references 03Q .0202, readoption of those rules requires modification.

Under the Periodic Review, MFC 15A NCAC 15A NCAC .03Q rules and WRC 15A NCAC 10C rules must be reviewed. Those that were determined to be Necessary with Substantive Public Interest or require modification must be readopted through permanent rulemaking no later than June 30, 2022.

Director Myers provided the JCDFW members a draft timeline for rules readoption, including key milestones. Based on that timeline, he recommended the JCDFW seek to reach agreement on boundaries no later than November 1, 2019. The draft timeline includes the following milestones:

February 27, 2019 – Briefing to Coastal Resources Commission

November 1, 2019 – Latest date to agree on delineation boundaries

November 1, 2020 – Latest date to submit Fiscal Note to OSBM

December 1, 2021 – Latest date for the WRC and MFC to approve Notice of Text

June 30, 2022 – Deadline for final rule adoptions

ORGANIZATION AND GOVERNANCE

The committee members discussed guiding principles and governance which led to the following outcomes:

- **Agendas** – Rob Bizzell, MFC and John Stone, WRC will plan meeting agendas
- **Public Records and Website** – WRC will set up a unique Joint Committee website on agency server infrastructure. The committee agreed the website would serve as a repository for all

committee-related documents and will provide links to relevant information located on agency websites.

- **Minutes** – Nancy Fish, DMF and Betsy Haywood, WRC will collaborate on Minutes to share among committee and interested persons.

MEETING FREQUENCY

It was agreed that meeting monthly or bi-monthly would be necessary to meet deadlines. Upcoming data workshop will determine frequency of meetings. The next Joint Committee meeting will be March 21, 2019 at 1:00 pm at WRC Headquarters, 1751 Varsity Drive, in Raleigh. Nancy Fish and Betsy Haywood will look for locations between Raleigh and the coast and make recommendations to the Joint Committee for future meetings.

WRC staff described ongoing efforts to aggregate historical salinity data to derive estuarine salinity zones. DMF is concurrently looking at species composition, riparian vegetation, and habitats. DMF will provide maps of current fishing water boundaries.

DMF Director, Steve Murphey recommended DMF and WRC Staff work in parallel to provide data, biological and scientific criteria for consideration, and prioritized importance of the criteria, as well as impacts of changes to delineations of waters, separately for the Marine Fisheries and Wildlife Resources commissions.

Beginning at the March meeting, the JCDFW will meet regularly to discuss the collected data and staff recommendations; and evaluate potential stakeholder impacts that may result from the application of those recommendations to the delineation of Coastal, Joint, and Inland fishing waters.

After November 1, 2019, by which time the Joint Committee will agree on the delineation of Fishing Waters, fiscal analysis will begin.

There being no further business, the meeting was adjourned at 1:45 pm.

Presentations from this meeting can be found at NCfishingwaters.org.

Rob Bizzell, NC Marine Fisheries Commission

Date

John Stone, NC Wildlife Resources Commission

Date



EXHIBIT A
May 1, 2019

N.C. Wildlife Resources Commission and N.C. Marine Fisheries Commission
Joint Committee on Delineation of Fishing Waters

Meeting Minutes
March 21, 2019
NCWRC Headquarters
Commission Room, 5th Floor
1751 Varsity Drive
Raleigh, NC 27606

The meeting of the Joint Committee on Delineation of Fishing Waters (JCDFW) was called to order on March 21, 2019 at 1 p.m. Committee members and visitors introduced themselves.

ATTENDANCE

Joint Committee Members

Rob Bizzell – NCMFC

Pete Kornegay – NCMFC

Doug Cross – NCMFC

John Stone - NCWRC

Tommy Fonville - NCWRC

Monty Crump – NCWRC

Visitors

Gordon Myers – NCWRC

Kyle Briggs – NCWRC

Margo Minkler – NCWRC

Ashton Godwin – NCWRC

Christian Waters – NCWRC

Chad Thomas - NCWRC

Fairley Mahlum - NCWRC

Kevin Dockendorf – NCWRC

Anna Stefanowicz – NCWRC

David Cobb – NCWRC

Janice Underwood – NCWRC

Mike Lopazanki – NCDCM

Jerry Schill – NC Fisheries Assn.

Hunter Stuart – fisherman

Watson Stuart – fisherman

Kent Ansell – fisherman

Wayne Twiford Sr. – fisherman

Wayne Twiford Jr. – fisherman

Wayne Twiford III – fisherman

Steve Murphey – NCDMF

Nancy Fish – NCDMF

Katy West – NCDMF

Anne Deaton - NCDMF

Kathy Rawls– NCDMF

Casey Knight - NCDMF

Col. Carter Whitten, NC Marine Patrol

Sgt. Brian Long, NC Marine Patrol

John Batherson, NCDEQ

Shawn Maier, NCDOJ

Jessica Helms - NCDOJ

Tim Ellis – APNEP

Manley Fuller – NC Wildlife Federation

Fred Harris – NCWF

Lisa Rutledge – NCWF

David Sneed – Coastal Conservation Assn. NC

Rocky Carter – CCA NC

Tom Berry – Wildlife Commissioner

Jason Dennis

REVIEW OF CHARGE

Chairman Stone asked NC Wildlife Resources Commission Executive Director Gordon Myers to review the committee purpose, charge and timeline.

Director Myers, in reviewing the charge of the JCDFW, outlined relevant statutes including §113-129, which defines Coastal, Inland, and Joint Fishing Waters and §113-132 that establishes jurisdictions of the fisheries agencies. He further explained that both statutes specify the NCWRC and the NCMFC must jointly agree on the dividing line between Inland and Coastal Fishing Waters.

Explaining why a new delineation is now required, Director Myers referenced an amendment to the 2013 Administrative Procedure Act which includes a “Periodic Review and Expiration of Existing Rules,” requiring state agencies to review all of their active rules every 10 years. Rules designated as “Necessary with Substantive Public Interest” must be readopted using the permanent rulemaking process. NCWRC has determined that rules that delineate Coastal, Inland, and Joint Fishing Waters are “Necessary with Substantive Public Interest” and must be readopted through permanent rulemaking no later than June 30, 2022. The JCDFW was formed to help integrate the work of the two commissions to jointly determine the boundaries that define Coastal, Inland, and Joint Fishing Waters, specifically looking for a science-based approach to determine the transition between Coastal and Inland Fishing Waters. Statutory and biological factors will be key considerations in the work of the committee.

Director Myers also reviewed the timeline for rules readoption, including key milestones. Based on that timeline, he recommended the JCDFW seek to reach agreement on boundaries no later than November 1, 2019. The draft timeline includes the following milestones:

November 1, 2019 – Latest date to agree on delineation boundaries

November 1, 2020 – Latest date to submit Fiscal Note to OSBM

December 1, 2021 – Latest date for the WRC and MFC to approve Notice of Text

June 30, 2022 – Deadline for final rule adoptions

APPROVAL OF MINUTES

Motion by Monty Crump to approve the minutes of the initial meeting of the JCDFW, held on Jan. 21, 2019. Second by Rob Bizzell.

Motion passed unanimously.

DISCUSS/DETERMINE CRITERIA FOR REVISED DELINEATIONS

NC Division of Marine Fisheries habitat specialist Anne Deaton gave a presentation offering a potential science-based approach for reclassifying jurisdictional waters.

The history of the distinction between Commercial Fishing Waters and Inland Fishing Waters was briefly outlined. As early as 1915, and for the purposes of clarifying fishing regulations, specific Commercial Fishing Waters were named; water bodies not named were considered Inland Fishing Waters. In 1965, the NC General Assembly renamed Commercial Fishing Waters to Coastal Fishing Waters and established Joint Fishing Waters. Since then, there have been minor boundary changes agreed upon by both the NCWRC and the NCMFC.

Deaton reviewed maps of current jurisdictional boundaries by region, followed by characterizations of commercial and recreational fisheries in waterbodies within the Albemarle Sound Management Area to provide information on fish assemblages.

In trying to determine the best approach to define estuarine waters, Deaton reviewed various options that could be used to assess jurisdictional boundaries, including:

- NC Environmental Review Commission's Surface Water Classification of Salt Water
- Existing NOAA dataset for salinity
- NC Division of Water Resources salt water classifications
- NCDMF's salinity data from biological programs
- Multi-variate analysis to assess fish assemblages in relation to environmental factors
- Some combination of the above

When questioned, Deaton advised that salinity would be the better tool to use as an indicator of estuarine conditions, with fish assemblages used as a confirm those findings.

Next, NCWRC Anadromous Research Coordinator Jeremy McCargo gave a presentation outlining another science-based approach for determining the transition between Coastal and Inland Fishing Waters.

The statutory definitions for water body classifications were briefly reviewed. Then McCargo presented the committee with another approach that could be considered, which included:

- Aggregate salinity data to map long-term averages of low and high salinity
- Utilize available peer-reviewed published science in the form of multivariate analyses to objectively derive estuarine salinity zones, that are consistent with Section 2.1.5 Fish assemblages by system of the state's Coastal Habitat Protection Plan (CHPP) source document
- Include wetland habitat type defined and mapped in the CHPP

McCargo reported that interpolation of data points was used to create shapefiles categorizing results into 0-4ppt and >4ppt groups, creating a statewide salinity layer, which was presented to the committee for consideration.

Motion by Tommy Fonville that the JCDFW:

- Accepts the use of salinity as an objective, scientifically valid, and biologically defensible methodology to determine delineation of inland, joint, and coastal waters, which is consistent with the North Carolina Coastal Habitat Protection Plan's source document; and
- Requests staff of NCWRC and NCDMF work collaboratively to refine salinity maps as necessary

He further moved that the JCDFW:

- Consider all waters outside of the coastal sounds with salinities less than 4 parts per thousand year-round as Inland Fishing Waters; and
- Consider all waters with salinities greater than 4 parts per thousand year-round as Coastal Fishing Waters; and
- Due to seasonal fluctuations of salinities, the JCDFW requests staff of NCWRC and NCDMF work collaboratively to provide recommendations for determining the inland-coastal delineations in those areas where salinities are greater than 4 parts per thousand during high salinity periods and less than 4 parts per thousand in low salinity periods.

Second by Monty Crump.

Rob Bizzell advised that the NCMFC members of the committee felt it was premature to select a number for the parts per thousand and a more robust discussion of that issue was needed.

Motion by Rob Bizzell to table the motion and take it up at the next meeting. John Stone announced that if the motion to table passes, the Joint Committee should be prepared to vote on the original motion made by Tommy Fonville at the next meeting, as time is of the essence.

Motion carried with no opposition.

NCDMF Director Steve Murphey suggested that staff leads from the two agencies be designated to better facilitate moving the process forward. Christian Waters was designated as lead for NCWRC and Anne Deaton was named lead for the NCDMF.

WEBSITE PREVIEW

Fairley Mahlum, NCWRC’s Chief of Communications and Outreach, previewed the JCDFW’s website, which will provide general information about the committee, serve as a repository for all committee-related documents and provide links to relevant information. The JCDFW agreed the website should “go live” in the near future.

NEXT MEETING

The next meeting of the JCDFW will be on May 1, 2019 at the NC Cooperative Extension Craven County Center, located at 300 Industrial Drive, New Bern, NC 28562.

Motion by Monty Crump to adjourn. Seconded by Tommy Fonville.
Motion carried with no objection.

There being no further business, the meeting was adjourned at 2:40 p.m.

Rob Bizzell, NC Marine Fisheries Commission

Date

John Stone, NC Wildlife Resources Commission

Date



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

DRAFT

MEMORANDUM

TO: Marine Fisheries Commission
Southern Flounder FMP Advisory Committee

FROM: Michael Loeffler, Co-lead Southern Flounder Plan Development Team
Anne Markwith, Co-lead Southern Flounder Plan Development Team

DATE: February 15, 2019

SUBJECT: Southern Flounder FMP Advisory Committee Meeting

The Southern Flounder FMP Advisory Committee (AC) met on Wednesday, February 13, 2019 at 6 p.m. at the NCDEQ Washington Regional Office located at 943 Washington Square Mall in Washington, NC. The following attended:

Advisers: Fred Scharf (chairman), Michael Oppegaard, Tom Roller, Kurt Tressler, Mary Ellon Ballance, Joe Romano, Bradley Styron, James Williams, Keneth Johnson

Absent: Robert Cox

Staff: Michael Loeffler, Anne Markwith, Steve Murphey, Kathy Rawls, Laura Lee, Catherine Blum, Carter Witten, Jesse Bisette, Brandi Salmon, Debbie Manley, Katy West, Daniel Ipock, William Boyd, Alan Bianchi, Chris Wilson, Drew Cathey, Charlton Godwin, Dan Zapf, Candace Rose, Trevor Scheffel

Public: Approximately 65 members of the public were in attendance, 14 who spoke

MFC: Mike Blanton, Sam Romano

Fred Scharf called the meeting to order at 6:02 p.m. At Dr. Scharf's request, the members of the AC introduced themselves for the benefit of the members of the public present.

APPROVAL OF AGENDA

Motion by Fred Scharf to modify the agenda to include opening remarks from Director Steve Murphey to the committee, seconded by Mike Oppegaard - motion was approved unanimously.

Motion by Mary Ellon Ballance to move the public comment portion of the agenda to occur after the presentation and discussion of Amendment 2, seconded by Joe Romano – motion was approved unanimously.

APPROVAL OF MINUTES

Motion by Michael Oppegaard to approve meeting minutes from January 9, 2019, seconded by Mary Ellon Ballance – motion was approved unanimously.

STEVE MURPHEY, DIRECTOR OF NCDMF, OPENING REMARKS

Director Steve Murphey addressed the AC to thank them for their commitment and dedication and to advise them at what point we are in the timeline for development and implementation of Amendment 2. The southern flounder stock is overfished and overfishing is occurring. The division was originally going to take management options to the N.C. Marine Fisheries Commission (NCMFC) at its February business meeting. However, this species is a unique four-state species. Secretary Regan has expressed concern at the economic impact to North Carolina in the context of the four-state management of southern flounder and he has instructed Director Murphey to reach out to the other states concerning the progress of implementing regional management. Currently, the division is setting up a meeting in South Carolina with the other states' representatives to occur this spring. This pause in the process provides the opportunity for the four states to collaborate more fully for regional management. In the meantime, the division is moving ahead with Amendment 2 in order to address overfishing of this species. Director Murphey thanked the AC for their time and patience as the process continues.

AMENDMENT 2: ACHIEVING SUSTAINABLE HARVEST

Division staff presented draft Amendment 2 to the AC. The committee members were reminded that this was a draft, and that the division is seeking the AC's input on this document to prepare it to go to the commission; the AC recommendation will be included in the draft for the NCMFC.

There was discussion on several of the slides throughout the presentation. When the overfishing status was presented, the AC discussed if fishing mortality (F) was showing a downward trend in 2017 because of management that had occurred through Supplement A to Amendment 1. Staff explained changes in F are variable and do not always correspond directly to management (i.e., an increase in F occurred in 2016 directly after management to reduce harvest was put into place.) There was discussion on the difference in commercial landings between gill nets and pound nets. It is not the same magnitude by area or over the last ten years. In the last three years, both gears have had similar landings, but pound nets have increased in landings over the last 10 years. Next, there was discussion on how discards play a very important role in the recreational fishery. The additional discards that would be created by having a recreational season are built into the calculation of allowable harvest, since incidental discards will continue to occur unless all the gear is taken out of the water. Reducing the bag limit for the recreational fishery could affect the total pounds harvested, but additional analysis would need to be completed to account for additional discards created. There were questions asked about how the fishery would be managed since the recreational fishery is managed as a flounder aggregate that includes not only southern flounder, but summer and Gulf flounder. This will be fully examined in the Southern Flounder FMP draft Amendment 3.

After the presentation, the AC continued its discussion. There were questions about the timeline to have recommendations to the NCMFC; the AC needs to have recommendations on draft Amendment 2 before the May 2019 NCMFC meeting. There was extensive discussion on why management measures in the past have not worked, and why such large reductions are needed at this time. The AC expressed concern that the proposed reductions are heavy handed, would put

many in the commercial fishery out of business, would have many other significant economic impacts, and that the management measures should not treat all users the same (i.e., some gears may have a greater effect on the resource than others.) However, harvest has never been capped for either sector, commercial or recreational. In the southern flounder fishery, regulations have been increased, but harvest has not successfully been reduced. Increasing size limits have resulted in more discards and created the potential for fishermen to target fish that are critical to increasing the spawning stock biomass. Concerns were raised about regulations that would result in taking gear out of the water, which would lead to the loss of fishery dependent data. The AC discussed the breakdown of commercial and recreational harvest from the other three participating states and the importance of regional management of the stock.

PUBLIC COMMENT

Dr. Scharf reviewed the guidelines for public comment. Due to the number of members of the public who wished to speak, public comment was limited to three minutes per person. Prior to public comment, one of the committee members asked that staff review how spawning stock biomass was calculated, to help further inform the public before they spoke; staff gave a quick verbal explanation.

Paul Lane, a commercial fisherman from Albemarle Sound, said a 13-inch minimum size limit would help the stock. Fishing on mostly female fish does not work; currently fishermen are harvesting too many females. If the size limit is left as is or raised, it will be the end of the stock.

Jamie Winslow, a commercial fisherman, stated she has fished everywhere except management unit E (southern part of the state.) She presented a handout she prepared by going through proclamations and reading the most recent southern flounder stock assessment to make graphs of the reductions that have taken place since 2001. She said there has been great loss in the commercial fishery already in all management units due to the reductions in fishing days and yardage fished. She also expressed concern about the large number of mature females being caught now and the large number of recreational discards.

Billy Ray Lucas, a recreational fisherman and president of Carolina Fishers of Men Inshore Trail, does not agree with the data that was presented; they catch plenty of flounder. He questioned the poundage of discards for the recreational fishery being higher than the commercial, and why the division has not looked at the breeding grounds in the Pamlico Sound that have been damaged by trawlers. He said none of the previous management options have worked. He stated this proposal will have a huge economic impact to both commercial and recreational sectors and is preposterous.

Greg Howell, a recreational fisherman in the Pamlico Sound area, said there needs to be one plan, but instead North Carolina is constantly changing the rules. He stated North Carolina needs to be like other states like Louisiana where commercial fishermen can make a living and recreational fishermen can fish.

Glenn Skinner, a commercial fisherman from Carteret County and executive director of the N.C. Fisheries Association, said the data suggest no reduction over the time series. Commercial landings have declined in the same time period while recreational harvest has increased, so landings have been recouped. He said fishing on females is not good and spawning stock biomass has probably been destroyed. He stated this is the same thing we have always done. There is nothing to cap effort; effort will increase, and we will still be focusing on females. Direct harvest reductions do not result in overall benefit to this stock. He said slot limits have worked for red drum; it provides the opportunity to spawn and therefore build spawning stock

biomass. The Fisheries Reform Act recognizes the importance of both sectors, commercial and recreational, and the need to manage the fisheries. We need to keep the fisheries going too.

Eric Braddy, a recreational and commercial fisherman, said cutting harvest down to a season would be catastrophic because it will increase the effort and create more user conflicts between commercial and recreational fishermen. There are two different species, summer and southern flounder. He stated the data separates them, but management has not separated them. He asked the committee to not make anything more complicated than it already is.

Keith Bruno, a commercial fisherman from Oriental and owner of Endurance Seafood, said he is normally a fan of the division and smart fisheries management, but he had concerns with the presentation and does not feel the division has a handle on management of the species. He felt there was a lot of uncertainty in what the division presented. He had an issue with the fact that fishermen are still catching fish, but we have been overfished for 20 years. He stated the more fish that fishermen catch, the more restrictions are put in place; what is taken away with this amendment will not be given back in Amendment 3. He said the seasons proposed in Amendment 2 will create a rodeo opening that is bad for the commercial and recreational fisheries. He said the river-based flounder fishery is not represented on the committee. He said he does not agree with the random sampling the division does.

Jeremey Swanner, a recreational fisherman, said the more data we have, the better we are. If you take all gear out of the water, there will be no data. An incentive program for commercial and recreational fishermen is needed to help collect more data.

Greg Judy, a former division employee, said he would like to see an individual quota, like an ITQ (individual transferable quota), for the commercial fishery instead of a season. When everyone is fishing at the same time, it floods the market and an ITQ would allow fishermen to sell when they could get the best price. He said the division has tried to avoid rodeo openings in other fisheries, like shrimp trawling, but the proposed seasons would create one for flounder. He stated the pound netters cannot survive with the seasons that are proposed. The division needs to look at the Independent Gill Net Survey. He said it is good for other species, but not for flounder. He stated the fishery has not collapsed after 20 years of being overfished, so it is possible with these heavy reductions the fishery may recover more quickly than expected. He asked if regulations would be relaxed if this occurs.

Joe Belasi asked why other states care about what North Carolina does with its fish. He stated North Carolina is mismanaging the fishery sectors. He said we need to know where the mature fish are going; even if the fishery is shut down completely, if the fish are caught elsewhere it will not help the stock. He stated the division should not penalize everybody and needs to make some tough decisions. He does not believe the recreational fishermen have hurt the stock with the current size and bag limits.

Wayne Twiford, a commercial pound netter in Currituck County, said since the 1980s he has seen many size limit increases and declines since then, but now the division has backed itself into a corner because the spawning fish are being removed from the stock. Fishing on females is not good for the stock. He stated the proposed season dates will shut down the commercial fishery completely, especially pound netters. The environmental and weather effects need to be taken into consideration. This amendment will put us out of business.

Watson Stuart, a commercial pound netter from Currituck County, said he does not agree with the data on flounder catches; catches will fluctuate over time. He feels there is a lot of unfished water, and that the flounder in those areas is not accounted for; the Trip Tickets are not true.

Raising the size limit will not help the flounder stock as flounder are meat eaters; the bigger fish eat the smaller ones.

Jeff Koen, a full-time fishing guide, said money is important not just for the commercial fishermen, but the guides as well; the more you take away in a fishery, the less business the guides have. He said he does not agree with the proposal. If Amendment 2 is not good, then skip it and go on to Amendment 3; once you take something away, you never get it back. He said North Carolina needs to look at other states like Florida to see how they manage the fishery and learn from them.

Steve Midgette, a commercial fisherman, said part of the problem is that the creeks and headwaters are in trouble. Sedimentation studies in the creeks and rivers are needed, not just the basic water quality tests. He said we need to look at the environment, as these factors are key; North Carolina should look at what the other states are doing for the environment.

ADDITIONAL COMMITTEE DISCUSSION

After public comment there was a short discussion on whether to have further discussion on Amendment 2 or wait until the next meeting. Waiting to have further discussion would allow the committee members to talk to constituents and do some additional research. The AC's short discussion highlighted that not a single member of the public, based on public comment, seemed to support draft Amendment 2. The consensus of the AC was to table any further discussion until the March meeting. The AC will need to provide a recommendation to the division concerning Amendment 2 at its March or April meeting. The AC's recommendation can match the division recommendation, or they can develop a different recommendation.

ADJOURN

Motion by Michael Oppegaard to adjourn, seconded by Mary Ellon Ballance – motion was approved unanimously.

The meeting adjourned at 8:50 p.m.

| | | | |
|-----|--------------------|-----------------|-----------------------------|
| cc: | John Batherson | David Hilton | Patricia Smith |
| | Chris Batsavage | Laura Lee | David Sneed |
| | Catherine Blum | Dee Lupton | Jason Walker |
| | Larry Boomer | Shawn Maier | William Yingst |
| | Ellie Davis | Stephen Murphey | Biological Supervisors |
| | Anne Deaton | Hardy Plyler | Committee Staff Members |
| | Christopher Elkins | Steve Poland | District Managers |
| | Nancy Fish | Jerry Schill | Marine Fisheries Commission |
| | Jess Hawkins | Isaiah Smith | Marine Patrol Captains |
| | | | Section Chiefs |



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

DRAFT

MEMORANDUM

TO: Marine Fisheries Commission
Southern Flounder FMP Advisory Committee

FROM: Michael Loeffler, Co-lead Southern Flounder Plan Development Team
Anne Markwith, Co-lead Southern Flounder Plan Development Team

DATE: March 19, 2019

SUBJECT: Southern Flounder FMP Advisory Committee Meeting

The Southern Flounder FMP Advisory Committee (AC) met on Wednesday, March 6, 2019 at 6 p.m. at the NCDEQ Washington Regional Office located at 943 Washington Square Mall in Washington, NC. The following attended:

Advisers: Dr. Fred Scharf (chairman), Michael Oppegaard, Tom Roller, Kurt Tressler, Mary Ellon Ballance, Joe Romano, Bradley Styron, James Williams, Keneth Johnson

Absent: Robert Cox

Staff: Michael Loeffler, Anne Markwith, Steve Murphey, Kathy Rawls, Catherine Blum, Katy West, Lee Paramore, Carter Witten, Jesse Bissette, Brandi Salmon, Debbie Manley, Daniel Ipock, Odell Williams, Bryan Spain, Charlton Godwin, Dan Zapf, Candace Rose, Trevor Scheffel

Public: Approximately 18 members of the public were in attendance, of which seven spoke

MFC: Mike Blanton

Dr. Scharf called the meeting to order at 6:07 p.m.

APPROVAL OF AGENDA

Motion by Mary Ellon Ballance to approve agenda, seconded by Mike Oppegaard - motion was approved unanimously.

APPROVAL OF MINUTES

Motion by Tom Roller to approve meeting minutes from Feb. 13, 2019, seconded by Kurt Tressler – motion was approved unanimously.

At Dr. Scharf's request, the members of the AC introduced themselves for the benefit of the members of the public present.

AMENDMENT 2: ACHIEVING SUSTAINABLE HARVEST

Division staff provided a brief overview of where the committee was in the process for draft Amendment 2 and reviewed the reduction options available for management (31%, 52%, or 72%). The committee members were reminded that Amendment 2 was a draft and is subject to change, and that the division is seeking the AC's input on this document to prepare it to go to the Marine Fisheries Commission (NCMFC). The AC recommendation will be included in the draft for the NCMFC. Staff will be presenting draft Amendment 2 to the NCMFC at the May 2019 business meeting; therefore, the AC will need to have a recommendation by the end of its April meeting. Based on questions from the committee, staff explained the AC recommendation is separate from the division's and the AC recommendation does not have to match. The AC can recommend reductions that are different than the three options provided, but the reason for varying from those options needs to be provided.

Several additional documents were emailed to the committee a couple days before the meeting. The AC quickly reviewed these materials, which included NCDMF's gig survey report; ASMFC's guidance document for summer flounder slot limits; commercial landings for the last 10 years by gear and area; and a memo on potential long- and short-term management strategies for southern flounder. Clarifying questions were asked about the data, including what the area designations were based on; these areas were designated by the waterbodies used in the Trip Ticket Program.

The committee began its discussion on draft Amendment 2 by expressing concerns about the division's proposed seasons. The concerns included that the division's proposal is too limiting, is not reasonable from a cost perspective for the operation of the pound net fishery, would create a derby fishery, would potentially increase user conflicts, and does not provide management flexibility for hurricanes and other major weather events. Hurricane Florence was used as an example since that storm hit on Sept. 14 and pound nets were not in the water until Oct. 1; based on the proposed seasons that would allow for no more than two weeks of fishing if something similar happened again.

The committee shifted its discussion to the twenty pop-off satellite tags that Dr. Scharf and the division had put out in the fall of 2018, which led to a general discussion on tagging and flounder movement. The results of the satellite tag work could help to inform the management discussion. Dr. Scharf reported that while many of the tags popped off early, it served as a test of concept. He is working with the manufacturer to determine why this occurred (i.e., possible faulty sensors). Tags that stayed attached for 4 – 6 weeks indicated the fish headed in multiple different directions (north, south, and due east). Conventional tagging studies (from the 1980s-present) have shown that southern flounder will move long distances south, but very rarely move north any great distance; northern movement tends to be seen mostly in the inshore waters. Natal homing has never been observed in the southern flounder populations. There was discussion on how the limited northern movement was determined if there were no tag returns, why larger fish are still seen in Pamlico Sound if all the fish travel south, and if there might be inshore spawning populations in certain areas. The committee asked if adding to the conventional tagging program would be a better option than satellite tagging. Staff indicated that satellite (and telemetry) tags are needed in order for the exact path of the fish to be followed to determine ocean spawning aggregations, post spawning movements, and where the mixing zones of fish from different states occur.

Discussion returned to draft Amendment 2. Several AC members stated the proposed seasons would end the southern flounder commercial and recreational fisheries, some members adding it

had come to this because of past NCMFC decisions concerning southern flounder management. There was a discussion about the effect of weather, particularly hurricanes, on the southern flounder population; some AC members said major storms are the reason for the low landings and the division is trying to manage for something that cannot be managed. Some AC members stated it does not make sense for the stock to be overfished and overfishing occurring for more than 20 years and southern flounder still be caught. This opinion was countered by other AC members who said landings are landings regardless of the weather, and statistically the landings have decreased to a point that the stock is in trouble and something needs to be done. The stock is coast-wide and the other states contribute to the population in North Carolina.

Next, the AC considered if all commercial gears should have the same season. The group discussed a committee member's suggestion to stagger the commercial fishery by gear over the time periods of non-peak landings allowing for more escapement and fishing throughout the year, reducing catch by close to 31%. For instance, under this proposal the gig fishery could operate April 1 through September 15, the large mesh gill net fishery August 15 to September 30, and the pound nets in October and November under a quota-based system. Division staff clarified that a quota could not be done in draft Amendment 2, so the AC would need to provide recommendations on what season in the fall would work best for the pound net fishery. The recreational (hook-and-line and gig) season would be similar to the commercial gig season, though the reduction would be closer to 18%. There was discussion on which sectors and gears had a bigger impact on the southern flounder stock, and which sector would be most impacted by the seasons as proposed by the division. The general consensus was the proposed seasons by the division would not be fully utilized as all southern flounder fisheries are weather dependent, thus fishermen would take a bigger reduction than proposed. Staff indicated this was taken into account when calculating the seasons, as 10 years of data were used; good and bad days were included in the calculations.

Division staff asked the committee what reduction value they could all agree on; this is a tough decision when trying to do what is best for the stock. Some members of the AC suggested a full moratorium until Amendment 3 is adopted. There was disagreement between committee members about whether this was appropriate and what the impacts to each sector would be. In order for the committee to reach common ground, the idea of a moratorium was set aside. By statute, it is required that management measures end overfishing in two years and end the overfished status in 10 years, both with at least a 50% probability of success. The proposed 52% and 72% reductions accomplish this. It is also possible to take a 31% reduction for the first two years (ending overfishing) and then adjust the reduction for the remainder of the 10-year period; however, it was noted that the reduction will most likely be greater than 52% or 72% to rebuild Spawning Stock Biomass (SSB) due to the lower reduction in the first two years. Projections would need to be redone to calculate what those new reductions would be.

The AC continued to discuss taking a 31% reduction with draft Amendment 2 or if a larger reduction needs to be taken. Various management options, including establishing slot limits, eliminating the recreational gig fishery and RCGL nets, and potentially eliminating commercial gill nets, were brought up in discussion. Eliminating the recreational gig fishery and RCGL nets would not result in a large reduction. There was no consensus on eliminating large mesh gill nets; several AC members felt that large mesh gill nets had already been greatly restricted, while others mentioned the issues surrounding gill nets, such as bycatch. Dr. Scharf reminded the AC that size limit changes would require gear changes that may not be feasible in the short-term. Additionally, projections would need to be redone to calculate reductions since the original reductions are based on the current regulations. Any impact to additional recruitment from

larger fish due to a slot limit may not be quantifiable due to limited fecundity data. The AC made several requests for additional data during the discussion, including:

- Reduction percent that would be achieved for a commercial gig season from April 1 through Sept. 30;
- Yearly totals by Incidental Take Permit (ITP) area of ex-vessel value and number of observer trips for the large mesh gill net fishery; and
- Reduction percent that would be achieved for a large mesh gill net season from Aug. 15 through Sept. 30.

The committee asked for clarification from staff on the timeline for draft Amendment 2 and Amendment 3. At the May 2019 NCMFC meeting draft Amendment 2 will be presented and the commission will vote to approve it to go out for public comment. There will be a 30-day public comment period during which regional and subject matter (Finfish) AC meetings will be held. After public comment draft Amendment 2 will go to the DEQ secretary for 30 days, and then to the legislative committee for 30 days. Since the goal is to have draft Amendment 2 approved for management in August 2019, there will most likely be a special meeting during the summer. If approved in August, management from Amendment 2 will be implemented following the meeting via the Fisheries Director's proclamation authority and we would manage under Amendment 2 until Amendment 3 is adopted. The timeline for the AC to make a recommendation for long-term management through draft Amendment 3 with implementation in 2020 would be the end of 2019.

PUBLIC COMMENT

Dr. Scharf reviewed the guidelines for public comment. Due to the number of members of the public who wished to speak and the business the committee still needed to conduct, public comment was limited to three minutes per person.

Glenn Skinner, a commercial fisherman from Carteret County and executive director of the N.C. Fisheries Association, said when landings are reduced in one gear they are recouped in another gear, whether it is another commercial gear or recreational gear; everyone is fishing on what is available. There needs to be the same reduction for every gear. He said the biggest problem with taking reductions, both at the state and federal level, is that a reduction in the recreational fishery has never been achieved because you cannot predict recreational effort. Whatever reduction is achieved will be on the commercial fishery. Until 2010, we never saw a reduction in recreational fishery effort and that was probably only because the stock declined. The AC will not come up with something that would meet or exceed the division's recommendation, because they will not be able to agree on it. He said the AC needs to vote to oppose Amendment 2 and move on to Amendment 3, and let the division and NCMFC worry about Amendment 2.

Larry Boomer, from Swan Quarter, was a commercial fisherman until 1980 and is now a recreational fisherman. He wants North Carolina to enact a gill net ban, as he stated this is the solution to the flounder problem; North Carolina and Mississippi are the only states that allows such a destructive fishery. A ban would also end the sea turtle and marine mammal interactions. He said that it would be appropriate to set the minimum size limit at 19 inches. If the size limit is increased fish from 15-18 inches would survive and many of those would be able to reproduce. He said that letting the commercial fisheries occur in the most productive time of the year, when the fish are moving to the ocean to spawn, is a bad idea; if the idea is to increase spawning biomass killing the breeders is not going to work. Look after the resource and not the

commercial fishery. He stated as the proposal stands the commercial fishery will have the same season as last year [due to Hurricane Florence] and the recreational fishery will have only a six-week season. It also does not make sense that the recreational fishery can only have four fish, while the commercial has no limits. He said he personally does not think that the recreational fishery hurts the stock, that gill nets are the issue. He also stated that based on his experience he does not believe the information on recreational discards is correct as presented.

Watson Stuart, a pound netter from Bells Island, Currituck, said that he did not think the data on the trip tickets was correct. He felt that weather had a lot to do with the landings and that the flounder are not in trouble. The proposed seasons are not long enough for a pound netter. He stated there is a lot of work that goes into pound nets, and once pound nets are gone they are going to be gone forever, as no one will be around to teach the younger generations. He said to drop the minimum size limit back to 13 or 14 inches and restored the amount of gear that is allowed to be used; if this is done then the trip ticket landings will increase. The increases in size limits have led to the bigger fish eating the little fish, which is not helping the stock.

Chris Hickman, a commercial fisherman from Hatteras, stated that the only real information was from the landings. There were a lot of estimates being used. His biggest issue is one species is being used to manage all the flounder species. He stated he does not support a slot size because all the pressure is put on one group of fish and not across the marketable population. Managing for big fish does not necessarily work; more eggs may be produced but that does not mean they are more viable at 18 inches than at 15 inches. It has been used in other fisheries and has not worked. He said that we need to pay attention to water quality and habitat degradation. We have been overfished for 20 years and we are still harvesting flounder, which does not make sense. Regulations are what create discards.

Kelsey Aiken, a commercial gigger and gill netter from Hatteras and part owner of Jeffery Seafood, said it is obvious that there needs to be some reduction, and everyone is going to be affected. At his fish house a 72% reduction would cause them to lose all the pound netters, and only keep a few gill netters and giggers. It would take away a third of the income from the fish house, which would be crippling. The reduction takes away not only from the fishermen but decreases the economic value to the state (i.e., restaurants). He stated that he understands there needs to be some reduction, but the reduction should be the same across the board. He agreed with other speakers that the pound nets will not be able to set if the fishermen are only allowed a month. The restrictions on gill nets to a month would mean that some may fish, but others may leave the fishery. He wondered where the flounder that people want to eat was going to come from. He stated the reduction did not need to be 72%; that sort of reduction will ruin Hatteras. It is impractical.

Greg Judy, a commercial gill netter who fishes in the river, said that after listening to the committee discussion he agrees with the previous speaker: everyone is in this together and everyone needs to take the same reduction. He stated that there are three major sections: pound nets, gill nets, and recreational. He would like to see a reduction between the 31% -50% range to get through the first year. He stated that he did not like the seasons, but the Fisheries Reform Act was written in a way that there cannot be individual quotas.

Perry Beasley, a commercial fisherman, stated that he does not believe in the science and it is faulty. You cannot compare apples to oranges; numbers and tonnage for 13-inch fish cannot be compared to that of 15-inch fish. The number of participants in the fishery is down; we are putting people out of the business. He said that the flounder fishery is a weather dependent fishery. He referenced a recent issue of the Tradewinds Magazine that cited the division's 2018

License and Statistics annual finfish pounds by sector. He said that we are estimating the recreational numbers and that hard numbers are the truth (i.e., trip tickets), but he does not believe the trip tickets or the division. He asked if we are punishing the wrong people and he recommended a 13-inch minimum size limit. He said an economic study is needed to show the value of the fishery.

ADDITIONAL COMMITTEE DISCUSSION

After public comment, discussion continued on draft Amendment 2 as the committee tried to reach a consensus on a reduction value. A reminder was provided that this document is a draft and the division recommendation could change; the chair asked that the committee focus only on their recommendation, not the division's, and what they felt would be reasonable management. The committee asked how 50%, 60%, and 72% reductions would change the number of open days in the fisheries for the proposal discussed earlier in the meeting about staggering the commercial fishery by gear over the time periods of non-peak landings. Staff said they would bring this information back at the next meeting, as currently the calculations are done for all commercial gears by area (not broken down by gear).

Discussion turned to the possibility of rejecting draft Amendment 2 and focusing all the committee's effort on developing long-term strategies for draft Amendment 3. Several members of the committee said that draft Amendment 2 was rushed and only responsible long-term management was needed instead of implementing short-term management first. There were concerns that once reductions occur regulations would not be relaxed and that from a financial perspective, people need time to prepare for the loss of income. There was concern raised from other members that if the AC did not provide a recommendation that the NCMFC would have no recommendations to consider other than the division's. The option for the 31% reduction was brought up again as a reasonable option since it met the statute requirement to end overfishing, and draft Amendment 3 would likely be adopted within the two-year timeframe. Several members of the committee expressed support for reductions greater than 31%. Shifting allocations between gears was also mentioned again. Division staff reminded the AC a smaller reduction now means an even larger reduction later.

It was noted that the AC had one more opportunity at its April 2 meeting to make a recommendation before draft Amendment 2 will be forwarded to the NCMFC. Staff asked the AC to provide guidance so that the appropriate data could be presented at the next AC meeting to help them make this recommendation. The AC agreed that staff could use the proposal from earlier in the meeting about staggering the commercial fishery by gear over the time periods of non-peak landings to guide the seasonal aspect of the data. The AC requested that data be presented for 31%, 40%, 52%, and 72% for the four fisheries (pound net, gill net, commercial gig, and recreational). The areas (northern, central, and southern) proposed by the division were to be used for the commercial fisheries. There was additional discussion about the dates that could be selected for the different fisheries, including an April start date for the commercial gig fishery, possibly a June 1 through Sept. 15 season for the recreational hook-and-line fishery, and April 1 through Oct. 1 for the recreational gig fishery. Overlap of the commercial fisheries was also discussed. The committee asked what the reductions likely be in year three if the committee did not recommend at least a 52% reduction now. Staff said they would talk to the stock assessment scientist to determine if that information could be provided at the next meeting.

Staff asked if the next meeting needed to start earlier than 6 p.m. due to the length of the discussion that would likely be needed to develop a recommendation. The next meeting will start at 4 p.m. to provide additional time.

The meeting adjourned at 9:25 p.m.

cc: John Batherson David Hilton Patricia Smith
Chris Batsavage Laura Lee David Sneed
Catherine Blum Dee Lupton Jason Walker
Larry Boomer Shawn Maier William Yingst
Ellie Davis Stephen Murphey Biological Supervisors
Anne Deaton Hardy Plyler Committee Staff Members
Christopher Elkins Steve Poland District Managers
Nancy Fish Jerry Schill Marine Fisheries Commission
Jess Hawkins Isaiah Smith Marine Patrol Captains
Section Chiefs

DRAFT



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

DRAFT

MEMORANDUM

TO: Marine Fisheries Commission
Southern Flounder Fishery Management Plan Advisory Committee

FROM: Michael Loeffler, Co-lead Southern Flounder Plan Development Team
Anne Markwith, Co-lead Southern Flounder Plan Development Team

DATE: April 4, 2019

SUBJECT: Southern Flounder Fishery Management Plan Advisory Committee Meeting

The Southern Flounder Fishery Management Plan (FMP) Advisory Committee met on Wednesday, April 2, 2019 at 4 p.m. at the NCDEQ Washington Regional Office located at 943 Washington Square Mall in Washington, NC. The following attended:

Advisers: Fred Scharf (chairman), Michael Oppegaard, Tom Roller, Keneth Johnson, Mary Ellon Ballance, Joe Romano, James Williams, Kurt Tressler, Bradley Styron

Staff: Catherine Blum, Michael Loeffler, Kathy Rawls, Jennifer Lewis, Carter Witten, Alan Bianchi, Daniel Ipock, William Boyd, Brandi Salmon, Jesse Bisette, Jason Rock, Dan Zapf, Steve Murphey, Trevor Scheffel

Public: Approximately 36 members of the public were in attendance, 11 who provided comments.

MFC: Mike Blanton, Cameron Boltes, Sam Romano

Fred Scharf called the meeting to order at 4:04 p.m.

APPROVAL OF AGENDA

Motion by Mary Ellon Ballance to approve agenda, seconded by Michael Oppegaard – motion passed unanimously.

APPROVAL OF MINUTES

Motion by Joe Romano to approve meeting minutes from March 6, 2019, seconded by Mary Ellon Ballance – motion passed unanimously.

PRESENTATION ON PREVIOUS DATA REQUESTS

Division staff gave a presentation about data and additional management options the committee requested during discussion on draft Amendment 2 at its March 6 meeting. Items included a breakdown of commercial data by gear, areas, and seasons. Additional management options presented for discussion included elimination of the recreational gig fishery, elimination of the Recreational Commercial Gear License large mesh gill net fishery, and non-quantifiable management options such as trip limits and gear changes to be implemented with season closures. The presentation also included an updated division recommendation.

The committee began discussion on the commercial data by gears by expressing concerns about not being able to predict fishermen's behavior about switching gears, potentially resulting in the ability to harvest during more of the year and required reductions not being achieved. Staff explained the non-quantifiable management options are intended to be an option to help mitigate this concern and prevent overages. Discussion also occurred about the accuracy of the Marine Recreational Information Program (MRIP) data. Staff reminded the committee the recreational reduction estimates are based on two-week increments of MRIP data, the finest level of detail appropriate for this data. The committee expressed a need to know more about recreational discards and recreational harvest. Discussion shifted to finding better ways of data collection from the recreational gig fishery. The research recommendations section of the FMP is a centralized place to list data needs like this for the fishery.

Discussion shifted to draft Amendment 2 and concerns about not knowing how the FMP will affect the rest of the calendar year. Committee members expressed a need for fishermen to have more time to prepare for the financial impact this reduction will cause. There was also discussion about the need for a coastwide reduction and about the other states also implementing the necessary management measures. The committee again weighed the pros and cons of implementing seasons versus quotas (which cannot be developed in the timeframe of Amendment 2.)

Concerns continued to be expressed by some members of the committee about getting all the available data, the impacts of weather, and more time for all options to be explored. Another viewpoint focused on adequate levels of reductions not being implemented previously, resulting in the current situation. Other items of discussion included not seeing an increase in recruitment despite reductions that have already been made, the need to protect larger fish, and the harvest rate is still too high; this pattern is seen in all four states, not just North Carolina. Staff restated the task at hand is to recommend how much reduction is needed and how soon that reduction is implemented.

PUBLIC COMMENT

Dr. Scharf reviewed the guidelines for public comment. Due to the number of members of the public who wished to speak and the business the committee still needed to conduct, public comment was limited to three minutes per person.

Glen Skinner, Executive Director of NCFA, opposed Amendment 2. He said there is a settlement agreement that prevents action on southern flounder until an amendment is complete. He stated the process is being handled like a supplement, not an amendment. He advised the committee to take no action on amendment 2 and instead take the time to do an amendment that implements measures over the long term, so the results can be seen.

Michael Peele, from Hatteras, does not support Amendment 2. He said seasonal openings to achieve a 72% reduction will cause economic impacts that will force fishermen out of the fishery. He expressed concern about retaining a local source of seafood in the state. He questioned the percentage of flounder that are recorded as southern flounder versus summer flounder.

Chris Hickman, from Hatteras, said he has concerns about using management similar to what has been implemented over the last 30 years and expecting a better result. He suggested more research is needed in on the eastern side of Pamlico Sound and about distribution of southern flounder and summer flounder. He thinks we need new research using flounder tagging.

Kelsey Aiken, a commercial fisherman and part-owner of a fish house, opposed Amendment 2. He believes it has happened too quickly and the effort needs to be put toward Amendment 3 instead. He said most fish houses cannot survive a 52-72% cut. He believes there should be some reduction and change, but not in such a short amount of time.

Gregory Judy suggested a 31% reduction in the first year and a 52% reduction in the second year. This allows fishermen time to adjust for income loss.

Wayne Twiford, Jr., from the Currituck Sound area, does not support Amendment 2. When making a decision, he asked the committee to keep in mind their decision will affect many livelihoods, and fishermen cannot survive a 72% reduction this year. He said cold stuns, hurricanes, Oregon Inlet bridge construction, and other events cause uncertainty in the fishery and those factors need to be considered. He recommended more tagging research to get additional data on fish migration.

Watson Stuart, a pound netter from Currituck, does not support Amendment 2. He said the proposed reduction will cause fishermen to rely on multiple gears to catch enough fish. He said ice was a major factor in the fishery two years ago and this needs to be considered. He thinks once southern flounder leave the inlet they do not return. He also believes the new Oregon Inlet bridge is a factor for fish migration.

Hunter Stuart, from Currituck, agreed with concerns mentioned about the impacts of cold stuns. If gear continues to be reduced, then catch will be reduced too, so the stock assessment is just reflecting a reduction in catch. He said there is no proof that management measures implemented so far have worked and he wants a guarantee that additional management measures will improve the fishery.

Keith Bruno, a commercial fisherman from Oriental, does not support Amendment 2 because it is like a supplement and effort should be put into Amendment 3 instead. He said the real focus seems to be on removing gill nets from the water. He thinks fishing effort will shift to crabbing or fishing for other species for fishermen to survive. He expressed concern about dead discards from setting daily limits on gill nets. He said there is room for all fishermen in the fishery.

Jonathan Edwards, a recreational fisherman from Winterville, thanked the division for identifying the problems with this stock. He said we need to reduce harvest and gill nets are a problem, but pollution and the environment also play a big part.

Jeremy Swanner, a recreational fisherman from Bath, said it is hard to believe the data, but if it is true and there is a problem, action is needed without bias. Everyone loses if there are no fish left. He suggested implementing a more concentrated tagging program. He expressed concern about increased pressure on spotted seatrout. He wants to see something proactive implemented instead of something reactive.

AMENDMENT 2: ACHIEVING SUSTAINABLE HARVEST

After a break, discussion continued leading to a vote by the committee on its recommendation to the Marine Fisheries Commission on draft Amendment 2 to the Southern Flounder FMP. There was consensus that the southern flounder stock needs more protection by taking regulatory action to reduce harvest rates, but the discussion focused on determining the magnitude and timing of the reductions.

Motion was made by Mary Ellon Balance to take no action on Amendment 2, seconded by Joe Romano. Motion failed 3 to 5.

Next, the committee revisited the infrastructure needed to implement a quota monitoring system. Staff reviewed the process of getting this in place, which cannot be completed for the fall of 2019. The committee also discussed the pros and cons of equitable reductions across all sectors.

Motion was made by Tom Roller to implement a 31% reduction for all sectors in 2019, except that the recreational gig fishery will coincide with when the hook-and-line fishery occurs. Season start dates will be Aug. 1 for pound nets, Aug. 1 for commercial large mesh gill nets, and April 1 for commercial gigs. Reduce recreational hook-and-line and gig fisheries total removals by 33% to best align with MRIP estimates.

Then starting January 1, 2020 adopt the Division of Marine Fisheries recommendation for a 52% reduction with the following changes, calculated by Northern, Central, and Southern regions:

- Pound net fishery, 40% reduction, fishery start date Sept. 15.**
- Commercial gig fishery, 40% reduction, fishery start date April 1.**
- Large mesh gill net fishery, a reduction to make up the difference to yield a 52% reduction for the commercial fishery overall, fishery start date Sept. 15, recognizing**

that the division proposal for the Recreational Commercial Gear License large mesh gill net season of Sept.15-Sept. 30 may be changed by this final percent reduction.

In addition, Jan. 1, 2020, implement a 1500-yard limit for large mesh gill nets in Management Unit A, and implement a 1000-yard limit for large mesh gill nets in Management Units B, C, D, and E.

Starting in 2020, the season for recreational hook-and-line and gig fisheries will remain July 16-Sept. 30. Seconded by Michael Oppegaard. Motion passed 7-2.

Staff will incorporate the committee's recommendation into draft Amendment 2 to present to the Marine Fisheries Commission at its May 15-17 meeting. The commission is scheduled to vote on approval for the draft amendment to go out for public and standing and regional advisory committee review and comment. The next Southern Flounder FMP Advisory Committee meeting is expected to be June 3 at 6 p.m. at the Central District Office in Morehead City; the May 8 committee meeting will likely be canceled.

Motion was made by Mary Ellon Ballance to adjourn, seconded by Michael Oppegaard. Motion passed unanimously.

The meeting adjourned at 9:05 p.m.

| | | | |
|-----|--------------------|-----------------|-----------------------------|
| Cc: | John Batherson | David Hilton | Patricia Smith |
| | Chris Batsavage | Laura Lee | David Sneed |
| | Catherine Blum | Dee Lupton | Jason Walker |
| | Larry Boomer | Shawn Maier | William Yingst |
| | Ellie Davis | Stephen Murphey | Biological Supervisors |
| | Anne Deaton | Hardy Plyler | Committee Staff Members |
| | Christopher Elkins | Steve Poland | District Managers |
| | Nancy Fish | Jerry Schill | Marine Fisheries Commission |
| | Jess Hawkins | Isaiah Smith | Marine Patrol Captains |
| | | | Section Chiefs |



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

DRAFT

March 7, 2019

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Jason Rock, Co-lead Blue Crab Plan Development Team
Corrin Flora, Co-lead Blue Crab Plan Development Team

SUBJECT: Blue Crab Fishery Management Plan Advisory Committee Meeting

The Blue Crab Fishery Management Plan Advisory Committee met on February 28, 2019 at 6 p.m., at the NCDEQ Washington Regional Office located at 943 Washington Square Mall in Washington, NC. The following attended:

Advisers: Joseph Romano, Mike Marshall, Kenneth Seigler, Perry Beasley, Sammy Corbett, Thomas Roller

Staff: Jason Rock, Corrin Flora, Debbie Manly, Katy West, Joe Facendola

Public: Glenn Skinner, Luke Ingraham, Taylor Barefoot, Hunter Croom, Phillip Smith, Ronnie Ingraham, Vic White, David Gallop, Aaron Gallop

MFC: Mike Blanton, Sam Romano

Chairman Romano called the meeting to order at 6:03 p.m.

APPROVAL OF THE AGENDA AND MINUTES/PUBLIC COMMENT

Chairman Romano entertained a motion to approve the agenda. Corbett moved to approve the agenda and Beasley seconded the motion. The motion passed unanimously. Chairman Romano entertained a motion to approve the draft minutes from the December 6 meeting. Corbett moved to approve the minutes from January 24, 2019, seconded by Marshall with the request to amend the crab dredge motion vote results to reflect a 5-0-1 vote. The motion passed unanimously.

Members of the public provided comment during the formal public comment period. Glenn Skinner shared concern of the trend to do the least possible for stocks in concern. He urged the AC to follow statutory requirements and meet the required reductions. Taylor Barefoot supports

prohibition on immature females and looking at closure times to meet reduction requirements. Phillip Smith spoke on the importance of water quality, especially regarding diamondback terrapins. David Gallop noted differences in crabbers in the Albemarle and Pamlico sounds. He urged the division to think outside the box with crab survey sampling for a complete population assessment and noted he is not in favor of terrapin excluders or biodegradable panels.

FISHERY MANAGEMENT PLAN ISSUE PAPER: ACHIEVING SUSTAINABLE HARVEST IN THE NORTH CAROLINA BLUE CRAB FISHERY

Division staff (Rock) gave a presentation to the committee on the fishery management plan issue paper “Achieving Sustainable Harvest in the North Carolina Blue Crab Fishery”. This was the second-time staff presented this issue paper to the committee. The presentation included several options and combinations of options which were added after committee input from the initial presentation. Options included maximum harvest size of mature female crabs, minimum size of mature females, limiting harvest on immature females, late season closure, and cull tolerance. Additionally, the presentation included an adaptive management framework for the blue crab fishery. There was additional discussion from the committee about size limits, survey methods, shorter pot attendance times, and the 2016 revision. Staff clarified differences from the prior traffic light assessment acceptable revision measures and the current stock assessment with overfishing and overfished being defined as the basis for meeting the statutory requirements for achieving a sustainable harvest.

The committee made two recommendations for which they would like to see reduction calculations. The first included a January closure of the fishery, a 5-inch minimum size limit on mature females, prohibition of immature females, 5% cull tolerance, and adaptive management. With this recommendation, the committee asked staff to calculate additional closure periods in two-week intervals.

The second committee recommendation included adaptive management, a 6.75-inch maximum size of mature females and to keep rules in place from the 2016 revision and see if they meet requirements with enough time. The second recommendation also included a request for staff to investigate other forms of immature crab sampling for stock assessments such as peeler pots.

FISHERY MANAGEMENT PLAN ISSUE PAPER: ESTABLISH A FRAMEWORK TO IMPLEMENT THE USE OF TERRAPIN EXCLUDER DEVICES IN CRAB POTS

Division staff (Facendola) gave a presentation to the committee on the fishery management plan issue paper to “Establish a Framework to Implement the use of Terrapin Excluder Devices in Crab Pots”. This was the second-time staff presented this issue paper to the committee. The presentation included a summary of the proposed framework to be used to create diamondback terrapin management areas, factors to minimize impact to the blue crab fishery and maximize diamondback terrapin protection, and impacts on the blue crab, whelk, and stone crab fisheries. Discussion covered research, terrapin biology, a new pot design, and targeted area closures.

Perry Beasley made a motion to use science on locally specific pot funnel design to reduce terrapins and identify individual creeks with terrapin population hot spots that would be closed to potting. Sammy Corbett seconded the motion.

Motion passed 3 to 1 with 2 abstentions.

Having no further business to conduct, the meeting adjourned at 9:15 p.m.

cc: John Batherson Laura Lee Jason Walker
 Chris Batsavage Dee Lupton Biological Supervisors
 Catherine Blum Shawn Maier Committee Staff
 Ellie Davis Stephen Murphey District Managers
 Anne Deaton Steve Poland Marine Fisheries Commission
 Nancy Fish Jerry Schill Marine Patrol Captains
 Jess Hawkins Patricia Smith Section Chiefs



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

April 12, 2019

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Jason Rock, Co-lead Blue Crab Plan Development Team
Corrin Flora, Co-lead Blue Crab Plan Development Team

SUBJECT: Blue Crab Fishery Management Plan Advisory Committee Meeting

The Blue Crab Fishery Management Plan Advisory Committee met on March 21, 2019 at 6 p.m., at the NCDEQ Washington Regional Office located at 943 Washington Square Mall in Washington, NC. The following attended:

Advisers: Joseph Romano, Mike Marshall, Kenneth Seigler, Perry Beasley, Sammy Corbett, Thomas Roller, Robert Bruggeworth

Staff: Jason Rock, Corrin Flora, Debbie Manley, Katy West, Daniel Ipock, Odell Williams, Jeff Dobbs, Daniel Zapf

Public: Glenn Skinner, Dana Beasley, Rob Rollason, Wayne Twiford Sr., Wayne Twiford Jr., Wayne Twiford III, Eric Braddy, Penny Perry, Watson Stuart, Jason Dennis, David Gallop, Hunter Stuart, Frank Helms, Kent Ansell

Chairman Romano called the meeting to order at 6:05 p.m.

APPROVAL OF THE AGENDA AND MINUTES/PUBLIC COMMENT

Chairman Romano entertained a motion to approve the agenda. Corbett moved to approve the agenda and Beasley seconded the motion. The motion passed unanimously. Chairman Romano entertained a motion to approve the draft minutes from the February 28, 2019 meeting. Marshall moved to approve the minutes, seconded by Corbett. The motion passed unanimously.

Members of the public provided comment during the formal public comment period. Wayne Triford Sr., Wayne Twiford Jr., Wayne Twiford III, David Gallop and Watson Stuart supported the committee in keeping discussed regulations which are currently in place. David Gallop additionally expressed his concern in a 6.75-inch maximum size for females and showed interest in separate regulations for the northern and southern portions of the state. Hunter Stuart noted ghost pots work as artificial reefs; while the cost of business and the resource self-regulate the

crab fishery. Frank Helms encouraged expanding crab markets and more crabs will be landed. Kent Ansell noted that the entire crab industry is conditional and dependent on the market and where a crabber is in the state; while the biggest problem to blue crabs is development and water pollution.

FISHERY MANAGEMENT PLAN ISSUE PAPER: MANAGEMENT OPTIONS BEYOND QUANTIFIABLE HARVEST REDUCTIONS

Division staff (Rock) gave a presentation to the committee on the fishery management plan issue paper “Management Options Beyond Quantifiable Harvest Reductions”. This was the second-time staff presented this issue paper to the committee. The presentation included several options and combinations of options which were added after committee input from the initial presentation. Options included cull ring size, number, placement, and exemptions; biodegradable panels; crab trawl tailbag mesh size; limiting harvest of sponge crabs; peeler crab size limits; and effort control. There was additional discussion from the committee about sustainable harvest, peeler size limits, sponge crabs, and regulations in place from the 2016 revision.

Sammy Corbett made a motion to leave in existing rules put in in 2016 and do not adopt anything else at this time. Except with 2 options on cull rings: 1) 2 cull rings in proper corner placement or 2) keeping the 3 cull rings with 1 in proper placement. This motion pertains only to rules from the 2016 revision which were discussed in this issue paper. Motion passed 6 to 1.

FISHERY MANAGEMENT PLAN ISSUE PAPER: BOTTOM DISTURBING GEAR IN THE BLUE CRAB FISHERY

Division staff (Rock) gave an update to the committee on the fishery management plan issue paper to “Bottom Disturbing Gear in the Blue Crab Fishery”. This was the second-time staff discussed this issue paper with the committee. The staff summarized language clarification made to the issue paper after committee comments. Discussion covered the limited number of participants in the fishery and misconception of bottom gear. The committee held their initial (1/24/19) standing on the issue.

The committee inquired with staff what issues would be discussed at upcoming meetings. Discussion covered environmental issues of runoff and predation. Staff explained the data limitations which make an issue paper on predation not practical and this would be an appropriate research recommendation.

Having no further business to conduct, the meeting adjourned at 7:40 p.m.

| | | | |
|-----|-----------------|-----------------|-----------------------------|
| cc: | John Batherson | Laura Lee | Jason Walker |
| | Chris Batsavage | Dee Lupton | Biological Supervisors |
| | Catherine Blum | Shawn Maier | Committee Staff Members |
| | Ellie Davis | Stephen Murphey | District Managers |
| | Anne Deaton | Steve Poland | Marine Fisheries Commission |
| | Nancy Fish | Jerry Schill | Marine Patrol Captains |
| | Jess Hawkins | Patricia Smith | Section Chiefs |



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

April 30, 2019

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Jason Rock, Co-lead Blue Crab Plan Development Team
Corrin Flora, Co-lead Blue Crab Plan Development Team

SUBJECT: Blue Crab Fishery Management Plan Advisory Committee Meeting

The Blue Crab Fishery Management Plan Advisory Committee met on April 25, 2019 at 6 p.m., at the NCDEQ Washington Regional Office located at 943 Washington Square Mall in Washington, NC. The following attended:

Advisers: Joseph Romano, Mike Marshall, Kenneth Seigler, Perry Beasley, Sammy Corbett, Thomas Roller, Robert Bruggeworth

Staff: Jason Rock, Corrin Flora, Debbie Manley, Katy West, Kathy Rawls, William Boyd, Odell Williams, Daniel Zapf, Anne Deaton

Public: Penny Beasley

Chairman Romano called the meeting to order at 6:05 p.m.

APPROVAL OF THE AGENDA AND MINUTES/PUBLIC COMMENT

Chairman Romano entertained a motion to approve the agenda. Roller moved to approve the agenda and Seigler seconded the motion. The motion passed unanimously. Chairman Romano entertained a motion to approve the draft minutes from the March 21, 2019 meeting. Seigler moved to approve the minutes, seconded by Marshall. The motion passed unanimously. There was no public comment.

FISHERY MANAGEMENT PLAN ISSUE PAPER: EXPAND CRAB SPAWNING SANCTUARIES TO IMPROVE SPAWNING STOCK BIOMASS

Division staff (Rock) gave a presentation to the committee on the fishery management plan issue paper “Expand Crab Spawning Sanctuaries to Improve Spawning Stock Biomass”. This was the first-time staff presented this issue paper to the committee. The presentation included several options and combinations of options on adding new sanctuaries, expanding existing sanctuaries,

and a potential migration corridor. There was discussion from the committee about activities in these regions besides commercial crab pots, previous tagging studies, size of proposed expansions, and time frames of closures. Staff clarified the boundaries in the paper are only a starting point for discussion and subject to change. The committee asked the division to look further into moving the boundaries Drum Inlet sanctuary to cover Ophelia Inlet which opened when Drum Inlet closed.

Sammy Corbett made a motion to leave the existing sanctuaries the size they are with the dates that are in place now. Using the 2016 proposal of new sanctuaries do Topsail Inlet, Rich Inlet, Mason Inlet, Lockwoods Folly Inlet, Masonboro Inlet, and Browns Inlet. Add Beaufort Inlet smaller proposal area. With these new sanctuaries being closed to blue crab harvest March 1-October 31 with the same restrictions as current sanctuaries. The motion was seconded by Beasley. This motion pertains to proposed rules from the 2016 revision which were discussed in this issue paper.

After discussion by the committee, **Ken Seigler offered a motion to amend by adding Bogue Inlet as well to the list of new sanctuaries.** Bruggeworth seconded the motion to amend. The motion to amend passed unanimously. **The amended motion read to leave the existing sanctuaries the size they are with the dates that are in place now. Using the 2016 proposal of new sanctuaries do Topsail Inlet, Rich Inlet, Mason Inlet, Lockwoods Folly Inlet, Masonboro Inlet, Browns Inlet, and Bogue Inlet. Add Beaufort Inlet smaller proposal area. With these new sanctuaries being closed to blue crab harvest March 1-October 31 with the same restrictions as current sanctuaries.** Motion passed unanimously.

FISHERY MANAGEMENT PLAN ISSUE PAPER: ADDRESSING WATER QUALITY CONCERNS IMPACTING THE NORTH CAROLINA BLUE CRAB STOCK

Division staff (Flora) gave a presentation to the committee on the fishery management plan issue paper “Addressing Water Quality Concerns Impacting the North Carolina Blue Crab Stock”. This was the first-time staff discussed this issue paper with the committee. The presentation included background on estuary systems, drainage basins, and land use; current water quality plans and rules; federal, state, and local agencies implementing water quality rules; algal and toxin impairments; and Best Management Practices. Discussion covered environmental pressure, cooperation between interest groups (especially commercial and recreational fishermen) to address water quality being of utmost importance to coastal communities, blue crabs being ubiquitous to coastal North Carolina waters, and having water quality take precedence for the state after years of fisheries managers asking for an emphasis on water quality standards.

Mike Marshall made a motion to support all management options in this paper. Support making the highest priority option four tasking the CHPP steering committee to what is suggested here and follow up with each of the other recommendations as that step is justified. Have the habitat staff report back to the Shellfish/Crustacean AC with progress. Corbett seconded the motion. Motion passed unanimously.

Staff made the committee aware of the updated Monterey Bay Aquarium Seafood Watch blue crab fishery rankings to be released in May. A short discussion covered reasoning behind rankings, MSC certifications, and public perception vs markets.

Having no further business to conduct, the meeting adjourned at 8:55 p.m.

| | | | |
|-----|-----------------|-----------------|-----------------------------|
| cc: | John Batherson | Laura Lee | Jason Walker |
| | Chris Batsavage | Dee Lupton | Biological Supervisors |
| | Catherine Blum | Shawn Maier | Committee Staff Members |
| | Ellie Davis | Stephen Murphey | District Managers |
| | Anne Deaton | Steve Poland | Marine Fisheries Commission |
| | Nancy Fish | Jerry Schill | Marine Patrol Captains |
| | Jess Hawkins | Patricia Smith | Section Chiefs |



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

MEMORANDUM

TO: N.C. Marine Fisheries Commission Commercial Resource Fund Committee and the Funding Committee for the N.C. Commercial Fishing Resource Fund

FROM: William Brantley, Grants Program Manager
Division of Marine Fisheries, NCDEQ

DATE: March 14, 2019

SUBJECT: MFC Commercial Resource Fund Committee and Funding Committee for the N.C. Commercial Fishing Resource Fund Meeting Minutes

The MFC Commercial Resource Fund Committee and the Funding Committee for the N.C. Commercial Fishing Resource Fund met at 1 p.m. on Thursday, March 7, 2019 at the N.C. Department of Environmental Quality's Washington Regional Office. The following attended:

MFC Commercial Resource Fund Committee: Doug Cross, Sam Romano, Mike Blanton

Funding Committee for the N.C. Commercial Fishing Resource Fund Members: Ernest Doshier, Glenn Skinner, Andrew Berry, Steve Weeks

Absent: Doug Todd, Gilbert Baccus

DMF Staff: Dee Lupton, William Brantley, Katy West

Public Comment: Cheryl Pigott

APPROVAL OF AGENDA AND MINUTES

Chairman Doug Cross called the meeting to order for the MFC Commercial Resource Fund Committee.

Chairman Ernest Doshier called the meeting to order for the Funding Committee for the N.C. Commercial Fishing Resource Fund

At the direction of the Chairmen, William Brantley read the reminder of the duty to avoid conflicts of interest (N.C.G.S. 138A-15e). Chairmen Cross and Doshier both stated there were no known conflicts of interest with their respective committees.

Mike Blanton made a motion to approve the meeting agenda. Sam Romano seconded the motion. The motion carried unanimously.

Glenn Skinner made a motion to approve the meeting agenda. Steve Weeks seconded the motion. The motion carried unanimously.

Minutes from the December 19, 2018 MFC Commercial Resource Fund (CRF) Committee meeting were reviewed.

Doug Cross made a motion to approve the meeting minutes. Mike Blanton seconded the motion. The motion carried unanimously.

Minutes from the October 18, 2018 Funding Committee for the Funding Committee for the N.C. Commercial Fishing Resource Fund meeting were reviewed.

Glenn Skinner made a motion to approve the meeting minutes. Steve Weeks seconded the motion. The motion carried unanimously.

PUBLIC COMMENT

Chery Pigott spoke during the public comment session to introduce herself and company, BG Digital Group as a Morehead City marketing and advertising organization that had business experience with fishing organizations and welcomed the opportunity to do business with the funding committees.

COMMITTEE BRIEF OF RFP REVIEW PROCESS AND PROCEDURES

William Brantley briefed the committees on the initial review process for the N.C. Commercial Fishing Resource Fund Public Relations (PR) RFP and the N.C. Commercial Fishing Resource Fund Economic Impact Analysis RFP. The committees would have the opportunity to ask applicants questions specific to their proposal, and applicants would be able to interact with the committees to understand their vision for the application scopes and projects.

PUBLIC RELATIONS CAMPAIGN RFP APPLICATION INITIAL REVIEW

S&A Cherokee / Blue Red Marketing – Adam Tesh and Chuck Norman

Representatives stated they had experience with other government agencies, NC Farm Bureau and other groups in hard-to-reach areas. They also stated they were part of a PR Global Network that had members with experience in PR work with the State of Alaska's fishery. Glen Skinner mentioned that the applicants had worked with the N.C. Fisheries Association before and clarified that proposed budget could be cut back if the committees did not want to encompass all projects proposed.

BG Digital Group – Cheryl Pigott

Representative stated they had worked with a N.C. fish market to produce a story aspect to their campaign. BG Digital had also worked with a recreational fishing brand that allowed them to get on the water for footage and they had marketing experience with storytelling. They proposed

to develop a message that could be used for social media, video messaging and to develop a “sea to table” experience.

Crosby Volmer LLC – John Lewis

Representative stated that their focus had been with industries that needed a public policy campaign to educate the public. Methods used to work with policy makers include bringing legislatures in to meet directly with industry members, targeted social media, op-eds, and media outreach. Glen Skinner asked about effective tactics to reach the public, which John stated a multi-faceted approach to include working with policy makers would be efficient.

French West Vaughan – Charles Upchurch

Representative stated they had worked with the N.C. Pork Council, N.C. DOT’s “*Click It or Ticket*” and “*Booze It and Loose It*”, N.C. Rail, and the N.C. Ferry system. Upchurch stated that they were familiar with campaigns that implemented industry-with-heritage. His agency would work collaboratively with the committees to direct the proper methods to build creative development.

Committee members shifted the focus of the PR RFP application review to a workshop-type format to give applicants general feedback and vision directly from the committees.

Committee members each gave points of what they wanted to see in a PR focused campaign, and bulleted summaries were written out for applicants to see. Common themes revolved around providing a message, validation, sustainability, awareness of bycatch reduction and current research the industry is involved with.

ECONOMIC IMPACT ANALYSIS RFP APPLICATION INITIAL REVIEW

North Carolina State University – Drs. Jane Harrison and Chris Dumas

Application comes from a collaboration of Harrison (N.C. SeaGrant), Nash (N.C. SeaGrant), Sutherland (NCSU), Edwards (NCSU), and Dumas (UNCW). Dumas described how their practical application would be heavy on the distribution and supply chain, backward and forward linkages, and implement survey incentives to entice respondents. Survey would encompass every commercial fisherman and dealer within the State. Study would be a large data-gathering project covering the state. Steve Weeks asked the applicants to expand on durable goods within the proposal. Dr. Dumas further explained the detail that would be included in forward and backward linkages. Dr. Harrison stated they could stay in communication with the committees to ensure they are gathering the information they need. Doug Cross asked about the consumer survey portion of the study. Drs. Dumas and Harrison explained that this consumer survey would be contracted out to a set number of respondents to understand willingness to pay. Glenn Skinner inquired about the timeline to conduct the study. Drs. Dumas and Harrison asked that if study was funded, that the industry promote the survey to obtain the most accurate data. Division of Marine Fisheries Deputy Director Dee Lupton inquired about the raw data that would come from the study, and that the applicants specify with clarity that the data would be available to the Division. Glenn Skinner asked the applicants if they could come back with a budget to support using certified mail. The committee inquired about the cost of incentives. Members

asked if the applicants could come back with a budget to reflect 50% and 25% of the budget for incentives.

ADDITIONAL ITEMS

Glenn Skinner discussed a donation by N.C. Farm Bureau to the commercial fishing industry of \$40,000. N.C. SeaGrant would potentially accept the money, with possible collaboration of the N.C. Coastal Federation. Skinner proposed discussion to the funding committees that they provide funds to match or enhance the \$40,000 project. Mike Blanton stated the committees should see a proposal and budget prior to voting on a funding decision.

Steve Weeks made a motion to match \$40,000 from N.C. Farm Bureau subject to reviewing it, after the proposal is complete, and reviewing total cost of the project.

Glen Skinner seconded. Motion passed unanimously.

Mike Blanton made a motion to consider the Funding Committee's motion for the oyster pilot project after the proposal is presented to the joint committees.

Sam Romano seconded. Motion passed unanimously.

Mike Blanton asked the committees to consider a funding request from Sara Mirabilio, of the N.C. SeaGrant, regarding the N.C. Fish Camp (January 2020). Mirabilio gave a short presentation detailing the Fish Camp, with an expected budget of \$54,635 + the indirect rate. Mirabilio also stated she could provide a scope of work and budget to the Division.

Doug Cross asked Ernest Doshier for concurrence to table the topic until Mirabilio could provide a budget and scope to the Division.

Dee Lupton, in response from the MFC Funding Committee's request, brought up project proposals to the Committee developed by the Division. Doug Cross asked members to consider the projects for discussion at the next meeting.

Sam Romano mentioned potential projects for the committees to consider for future funding. These included a flounder tagging study, an impact study on the positive production effects of trawling, water monitoring and connected landings, an inland distribution center, establishing a legal retainer fund, and establishing an endowment fund.

Andrew Berry asked if the Division could come back with a presentation on the tagging program. Dee Lupton concurred that the Division would attempt to bring forth at the next meeting.

Steve Weeks asked for a current budget report at the next meeting to see the amount that was in the fund.

**Mike Blanton made a motion to adjourn.
Sam Weeks seconded. Motion passed unanimously.**

**Ernest Doshier made a motion to adjourn.
Andrew Berry seconded. Motion passed unanimously.**

Meeting adjourned at 4:15 p.m.

WB

DRAFT

Director's Report





ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Stephanie McInerny, License and Statistics Section Chief

SUBJECT: Status of Rule Development to Clarify Standard Commercial Fishing License Transfers

Issue

Concern has been raised about third-party transfers (e.g., Craigslist) of Standard Commercial Fishing Licenses (SCFLs) allowing individuals to get a license without going through the eligibility board. At the November 2018 Marine Fisheries Commission (MFC) meeting, proposed amendments to the SCFL transfer rule (15A NCAC 03O .0108) were presented that added language to allow transfers of SCFLs or Retired SCFLs under specific circumstances in addition to those defined in statute (G.S. 113-168.2). Concern was raised about several of the proposed amendments to the rule due to potential loopholes in enforcement. In those amendments was language regarding business transfers. After the February 2019 meeting, there was a desire by commercial members of the MFC to include language in the rule that would allow for business transfers; therefore, the division looked into this and drafted additional language to add to the transfer rule in an attempt to provide some flexibility for businesses to complete transfers under specific circumstances.

Findings

- The authorizing statute only recognizes five circumstances as a legal basis for completion of a transfer of these licenses. Additionally, the statute delegates to the MFC the authority to establish in rule additional circumstances under which a transfer is allowed.
- There were two proposed amendments to the draft rule presented in February 2019 to further facilitate transfers that were approved by the MFC to move forward to public comment within the rulemaking process. Those were:
 1. Adding additional family members to the immediate family definition to allow grandparents, grandchildren, and legal guardians to be eligible for a SCFL or Retired SCFL transfer since they are recognized in the SCFL eligibility criteria rule (15A NCAC 03O .0404); and
 2. Confirming the presence of a certification statement from the transferee that affirms the information provided to the division is true and accurate, which is already required for any transfer but not explicitly stated in rule.
- Additional proposed amendments to the draft rule will be presented at the May 2019 MFC meeting to facilitate specifically defined business transfers to allow the following:
 1. An individual holding a Standard or Retired Standard Commercial Fishing License may transfer their license to a business in which the license holder is also an owner.

2. If a business is dissolved, the business may transfer the license or licenses of the business to an individual owner of the dissolved business contingent upon a notarized statement showing agreement of all owners of the business for the transfer.
3. If a business is sold, the business may transfer the license or licenses of the business to the successor business at the time of sale.
4. If an owner leaves a business, a license originally owned by that owner may be transferred back to that owner in an individual capacity at the time the owner leaves the business contingent upon a notarized statement showing agreement of all owners of the business for the transfer.
5. Only corporations and limited liability companies qualify for these types of transfers. The proposed rule amendments address these types of businesses where assets are shared.
6. The term “owner” includes shareholder of a corporation and member of a limited liability company.

Action Needed

A vote to select one of the three options detailed below is needed at the May 2019 MFC meeting.

Overview

The draft rule (attached) that will be presented at the May 2019 MFC meeting includes the two proposed amendments that were approved by the MFC in February 2019, as well as additional amendments to facilitate business transfers under specific circumstances. These additional amendments to the rule may not meet all the transfer needs for businesses operating in North Carolina, but they will add flexibility for businesses that is not available under the current rule or statute governing transfers.

Options to move forward with amendment of this rule include:

1. Include rule 15A NCAC 03O .0108 amendments presented in May 2019 (attached with highlighted text) in the MFC’s 2019-2020 package of rules for re adoption under the Periodic Review and Expiration of Existing Rules that will be voted on by the MFC during the August 2019 meeting to begin the rulemaking process.
2. Include rule 15A NCAC 03O .0108 amendments presented in February 2019 (attached with highlighted text removed) in the MFC’s 2019-2020 package of rules for re adoption under the Periodic Review and Expiration of Existing Rules that will be voted on by the MFC during the August 2019 meeting to begin the rulemaking process.
3. Move rule 15A NCAC 03O .0108 to the MFC’s 2020-2021 or 2021-2022 package of rules for re adoption under the Periodic Review and Expiration of Existing Rules to allow the MFC additional opportunity to propose amendments.

1 15A NCAC 03O .0108 is proposed for readoption with substantive changes as follows:

2
3 **15A NCAC 03O .0108 LICENSE AND COMMERCIAL FISHING VESSEL REGISTRATION**
4 **TRANSFERS**

5 (a) To transfer a license or Commercial Fishing Vessel Registration, the license or registration cannot be expired
6 prior to transfer.

7 (b) Upon transfer of a license or Commercial Fishing Vessel Registration, the transferee becomes the licensee and
8 assumes the privileges of holding the license or Commercial Fishing Vessel Registration.

9 (c) A transfer application including a certification statement form shall be provided by the Division of Marine
10 Fisheries. A transfer application shall be completed for each transfer including, but not limited to:

11 (1) the information required as set forth in Rule .0101 (a) of this Section;

12 (2) a certified statement from the transferee listing any violations involving marine and estuarine
13 resources in North Carolina during the previous three years; and

14 (3) a certified statement from the transferee that the information and supporting documentation
15 submitted with the transfer application is true and correct, and that the transferee acknowledges that
16 it is unlawful for a person to accept transfer of a license for which they are ineligible.

17 (d) A properly completed transfer application shall be returned to an office of the Division by mail or in person,
18 except as set forth in Paragraph (e) of this Rule.

19 (e) A transfer application submitted to the Division without complete and required information shall be deemed
20 incomplete and shall not be considered further until resubmitted with all required information. Incomplete applications
21 shall be returned to the applicant with deficiency in the application so noted.

22 ~~(f)~~ (f) Licenses-A License to Land Flounder from the Atlantic Ocean ~~may~~ shall only be transferred:

23 (1) with the transfer of the ownership of a vessel that the licensee owns that individually met the
24 eligibility requirements of 15A NCAC 3O .0101 (b) (1) (A) and (b) (1) (B) Rule .0101 (b)(1)(A)
25 and (b)(1)(B) of this Section to the new owner of that vessel. ~~Transfer of the License to Land~~
26 Flounder from the Atlantic Ocean transfers all flounder landings from the Atlantic Ocean associated
27 with that vessel; or

28 (2) by the owner of a vessel to another vessel under the same ownership.

29 Transfer of a License to Land Flounder from the Atlantic Ocean transfers with it all flounder landings from
30 the Atlantic Ocean associated with that vessel. Any transfer of license under this Paragraph ~~may~~ shall only
31 be processed through the Division of Marine Fisheries Morehead City Headquarters Office and no transfer
32 ~~is~~ shall be effective until approved and processed by the Division.

33 ~~(g)~~ (g) Transfer of a Commercial Fishing Vessel Registration Transfer. ~~Registration: When if~~ transferring ownership
34 of a vessel bearing a current ~~commercial fishing vessel registration, Commercial Fishing Vessel Registration,~~ the new
35 ownerowner:

1 (1) shall follow the requirements in ~~15A NCAC 03O .0101~~ Rule .0101 of this Section and pay a
2 replacement fee of ~~ten dollars (\$10.00)~~ as set forth in Rule .0107 of this Section for a replacement
3 ~~commercial fishing vessel registration.~~ Commercial Fishing Vessel Registration; and

4 (2) ~~The new owner must~~ shall submit a ~~transfer form~~ application provided by the Division with the
5 signatures of the former ~~licensee owner~~ and the signature of the new licensee owner notarized.

6 ~~(e)~~ (h) Transfer of a Standard or Retired Standard Commercial Fishing License transfers: License:

7 (1) It shall be unlawful for a person to accept transfer of a Standard or Retired Standard Commercial
8 Fishing License for which they are ineligible.

9 ~~(1)~~ (2) A Standard or Retired Standard Commercial Fishing License ~~may~~ shall only be transferred if both
10 the transferor and the transferee have no current suspensions or revocations of any Marine Fisheries
11 license privileges. In the event of the death of the transferor, this requirement shall only apply to the
12 transferee.

13 (3) For purposes of effecting transfers under this Paragraph:

14 (A) in addition to those family members defined in G.S. 113-168(3a), "immediate family" shall
15 mean grandparents, grandchildren, and legal guardians of an individual;

16 (B) "business" shall mean limited liability companies and corporations, including "C"
17 corporations and "S" corporations, that have been registered with the Secretary of State;
18 and

19 (C) "owner" shall mean shareholder of a corporation or member of a limited liability company
20 as documented by the records of the Secretary of State.

21 ~~(2)~~ (4) At the time of the transfer of a Standard or Retired Standard Commercial Fishing License, the
22 transferor ~~must~~ shall indicate the retention or transfer of the landings history associated with that
23 Standard or Retired Standard Commercial Fishing License. The transferor may retain a landings
24 history only if the transferor holds an additional Standard or Retired Standard Commercial Fishing
25 License. Transfer of a landings history ~~is~~ shall be all or none.

26 ~~(3)~~ (5) To transfer a Standard or Retired Standard Commercial Fishing License, the following information
27 is required:

28 (A) information on the transferee as set out forth in ~~15A NCAC 03O .0101~~ Rule .0101 of this
29 Section;

30 (B) notarization of the ~~current license holder's~~ transferor's and the transferee's signatures on a
31 the transfer form provided by the Division; application; and

32 (C) ~~when the transferee is a non resident, a written certified statement from the applicant~~
33 ~~listing any violations involving marine and estuarine resources during the previous three~~
34 ~~years;~~

35 ~~(D)~~ (C) ~~when if the transferor is retiring from commercial fishing, the transferor must submit~~
36 ~~evidence showing that such retirement has in fact occurred, for example, which may~~
37 ~~include, but is not limited to, evidence of the transfer of all ~~licensee's~~ the transferor's~~

Standard Commercial Fishing Licenses, sale of all the ~~licensee's~~ transferor's registered vessels, or discontinuation of any active involvement in commercial fishing.

Properly completed transfer forms must be returned to Division Offices by mail or in person.

(4)(6) The Standard or Retired Standard Commercial Fishing License ~~which~~ that is being transferred ~~must~~ shall be surrendered to the Division at the time of the transfer application.

(5)(7) Fees:

(A) ~~Transferee~~ The transferee must shall pay a replacement fee ~~of ten dollars (\$10.00) as set forth in Rule .0107 of this Section.~~

(B) ~~Transferee~~ The transferee must shall pay the differences in fees as specified in G.S. 413-168.2 (e) ~~113-168.2(e)~~ or G.S. 413-168.3 (b) ~~113-168.3(b)~~ when if the transferee ~~who~~ is a non-resident ~~is being transferred a resident Standard or Retired Standard Commercial Fishing License.~~ non-resident.

(C) ~~Transferee~~ The transferee must shall pay the differences in fees as specified in G.S. 413-168.2 (e) ~~113-168.2(e)~~ when if the license to be transferred is a Retired Standard Commercial Fishing License and the transferee is less than 65 years old.

(8) Transfer of Standard or Retired Standard Commercial Fishing License for a Business:

(A) An individual holding a Standard or Retired Standard Commercial Fishing License may transfer their license to a business in which the license holder is also an owner in accordance with application requirements as set forth in Rule .0101 (a) of this Section.

(B) If a business is dissolved, the business may transfer the license or licenses of the business to an individual owner of the dissolved business. A dissolved business holding multiple licenses may transfer one license or multiple licenses to one owner or multiple owners or any combination thereof. A notarized statement showing agreement of all owners of the business for the transfer is required to complete this transaction.

(C) If a business is sold, the business may transfer the license or licenses of the business to the successor business at the time of sale.

(D) If an owner leaves a business, a license originally owned by that owner may be transferred back to that owner in an individual capacity at the time the owner leaves the business. A notarized statement showing agreement of all owners of the business for the transfer is required to complete this transaction.

(6)(9) Transfer of Standard or Retired Standard Commercial Fishing License for a Deceased Licensee:

(A) ~~When the deceased licensee's~~ If an immediate surviving family member(s) member of the deceased licensee is eligible to hold the deceased's ~~deceased licensee's~~ Standard Commercial Fishing License ~~License~~ or Retired Standard Commercial Fishing License, the Administrator/Executor must give written notification within six months after the Administrator/Executor qualifies under G. S. G.S. 28A to the ~~Morehead City Office of the~~

1 Division of Marine Fisheries of the request to transfer the ~~deceased's~~ deceased's license
2 to the estate Administrator/Executor.

3 (B) A transfer to the Administrator/Executor shall be made according to the provisions of
4 ~~Subparagraphs (e) (2) – (e) (4)~~ Subparagraphs (2) through (4) of this Rule.Paragraph. The
5 Administrator/Executor must provide a copy of the deceased licensee's death certificate, a
6 copy of the certificate of ~~administration~~ administration, and a list of eligible immediate
7 family members to the ~~Morehead City Office of the Division of Marine Fisheries~~ Division.

8 (C) The Administrator/Executor ~~may~~ shall only transfer a license in the
9 Administrator/Executor name on behalf of the estate to ~~a~~ an eligible surviving family
10 member. The surviving family member transferee ~~may~~ shall only transfer the license to a
11 third party purchaser of the deceased licensee's fishing vessel. Transfers shall be made
12 according to the provisions of ~~Subparagraphs (e) 2 – (e) (4)~~ Subparagraphs (2) through (4)
13 of this Rule.Paragraph.

14 ~~(d) Transfer forms submitted without complete and required information shall be deemed incomplete and will not be~~
15 ~~considered further until resubmitted with all required information.~~

16 ~~(e) It is unlawful for a person to accept transfer of a Standard or Retired Standard Commercial Fishing License for~~
17 ~~which they are ineligible.~~

18
19 *History Note: Authority G.S. 113-134; 113-168.1; 113-168.2; 113-168.3; 113-168.6; 113-182; 143B-289.52;*
20 *Eff. January 1, 1991;*
21 *Amended Eff. March 1, 1994;*
22 *Temporary Amendment Eff. August 1, 1999; July 1, 1999;*
23 *Amended Eff. August 1, 2000;*
24 *Readopted Eff. May 1, 2020.*



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 9, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Chris Batsavage, Special Assistant for Councils

SUBJECT: Atlantic States Marine Fisheries Commission Meeting Summary-Apr. 29-May 2, 2019

Issue

Memo to inform the Marine Fisheries Commission of the issues discussed and actions taken by the Atlantic States Marine Fisheries Commission.

Findings

- The memo highlights management actions of particular interest to the Marine Fisheries Commission.
- Additional information about the meeting can be found in the Atlantic States Marine Fisheries Commission meeting materials in the briefing book.

Action Needed

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

Overview

The Atlantic States Marine Fisheries Commission (Commission) met on Apr. 29-May 2, 2019 in Arlington, VA. Highlights of the management actions taken by the Commission are discussed below.

Striped Bass

The Striped Bass Management Board reviewed the peer reviewed results from the 2018 benchmark stock assessment. The results were the same as the preliminary results presented at the February board meeting, which found that the stock is overfished*, overfishing* is occurring, and the number of recreational dead discards comprised the majority of the total removals. The Board accepted the benchmark stock assessment for management use.

The Board also initiated an addendum to end overfishing of striped bass and reduce fishing mortality to the target level. The Technical Committee estimates it would require approximately a 17% reduction in total removals (commercial and recreational harvest, including dead releases) to reduce fishing mortality to the target in 2020 relative to 2017 levels. The draft addendum will consider the following management options:

- Minimum fish size for the coast and a minimum fish size for Chesapeake Bay.
- Slot limit that would prohibit harvest of fish over 40 inches total length.
- Mandatory use of circle hooks when fishing with bait coastwide to reduce discard mortality.
- A provision that states could use seasonal closures in conservation equivalency proposals.
- Apply needed reductions equally to both commercial and recreational sectors.
- Apply needed reductions proportionally based on total removals in 2017 to both commercial and recreational sectors.

The draft addendum will be reviewed and considered for approval for public comment at the August board meeting. The public comment period and public hearings will be held in the late summer/early fall and the Board will consider final approval at their October meeting. Management measures from the addendum will be implemented in 2020.

Coastal Sharks

The Coastal Sharks Management Board approved recreational minimum size limits for mako sharks in state waters (0-3 miles) that match the size limits implemented in federal waters (3-200 miles) earlier this year. The new size limits are 71 inches straight fork length for male mako sharks and 83 inches straight fork length for female mako sharks. The current recreational minimum size limit in state waters is 54 inches straight fork length. Although mako sharks are rarely caught in state waters, the consistent size limits reduce angler confusion and facilitates enforcement.

The Board postponed the consideration of requiring circle hooks on lines targeting sharks until their October meeting to allow time for the Law Enforcement Committee and Advisory Panel to meet to provide feedback on requiring the use of circle hooks.

Business Session

The Atlantic States Marine Fisheries Commission approved the Summer Flounder Commercial Issues Amendment. The Mid-Atlantic Fishery Management Council and the Summer Flounder, Scup and Black Sea Bass Management Board took final action on the amendment at the March 2019 Council meeting (please refer to the Mid-Atlantic Council meeting materials in the briefing book for more information), but the amendment required approval by the full commission. New York and most of the New England states raised concerns that the commercial quota reallocation strategy in the amendment does not address the shifting distribution of summer flounder and needs to be modified. A motion to remand the amendment to the Summer Flounder, Scup and Black Sea Bass Management Board to develop additional reallocation options failed. However, the Commission leadership agreed to work with Mid-Atlantic Fishery Management Council to consider alternate approaches to future reallocation decisions. The approval of the amendment by the Commission avoids differing quota allocation strategies for summer flounder in state and federal waters.

Cobia

The South Atlantic State/Federal Fisheries Management Board approved Draft Amendment 1 to the Cobia Fishery Management Plan for public comment. The amendment was initiated to

address cobia management in federal waters from New York to Georgia after it was removed from the South Atlantic Fishery Management Council's Coastal Migratory Pelagics Fishery Management Plan. In addition, the draft amendment addresses issues such as goals and objectives, biological reference points, establishment of a harvest specification process, recreational and commercial management measures, and *de minimis* status for the commercial fishery. Public hearings will occur in June and the Board will consider final approval of the amendment at their meeting in August.

Spot and Atlantic Croaker

The South Atlantic State/Federal Fisheries Management Board considered state-gathered public input on potential management changes for Atlantic croaker and spot that would be triggered by incorporation of updates to the annual Traffic Light Analyses conducted for these species. The Traffic Light Analyses are used to monitor trends in abundance and harvest and guide management decisions between benchmark stock assessments. The analyses incorporate fishery-independent* data from multiple sources to develop adult abundance trends, and recreational and commercial landings of Atlantic croaker and spot along the Atlantic coast are incorporated into the analyses to determine harvest trends. The Traffic Light Analyses assign a color (red, yellow, or green) to categorize relative levels of indicators on the condition of the fish population (abundance metric) or fishery (harvest metric). The recommended updates to the analyses would require management action.

Much of the public input received recommended either no new management or very minimal management measures. The Board acknowledged that the revised Traffic Light Analyses are an improvement over the ones currently used for management and that management measures resulting from the updated analyses should hold the fisheries at their current levels. Therefore, the Board initiated addenda to the Spot and Atlantic Croaker Fishery Management Plans to incorporate the revised Traffic Light Analyses and redefine management response.

Upcoming Meeting

The next regularly scheduled meeting of the Atlantic States Marine Fisheries Commission will be Aug. 6-8, 2019 at the Westin in Arlington, VA.

***Definitions**

Stock – A group of fish of the same species in a given area. Unlike a fish population, a stock is defined as much by management concerns (jurisdictional boundaries or harvesting locations) as by biology.

Fishery Dependent – Data derived from the commercial and recreational fisheries and dealers; including catch, landings, and effort information.

Fishery Independent – Data derived from activities such as research and surveys that does not involve the commercial or recreational harvest of fish.

Terminal Year – The final year of estimates being used in an analysis.

Overfishing – Occurs when the rate that fish that are harvested or killed exceeds a specific threshold.

Spawning Stock Biomass – Total weight of mature females in the stock.

Recruitment – The number of fish that survive to the juvenile stage.

Fishing Mortality – Rate at which fish are removed from the population.



Atlantic States Marine Fisheries Commission

2019 Spring Meeting Summary

Vision: Sustainable and Cooperative Management of Atlantic Coastal Fisheries

2019 Spring Meeting
Arlington, VA
April 29 – May 2, 2019

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

Meeting Summaries, Press Releases and Motions

TABLE OF CONTENTS:

| | |
|--|-----------|
| AMERICAN LOBSTER MANAGEMENT BOARD (APRIL 29, 2019) | 3 |
| <i>Meeting Summary</i> | 3 |
| <i>Motions</i> | 4 |
| ATLANTIC HERRING MANAGEMENT BOARD (APRIL 30, 2019) | 4 |
| <i>Press Release</i> | 4 |
| <i>Meeting Summary</i> | 5 |
| <i>Motions</i> | 5 |
| ATLANTIC STRIPED BASS MANAGEMENT BOARD (APRIL 30, 2019) | 6 |
| <i>Press Release</i> | 6 |
| <i>Motions</i> | 7 |
| LAW ENFORCEMENT COMMITTEE (APRIL 30 & MAY 1, 2019) | 9 |
| <i>Meeting Summary</i> | 9 |
| COASTAL SHARKS MANAGEMENT BOARD (APRIL 30, 2019) | 11 |
| <i>Press Release</i> | 11 |
| <i>Meeting Summary</i> | 12 |
| <i>Motions</i> | 12 |
| ATLANTIC COASTAL COOPERATIVE STATISTICS COORDINATING COUNCIL (APRIL 30, 2019) | 12 |
| <i>Meeting Summary</i> | 12 |
| <i>Motions</i> | 13 |
| ANNUAL AWARDS OF EXCELLENCE (APRIL 30, 2019) | 13 |
| <i>Press Release</i> | 13 |
| ASMFC Presents Annual Awards of Excellence | 13 |

| | |
|--|-----------|
| EXECUTIVE COMMITTEE (MAY 1, 2019) | 17 |
| <i>Meeting Summary</i> | 17 |
| <i>Motions</i> | 17 |
| SUMMER FLOUNDER, SCUP AND BLACK SEA BASS MANAGEMENT BOARD (MAY 1, 2019) | 18 |
| <i>Meeting Summary</i> | 18 |
| <i>Motions</i> | 18 |
| BUSINESS SESSION (MAY 1, 2019) | 18 |
| <i>Press Release</i> | 18 |
| <i>Meeting Summary</i> | 19 |
| <i>Motions</i> | 20 |
| HORSESHOE CRAB MANAGEMENT BOARD (MAY 1, 2019) | 20 |
| <i>Press Release</i> | 20 |
| <i>Motions</i> | 21 |
| INTERSTATE FISHERIES MANAGEMENT PROGRAM POLICY BOARD (MAY 2, 2019) | 22 |
| <i>Meeting Summary</i> | 22 |
| <i>Motions</i> | 23 |
| SOUTH ATLANTIC STATE/FEDERAL FISHERIES MANAGEMENT BOARD (MAY 2, 2019) | 23 |
| <i>Meeting Summary</i> | 23 |
| <i>Motions</i> | 24 |

AMERICAN LOBSTER MANAGEMENT BOARD (APRIL 29, 2019)

Meeting Summary

The American Lobster Management Board met to review a number of issues, including the recommendations of the Atlantic Large Whale Take Reduction Team (ALWTRT); progress on Draft Addendum XXVIII; an update on the implementation of Jonah crab regulations; and an update on the lobster benchmark stock assessment. Colleen Coogan from NOAA Fisheries presented a summary of the April 2019 ALWTRT meeting. The ALWTRT met to identify and recommend modifications to the ALWTR Plan to further reduce impacts of U.S. fixed gear fisheries on large whales and reduce mortality and serious injury to below the potential biological removal (PBR) for right whales. The ALWTRT was tasked with developing consensus recommendations on a suite of measures that would achieve a 60 to 80% reduction in mortality and serious injury of right whales in U.S. fisheries to support NMFS rulemaking that will be initiated in May 2019. At the ALWTRT meeting, a NOAA-developed risk reduction decision support tool was used to provide insight on the potential impacts proposed management options would have on whales. The ALWTRT came to near consensus to achieve an approximate 60% reduction in mortality and serious injury risk to right whales through vertical line reductions and weak rope requirements. NOAA will work with the states to determine the best method to implement ALWTRT recommended measures. In light of the future actions, responding to the ALWTRT recommendations, the Board established a lobster and Jonah crab fishery control date of April 29, 2019 for LCMA 1. The intention of the control date is to notify current state and federal permit holders and any potential new entrants to the fishery that eligibility to participate in the commercial fishery in the future may be affected by the person's or vessel's past participation and associated documentation of landings, effort, and/or gear configuration prior to the control date. The Commission will recommend NOAA Fisheries establish the same control date for federal waters of LCMA 1.

In February, the Board initiated Draft Addendum XXVIII to reduce the number of vertical lines in the lobster fishery. The Board acknowledged the need to respond proactively to the growing challenges facing the lobster fishery and North Atlantic right whale recovery in order to ensure effective conservation measures can occur in a manner that preserves, to the extent practicable, the lobster fishery and its culture. The Plan Development Team (PDT) was tasked with completing a draft addendum for public comment for Board review in May. The PDT has made significant progress, however, due to the timing of data and the decision support tool delivery, as well as the complexity of the issue, the PDT was unable to present a document for Board review at the Commission's Spring Meeting. When the Board initiated the Draft Addendum, it did not anticipate the ALWTRT would bring forward vertical line reductions. Given the significant conservation benefits expected from the recommended ALWTRT measures, the Board decided to pause further development of the Draft Addendum until NOAA has determined if a jeopardy finding will be avoided by the ALWTRT actions.

The Board also received updates on the implementation of Jonah crab regulations in New York and Delaware. Both states have begun regulatory processes and are expected to have regulations in place by early Fall 2019.

Finally, Jeff Kipp provided a progress update on the 2020 Lobster Benchmark Stock Assessment. The Stock Assessment Subcommittee will assess the current timeline due to some delays in supporting analyses and determine next steps. Currently, a second Assessment Workshop, scheduled for this fall,

will focus on finalizing the base run of the model. For more information, please contact Toni Kerns, ISFMP Director, at tkerns@asmfc.org or 703.842.0740.

Motions

Move to establish a lobster and Jonah crab fishery control date immediately (4/29/19) for LCMA 1, and to forward a recommendation to NOAA Fisheries to implement one in federal waters. The intention of the control date is to notify current state and federal permit holders and any potential new entrants to the fishery that eligibility to participate in the commercial fishery in the future may be affected by the person's or vessel's past participation and its documentation of landings, effort, and/or gear configuration prior to the control date.

Motion made by Mr. McKiernan and seconded by Mr. Keliher. Motion carries (11 in favor, 1 abstention).

ATLANTIC HERRING MANAGEMENT BOARD (APRIL 30, 2019)

Press Release

**ASMFC Atlantic Herring Board Approves Addendum II
Addendum Increases Protection of Spawning Herring
in the Inshore Gulf of Maine**

Arlington, VA – The Commission's Atlantic Herring Management Board approved Addendum II to Amendment 3 of the Interstate Fishery Management Plan for Atlantic Herring. The Addendum strengthens spawning protections in Area 1A (inshore Gulf of Maine) by initiating a closure when a lower percentage of the population is spawning (from approximately 25% to 20%), and extending the closure for a longer time (from four to six weeks). The Addendum also modifies the trigger level necessary to reclose the fishery, with the fishery reclosing when 20% or more of the sampled herring are mature but have not yet spawned. These changes to spawning protections are in response to the results of the 2018 Benchmark Stock Assessment which showed reduced levels of recruitment and spawning stock biomass over the past five years, with 2016 recruitment levels the lowest on record.

Under Amendment 3, the Board uses a series of closures to protect spawning aggregations in the Gulf of Maine. Biological samples are used to annually project the start of the spawning closures. Recent analysis by the Atlantic Herring Technical Committee found that while the spawning closure system was significantly improved under Amendment 3, the protocol could continue to be strengthened by considering when, and for how long, a closure is initiated. Specifically, the analysis showed greater protection could be provided by initiating a closure when a lower percentage of the population is spawning and extending the closure for a longer time.

The states are required to implement Addendum II's measures by August 1, 2019. The Addendum will be available on the Commission website (www.asmfc.org) on the Atlantic Herring page by mid-May. For more information, please contact Kirby Rootes-Murdy, Senior Fishery Management Plan Coordinator, at krootes-murdy@asmfc.org or 703.842.0740.

###

PR19-13

Meeting Summary

In addition to approving Draft Addendum II (see press release), the Board was presented an update on 2020-2021 Atlantic herring specifications; receive an update on Draft Addendum III; discuss current management tools for Area 1A; and consider approval of the 2019 FMP Review and state compliance. The New England Fishery Management Council (Council) met in April to consider Draft Framework 6, which provides options on 2020-2021 specifications that are consistent with the results of the 2018 Benchmark Stock Assessment. Framework 6 also includes other specifications such as quota transfers between the US and Canada; fixed gear quota set-aside; research quota set-aside. The Council will consider final action on Framework 6 in June. Once the Council has approved Framework 6, the Board will consider final action on 2020 specifications later this year.

The Board received an update on Draft Addendum III, which was initiated in October 2018 to establish spawning protections in Area 3 (offshore waters). As part of its efforts to make spawning protection in Area 3 a priority this year, the Council will hire a consultant to develop a discussion document to help inform future management action on spawning protections by the Board and Council. The consultant will work with the Commission's Technical Committee and the Council's Plan Development Team in drafting the discussion document, which will be completed and presented to the Council in September and the Board in October. After the review, the Commission will work with the Council on next steps for the draft addendum after.

The Board also received an overview of the Area 1A (inshore Gulf of Maine) management tools. Addendum I to Amendment 3 established management tools such as days out, weekly landings limits, permit restrictions, and restrictions on transfers at sea. The 2019 quota is significantly lower than recent years and the current management tools may not allow the quota to be effectively distributed throughout the quota periods. Staff will work with the states to monitor the Area 1A fishery over the next couple of months and report back to the Board.

Finally, the Board approved the 2019 FMP Review, state compliance reports, and *de minimis* status for New York. For more information, please contact Kirby Rootes-Murdy, Senior Fishery Management Plan Coordinator, at krootes-murdy@asmfc.org or 703.842.0740.

Motions

Main Motion

Move to approve the following options for Addendum II to the Atlantic Herring FMP:

- **Option C: GSI30 Trigger Value = 23 under Issue 1: GSI₃₀ trigger values**
- **Option B: Five Week Initial Closure under Issue 2: Spawning Closure Length**
- **Option A Sub-Option 2: 20% or more mature herring under Issue 3: Re-closure Protocol**

Motion made by Mr. Grout and seconded by Mr. Borden. Motion amended.

Motion to Amend

Move to amend to replace Option B with Option C: Six Week Initial Closure under Issue 2: Spawning Closure Length.

Motion made by Dr. Pierce and seconded by Mr. Abbott. Motion passes Roll Call: In Favor – MA, RI, CT, NY; Opposed – ME, NH, NJ; Abstentions – NEFMC, NMFS.

Main Motion as Amended

Move to approve the following options for Addendum II to the Atlantic Herring FMP:

- **Option C: GSI30 Trigger Value = 23 under Issue 1: GSI₃₀ trigger values**
- **Option C: Six Week Initial Closure under Issue 2: Spawning Closure Length**
- **Option A Sub-Option 2: 20% or more mature herring under Issue 3: Re-closure Protocol**

Motion passes (6 in favor, 1 opposed, 1 abstention).

Move that states implement Addendum II no later than 8/1/19 and move to approve Addendum II as modified today.

Motion made by Mr. Grout and seconded by Mr. Train. Motion passes, Roll Call: In Favor – ME, NH, MA, RI, CT, NY, NEMFC; Opposed – NJ; Abstentions – NMFS.

Move to approve the 2019 Atlantic Herring FMP Review, state compliance reports, and *de minimis* status for New York.

Motion made by Mr. Grout and seconded by Mr. Kane. Motion carries without objection.

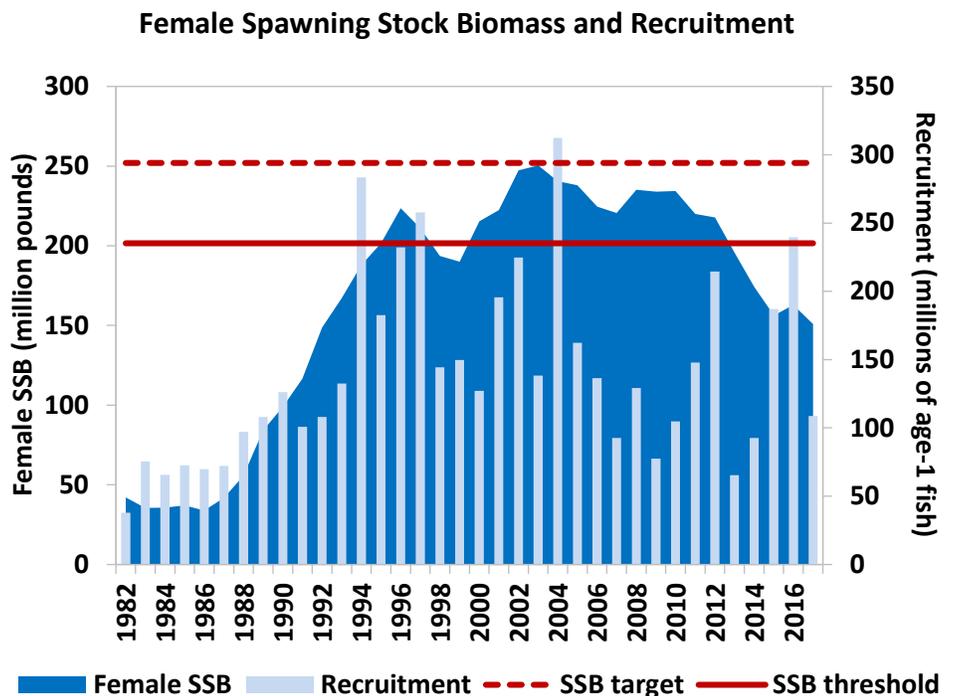
ATLANTIC STRIPED BASS MANAGEMENT BOARD (APRIL 30, 2019)

Press Release

**Atlantic Striped Bass Benchmark Stock Assessment
Finds Resource Overfished and Overfishing Occurring
*Board Initiates Addendum to Reduce Total Fishing Mortality***

Arlington, VA – The 2018 Atlantic Striped Bass Benchmark Stock Assessment indicates the resource is overfished and experiencing overfishing relative to the updated reference points defined in the assessment. Female

spawning stock biomass (SSB) was estimated at 151 million pounds, below the SSB threshold of 202 million pounds. Despite recent declines in SSB, the assessment indicated the stock is still significantly above the SSB levels observed during the moratorium in the mid-1980s. Total fishing mortality (F) was estimated at 0.31, above the F threshold of 0.24. The benchmark assessment and its single-stock statistical catch-at-



age model was endorsed by the Peer Review Panel and accepted by the Atlantic Striped Bass Management Board (Board) for management use.

Based on these findings and the tripping of Amendment 6's reference point management triggers relating to F and SSB thresholds (e.g., F in 2017 is above the threshold level and SSB is below the threshold level), the Board initiated the development of a Draft Addendum to consider measures aimed to reduce F to the target level. The Technical Committee estimates it would require roughly a 17% reduction in total removals (commercial and recreational harvest, including dead releases) to reduce F to the target in 2020 relative to 2017 levels. The Draft Addendum will explore a range of management options, including minimum size and slot size limits for the recreational fishery in the Chesapeake Bay and along the coast, as well as a coastwide circle hook requirement when fishing with bait. The Board also provided guidance on how to apply the necessary reductions to both the commercial and recreational sectors. The Draft Addendum will be presented to the Board for its consideration and approval for public comment in August. If approved, it will be released for public comment, with the Board considering its final approval in October for implementation in 2020. Additionally, the Board postponed a motion to initiate the development of an Amendment until its next meeting in August.

Atlantic striped bass experienced a period of strong recruitment (estimated as number of age-1 fish) from 1994-2004, followed by a period of lower recruitment from 2005-2011 (although not as low as the early 1980s, when the stock was considered collapsed). This period of low recruitment contributed to the decline in SSB in recent years. Recruitment was high in 2012, 2015, and 2016 (corresponding to strong 2011, 2014, and 2015 year classes), but recruitment estimates were below the long-term average in 2013, 2014, and 2017. Recruitment in 2017 was estimated at 108.8 million age-1 fish, below the time series average of 140.9 million fish.

A more detailed description of the stock assessment results is available on the Commission's website at <http://www.asmfc.org/uploads/file/5cc9ba4eAtlStripedBassStockAssessmentOverview.pdf>. The 2018 Atlantic Striped Bass Benchmark Stock Assessment, Stock Assessment Summary and Peer Review Report can be obtained via the following links:

Full assessment report - <https://www.nefsc.noaa.gov/publications/crd/crd1908/crd1908.pdf>

Summary Report - <https://www.nefsc.noaa.gov/publications/crd/crd1901/crd1901.pdf>

Peer Review Report - <https://www.nefsc.noaa.gov/saw/saw66/saw-66-summary-report.pdf>

For more information, please contact Max Appelman, Fishery Management Plan Coordinator, at mappelman@asmfc.org.

###

PR19-14

Motions

Move to accept the 2018 Striped Bass Stock Assessment and Peer Review Report for management use.

Motion made by Mr. Gilmore and seconded by Mr. White. Motion carries by consensus.

Main Motion

Move to initiate an addendum to achieve the fishing mortality target or lower within one year.

Motion made by Mr. O'Reilly and seconded by Mr. McMurray. Motion substituted.

Motion to Substitute

Move to substitute to initiate an addendum to address the overfishing status of striped bass and implement measures to reduce F back to the F target. Task PDT to develop options that would reduce F to the target that would include:

- **Minimum fish size for the coast and a minimum fish size for Chesapeake Bay.**
- **Slot limit that would prohibit harvest of fish over 40 inches.**
- **Mandatory use of circle hooks when fishing with bait coastwide to reduce discard mortality.**
- **A provision that states could use seasonal closures in conservation equivalency proposals.**
- **Apply needed reductions equally to both commercial and recreational sectors.**
- **Apply needed reductions to the recreational sector only.**

Motion made by Mr. Grout and seconded by Dr. Davis. Motion amended.

Motion to Amend

Move to amend to delete "Apply needed reductions to the recreational sector only" from the substituted motion.

Motion made by Mr. Fote and seconded by Mr. Shiels. Motion passes (9 in favor, 5 opposed, 2 abstentions).

Motion to Substitute as Amended

Move to substitute to initiate an addendum to address the overfishing status of striped bass and implement measures to reduce F back to the F target. Task PDT to develop options that would reduce F to the target that would include:

- **Minimum fish size for the coast and a minimum fish size for Chesapeake Bay.**
- **Slot limit that would prohibit harvest of fish over 40 inches.**
- **Mandatory use of circle hooks when fishing with bait coastwide to reduce discard mortality.**
- **A provision that states could use seasonal closures in conservation equivalency proposals.**
- **Apply needed reductions equally to both commercial and recreational sectors.**

Motion to Amend

Move to add the following option: Apply needed reductions proportionally based on total removals in 2017 to both commercial and recreational sectors.

Motion made by Mr. Hasbrouck and seconded by Mr. Train. Motion passes (13 in favor, 3 opposed).

Motion to Substitute as Amended

Move to substitute to initiate an addendum to address the overfishing status of striped bass and implement measures to reduce F back to the F target. Task PDT to develop options that would reduce F to the target that would include:

- **Minimum fish size for the coast and a minimum fish size for Chesapeake Bay.**
- **Slot limit that would prohibit harvest of fish over 40 inches.**
- **Mandatory use of circle hooks when fishing with bait coastwide to reduce discard mortality.**
- **A provision that states could use seasonal closures in conservation equivalency proposals.**

- **Apply needed reductions equally to both commercial and recreational sectors.**
- **Apply needed reductions proportionally based on total removals in 2017 to both commercial and recreational sectors.**

Motion carries unanimously. Roll Call: In Favor – ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, NMFS, USFWS.

Main Motion as Substituted

Move to initiate an addendum to address the overfishing status of striped bass and implement measures to reduce F back to the F target. Task PDT to develop options that would reduce F to the target that would include:

- **Minimum fish size for the coast and a minimum fish size for Chesapeake Bay.**
- **Slot limit that would prohibit harvest of fish over 40 inches.**
- **Mandatory use of circle hooks when fishing with bait coastwide to reduce discard mortality.**
- **A provision that states could use seasonal closures in conservation equivalency proposals.**
- **Apply needed reductions equally to both commercial and recreational sectors.**
- **Apply needed reductions proportionally based on total removals in 2017 to both commercial and recreational sectors.**

Motion carries without objection.

Main Motion

Move to initiate an Amendment to the Atlantic Striped Bass Fishery Management Plan to address the needed consideration for change on the issues of fishery goals and objectives, empirical/biological/spatial reference points, management triggers, rebuilding biomass, and area specific management. Work on this amendment will begin upon the completion of the previously discussed addendum to the management plan.

Motion made by Mr. Luisi and seconded by Mr. Clark. Motion postponed until 2019 Summer Meeting.

Motion to Amend

Move to amend to add reallocation of commercial quota between states.

Motion made by Mr. Pugh and seconded by Mr. Reid. Motion postponed until 2019 Summer Meeting.

Motion to Postpone

Move to postpone consideration of the initiation of an amendment until the summer 2019 meeting.

Motion made by Mr. Nowalsky and seconded by Mr. Dize. Motion passes 15-1-0abs-0null.

Move to forward the Block Island Transit Zone letter to NOAA Fisheries.

Motion made by Mr. Fote and seconded by Dr. Davis. Motion carries (13 in favor, 1 opposed, 2 abstentions).

LAW ENFORCEMENT COMMITTEE (APRIL 30 & MAY 1, 2019)

Meeting Summary

The Law Enforcement Committee (LEC) met to review and discuss a number of issues. The LEC welcomed alternate representatives David Sykes from the USFWS and Don Frei from NOAA OLE.

Species Issues

Atlantic Cobia.—Mike Schmidtke briefed the LEC on potential new regulations for Atlantic cobia, focusing on 3 options for managing the fishery in federal waters. The LEC cited concerns with all 3 options. Option A, where regulations would mirror the state where fish are landed, would be strengthened by specifying the state where the fisherman is permitted. Furthermore, a regulation should specify that the most restrictive permit would apply for multiple-permit holders. Option B, where state-waters regulations would be extended into federal waters, was deemed difficult to enforce due to those extended lines, and members suggested instead that the simplest approach would be to have a single set of consistent federal regulations coastwide, or to simply extend state regulations into adjacent federal waters in the absence of federal regulations. Option C was deemed to have an added layer of complexity for dealing with specified restricted harvest areas and was not favored.

American Lobster.—The LEC reviewed ongoing efforts to improve enforcement capabilities for the offshore lobster fishery. Members of ASMFC updated the LEC on possible purchase and operation of an offshore vessel, likely to be centered in Maine, but available for use by other states. LEC members expressed support for acquisition and agreed that a second vessel available for more southerly waters would be invaluable in dealing with derelict gear and other trap fisheries in offshore areas. Issues of concern included the need to implement a tracking system to enable effective targeting of offshore areas with a new vessel or vessels. Other suggestions of LEC members included the need to have new or separate funding not only for the purchase of vessels but for their continued operation and maintenance, that crewing vessels would require close cooperation with other participating states, and that one or more federal officers would need to be onboard depending on the areas covered. Staff also solicited LEC advice on vessel and gear tracking systems that would aid in offshore enforcement. LEC members commented on the need for ready access to the tracking information, and to have a system that would reveal when fishing vessels are hauling gear. Systems are currently being tested in Maine, Rhode Island and Connecticut. ASMFC staff will continue to include LEC input to working group discussions regarding offshore enforcement needs in the offshore lobster fishery.

Enforcement Tools and Technology

The LEC heard a presentation by Allie Hunter, Executive Director of the Police Assisted Addiction and Recovery Initiative (PAARI). PAARI is a resource available to enforcement agencies for **response and treatment of drug overdose situations encountered in the field**. A number of states are already training and equipping officers with overdose kits, and PAARI's program also provided guidance and advice on outreach and follow-up that enforcement agencies can implement to help counter the opioid problem.

The LEC discussed current **uses of drones in enforcement**. A number of states have acquired drones and have trained officer-pilots. While most uses are still restricted to general surveillance, search and rescue operations and site security, members discussed the growing use of drones, their expanding versatility and possible use in documenting resource violations.

Other Issues

Members reviewed the outcome of the **November 2018 workshop on For-Hire Enforcement**. The workshop was attended by LEC member Doug Messeck. Members reiterated that for-hire captains should be held accountable for activities on their vessels, including illegal landings and activities of

their customers. Sharing of catch, allowing captain and crew bag limits, and co-mingling of fish on board are all recognized as ongoing activities that vary among the states, but that need to be handled carefully to minimize chronic violations.

George Lapointe, representing the Southeast Regional Office of NMFS, gave a presentation to the LEC regarding implementation of **electronic reporting systems in the for-hire fishery**. A primary question regards access to the data by officers in the field, and the timeliness of that access. LEC members will take an in-depth look at the systems and provide more detailed suggestions or advice to NMFS.

LEC members initiated some general discussion about **ways to measure effectiveness of enforcement activities**. The discussion centered on developing methodologies for analyzing available data to better target field enforcement work in the face of lower staffing levels, and on the use of uniform standards for determining staffing and equipment requirements relative to metrics such as fishing activity, population, and coverage areas.

For more information, please contact Mark Robson, Law Enforcement Committee Coordinator, at markrobson2015@outlook.com.

COASTAL SHARKS MANAGEMENT BOARD (APRIL 30, 2019)

Press Release

ASMFC Coastal Sharks Board Approves Changes to Recreational Measures for Atlantic Shortfin Mako

Arlington, VA – The Commission’s Coastal Sharks Management Board approved changes to the recreational size limit for Atlantic shortfin mako sharks in state waters, specifically, a 71-inch straight line fork length (FL) for males and an 83-inch straight line FL for females. These measures are consistent with those required for federal highly migratory species (HMS) permit holders under HMS Amendment 11, which was implemented in response to the 2017 Atlantic shortfin mako stock assessment that found the resource is overfished and experiencing overfishing. Amendment 11 also responds to a recent determination by the International Commission on the Conservation Atlantic Tunas that all member countries need to reduce current shortfin mako landings by approximately 72-79% to prevent further declines in the population.

The Board adopted complementary size limits in state waters to provide consistency with federal measures as part of ongoing efforts to rebuild the resource. The states will implement the changes to the recreational minimum size limit for Atlantic shortfin mako by January 1, 2020.

For more information, please contact Kirby Rootes-Murdy, Senior Fishery Management Plan Coordinator, at krootesmurdy@asmfc.org or 703.842.0740. Information on federal HMS shark regulations can be found at <https://www.fisheries.noaa.gov/atlantic-highly-migratory-species/atlantic-highly-migratory-species-fishery-compliance-guides>.

###

PR19-15

Meeting Summary

The Coastal Sharks Management Board received a presentation on NOAA Atlantic Highly Migratory Species (HMS) Amendment 11 and recently implemented measures, and considered a Technical Committee Report on adopting complementary measures in state waters.

Karyl Brewster-Geiz of NOAA HMS presented the Atlantic shortfin mako Amendment 11 that was implemented in February. The Board approved size limit changes to shortfin makos consistent with federal measures (see press release). As part of the Amendment, circle hooks are now required across the hook and line shark fisheries in all areas of federal waters and HMS has requested the Commission adopt consistent regulations in state waters. A majority of the Technical Committee recommended implementing circle hooks for shark fishing in state waters based on available research that demonstrates circle hooks may reduce the mortality on many shark species that are caught and released compared to J hooks.

Taking into consideration Amendment 11 measures and the TC Report, the Board moved to postpone consideration of requiring circle hooks on lines targeting sharks until the Commission's Annual Meeting. Prior to the next Board Meeting, the Law Enforcement Committee and Advisory Panel will each meet to provide feedback on requiring the use of circle hooks.

For more information, please contact Kirby Rootes-Murdy, Senior Fishery Management Plan Coordinator, at krootes-murdy@asmfc.org or 703.842.0740.

Motions

Move to adopt, for state waters, minimum recreational size limits for shortfin mako shark to complement the federal recreational fishing measures (male minimum size limit of 71 inches FL & female minimum size limit of 83 inches FL).

Motion made by Mr. Michels and seconded by Mr. Kane. Motion carries. Roll Call: In Favor – MA, RI, CT, NY, NJ, DE, MD, VA, NC, SC, FL, NMFS, USFWS; Opposed – GA.

Move to require, for state waters, the use of circle hooks on lines intended to catch sharks.

Motion made by Mr. Michels and seconded by Ms. Davidson. Motion postponed until Annual Meeting.

Move to postpone until the Board has received feedback from the Law Enforcement Committee and the Advisory Panel with the intention of considering the motion at the Annual Meeting.

Motion made by Mr. Batsavage and seconded by Mr. Kane. Motion carries unanimously.

Move to require compliance with the shortfin mako minimum sizes by January 1, 2020.

Motion made by Dr. Pierce and seconded by Dr. Davis. Motion carries. Roll Call: In Favor – MA, RI, CT, NY, NJ, DE, MD, VA, NC, SC, FL, NMFS, USFWS; Opposed – GA.

ATLANTIC COASTAL COOPERATIVE STATISTICS COORDINATING COUNCIL (APRIL 30, 2019)

Meeting Summary

The ACCSP Coordinating Council met to receive program updates and a briefing on the status of a new committee initiative relating to a recent data validation survey as the beginning of an effort to create electronic monitoring standards. Staff presented updates on improvements in SAFIS and APAIS systems

and the positive impacts they appear to be having on efficiency. A new automated confidentiality management system was also presented. The Council made a slight modification of the funding criteria allowing for more flexibility in planned maintenance project reductions, created a workgroup to review current funding criteria, and approved the annual Request for Proposals.

By acclamation, the Coordinating Council recognized ACCSP Director Mike Cahall's 20 years of service and contributions to the ACCSP. Mike will be retiring this May.

For more information, please contact Mike Cahall, ACCSP Director, at mike.cahall@accsp.org.

Motions

Move to amend the RFP to read "up to 33%" for multi-agency proposals only for FY2020.

Motion made by Mr. Keliher and seconded by Mr. McKiernan. Motion carries (11 in favor, 7 opposed, 3 abstentions).

Move to convene a workgroup to iron out details to simplify future RFP language and policies.

Motion made by Ms. Patterson and seconded by Mr. Gates. Motion carries without opposition.

Move to approve the RFP as amended.

Motion made by Ms. Patterson and seconded by Mr. Beal. Motion carries without opposition.

ANNUAL AWARDS OF EXCELLENCE (APRIL 30, 2019)

Press Release

ASMFC Presents Annual Awards of Excellence

Arlington, VA - The Atlantic States Marine Fisheries Commission presented its Annual Awards of Excellence to an esteemed group of fishery and data managers, scientists, law enforcement officers and environmental attorneys for their outstanding contributions to fisheries management, science and law enforcement along the Atlantic coast. Specifically, the award recipients are Robert Ballou for management and policy contributions; Geoffrey White, Coleby Wilt, Alex DiJohnson, Sarah Rains, Michael Celestino, and John Sweka for science and technical contributions; and Casey Oravetz, Sara Block, Banumathi Rangarajan, Lauren Steele, Shane Waller, Shennie Patel, and Joel La Bissonniere for law enforcement contributions.

"Every year a great many people contribute to the success of fisheries management along the Atlantic coast. The Commission's Annual Awards of Excellence recognize outstanding efforts by professionals who have made a difference in the way we manage and conserve our fisheries," said ASMFC Chair Jim Gilmore of the New York State Department of Environmental Conservation. "I am humbled by the breadth and extent of accomplishments of this year's recipients and am grateful for their dedication to Atlantic coast fisheries."



From left: John Sweka, Alex DiJohnson, Mike Celestino, Sarah Rains, Geoff White, Shennie Patel, Casey Oravetz, Lauren Steele, Sara Block, ASMFC Executive Director Robert Beal, Bob Ballou, and ASMFC Chair Jim Gilmore

Management & Policy Contributions

Mr. Robert Ballou, Rhode Island Department of Environmental Management

For nearly a decade, Mr. Robert Ballou has brought a wealth of knowledge and policy acumen to the Commission's fisheries management programs and elevated the decision-making of all species management boards that he has served on through his work ethic, strong leadership, and expertise. In particular, Mr. Ballou has shown outstanding leadership on two very high profile and consequential Commission management bodies – the Summer Flounder, Scup and Black Sea Bass Board and the Atlantic Menhaden Board. Over the past several years and in particular as Board Chair since 2017, Mr. Ballou is responsible for much of the progress that has been made on summer flounder, scup, and black sea bass management. These species are particularly challenging given they are jointly managed with the Mid-Atlantic Fishery Management Council and are highly influenced by changes in ocean temperatures. As Chair, Mr. Ballou has led the Board through difficult deliberations, leading to the adoption of multiple addenda, as well as approval of the Summer Flounder Commercial Issues Amendment.

Even more noteworthy is the role Mr. Ballou played in the development and approval of Amendment 3 to the Atlantic Menhaden Fishery Management Plan. As Board Chair, Mr. Ballou worked tirelessly with Commission staff, Board members, and technical groups. There are few management actions higher in profile or more complex, and Mr. Ballou's commitment to the integrity of the Commission's process and the sustainable management of this important forage species deserves commendation of the highest order.

Science & Technical Contributions

Geoffrey White, Coleby Wilt, Alex DiJohnson and Sarah Rains, Access Point Angler Intercept Survey (APAIS) Team

Due to the herculean efforts of the APAIS Team of Mr. Geoff White, Mr. Coleby Wilt, Mr. Alex DiJohnson and Ms. Sarah Rains over the past two years, the collection of recreational survey data successfully transitioned from a federal contractor to the state fishery agencies from Maine through Georgia. As part

of the transition, the APAIS Team worked to shift the collection program from an outdated, paper-based system that included tens of thousands of paper interview forms to an automated system, whereby data is now collected via a tablet-based Dockside Interceptor. The Dockside Interceptor has reduced data transfer from 21 days to 1 day, completely eliminating all the paper steps.

The APAIS Team also assisted in the development and deployment of a Computer Assisted Telephone Interview tool to conduct the for-hire telephone survey, replacing a manual transcription process in the three states conducting the survey. The system was first deployed in North Carolina in January 2019, with the state estimating a 33% increase in efficiency and a better than 80% response rate.

These two innovative systems, spearheaded by the APAIS Team, are completely changing the complexion of recreational data collection on the Atlantic coast, resulting in more accurate and timely data with a significantly reduced workload.

Michael Celestino, New Jersey Division of Fish and Wildlife

For the past several years, Mr. Michael Celestino has made his mark as an active participant and chair for numerous Commission science committees. These include the Assessment Science Committee (ASC), the Ecological Reference Points Work Group, and the Science and Data Working Group of the Atlantic Coastal Fish Habitat Partnership, as well as species technical committees and stock assessment subcommittees for bluefish, striped bass and Atlantic sturgeon.

Mr. Celestino's leadership on the 2018 striped bass benchmark stock assessment is of particular note. Midway through the assessment process, Mr. Celestino stepped in as Stock Assessment Subcommittee Chair, skillfully guiding the Subcommittee through the challenges of dealing with newly revised recreational data and new modeling approaches. He was responsible for updating the statistical catch-at-age model with new and improved data and conducting sensitivity analyses, all the while supporting the primary model being developed by another modeler. Ultimately, the model Mr. Celestino spearheaded was accepted as the preferred model by the peer review panel, adding lead modeler to his already long list of accomplishments. With the assessment process completed, Mr. Celestino continues to contribute to the striped bass stock assessment by running projections and responding to Board tasks.

In all that he does, Mr. Celestino exhibits an outstanding work ethic, consistently producing high-quality and meticulous work in a timely fashion. Committed to the Commission's mission and the process of cooperative management, Mr. Celestino analyzes problems carefully from all angles and provides a comprehensive viewpoint of the issues. While it is still early in his career, Mr. Celestino's leadership and efforts of the past several years have made him a huge asset to the Commission's committees and management process.

Dr. John Sweka, U.S. Fish and Wildlife Service (USFWS), Northeast Fishery Center

For more than a decade, Dr. John Sweka has been an invaluable member and chair of several Commission science committees, including the ASC and stock assessment subcommittees for American eel, Atlantic sturgeon, river herring and horseshoe crab. Mr. Sweka served as Chair of the River Herring Stock Assessment Committee, leading the charge in the first coastwide stock assessment of river herring; and he currently Chairs the Horseshoe Crab Stock Assessment Subcommittee and the ASC. For Atlantic sturgeon, Mr. Sweka has made substantial advances in field research, such as hydroacoustic and telemetry tagging studies, which were used in the 2017 sturgeon stock assessment.

Mr. Sweka also acts as a key liaison to the U.S. Geological Survey (USGS) in order to advance the Commission's scientific endeavors, most notably our understanding and management of horseshoe crab and American eel populations. In collaboration with Mr. Dave Smith at the USGS Leetown Science Center, Mr. Sweka was a key contributor in development of the Adaptive Resource Management framework to balance horseshoe crab harvest policies with the protection of endangered and threatened shorebird populations. He is also working with USGS and the Eel Technical Committee to incorporate habitat variables in a GIS mapping framework for future stock assessments.

Mr. Sweka has exhibited innovation and creativity by introducing new models for stock assessments. He has run ARIMA models for multiple species, which are currently used to evaluate abundance relative to reference points for American eel, river herring, and horseshoe crab. Mr. Sweka also developed a new age-structured operational model for horseshoe crabs as part of the stock assessment completed this spring. The peer review panel found the models to be notable improvements to the assessment process.

Finally, Mr. Sweka is recognized by fellow committee members, Commission staff, and USFWS as a respected and reliable scientific colleague. Federal fisheries agencies have a mandate to provide scientific support to the Commission and John has answered the bell. At a time when demands on our scientific community can be overwhelming, John consistently delivers analytical work on time and at a very high standard.

Law Enforcement Contributions

NOAA Special Agents Casey Oravetz and Sara Block, Assistant US Attorney for the Eastern District of North Carolina Banumathi Rangarajan, and US Justice Department's Environment and Natural Resources Division's Environmental Crimes Section Trial Attorneys Lauren Steele, Shane Waller, Shennie Patel, and Joel La Bissonniere

Due to the diligence and tenacity of the team of NOAA Special Agents Casey Oravetz and Sara Block, Assistant U.S. Attorney for the Eastern District of North Carolina Banumathi Rangarajan, and U.S. Justice Department's Environment and Natural Resources Division's Environmental Crimes Section Trial Attorneys Lauren Steele, Shane Waller, Shennie Patel, and Joel La Bissonniere, 13 North Carolina trawl captains were indicted for the illegal harvest and possession of hundreds of thousands of pounds of striped bass from the EEZ in 2009 and 2010. The investigation began from a tip to NOAA Office of Law Enforcement (OLE) and a subsequent U.S. Coast Guard at-sea boarding of the F/V LADY SAMAIRA. The captain provided false information to officers regarding where fishing had occurred, and NOAA conducted a dockside investigation wherein the vessel's navigation computer was seized. Forensic analysis determined the captain caught striped bass illegally from the EEZ on that date and on previous trips, and had deleted evidence on the computer to attempt to conceal this activity. NOAA OLE agents recovered the data and reconstructed the trips using GIS tools. A broader analysis was then performed on other vessels landing striped bass on the same fishing days. Over a period of two years, NOAA OLE conducted over 30 search warrants in four states on vessels and businesses in order to gather evidence. Legal challenges made by the defense counsel resulted in the District Court erroneously dismissing the indictments. The U.S. Department of Justice appealed the case to the 4th Circuit Court of Appeals, who ultimately reversed the decision and reinstated the indictments.

Twelve defendants ultimately pled guilty to violating the Lacey Act. Some additionally pled to false statements, obstruction of justice, tax evasion, and failure to file tax returns. One of the defendants

passed away during the investigation. For the 12 defendants, the U.S. District Court Judge imposed sentences totaling over 38 years of probation, 2.5 years of home confinement, 850 hours of community service, \$3,000 in fines, and over \$1.2 million in restitution.

This team's tenacity, hard work, and commitment to the mission showcase the outstanding work performed as a team to protect and conserve the Atlantic striped bass fishery.

###

PR19-17

EXECUTIVE COMMITTEE (MAY 1, 2019)

Meeting Summary

The Executive Committee met to discuss a number of issues, including the FY20 Budget; priorities for allocation of ACA "plus-up" funds; the need for a process to address non-payment of state assessments and draft SOPPs for Management Board Work Groups. The following action items resulted from the Committee's discussions:

- FY20 Budget – The Budget was reviewed by the Administrative Oversight Committee (AOC) and forwarded to the Executive Committee with a recommendation for approval.
- "Plus-up Funds" – The AOC discussed the allocation of the plus-up funds in the Atlantic Coastal Act line in the federal budget and brought a motion to the Executive Committee for action.
- Non-Payment of State Assessments – The chair directed the staff to draft a policy on handling non-payment by a state of its annual state assessment for review at the Summer Meeting.
- The Executive Committee reviewed the SOPPs developed by staff to guide the use of Management Board Work Groups.

For more information, please contact Laura Leach, Director of Finance and Administration, at lleach@asmfc.org or 703.842.0740.

Motions

On behalf of the AOC, I move approval of the FY20 Budget as presented.

Motion made by Mr. Keliher on behalf of the AOC. Motion passes unanimously.

Move to roll the FY19 increase to the ACFMA line into the formula for allocation to the states.

Motion made by Mr. Murphey and seconded by Mr. Grout. Motion passes unanimously.

Move to adopt the Management Board Work Groups SOPPs as modified today.

Motion made by Mr. Grout and seconded by Mr. Murphey. Motion passes unanimously.

SUMMER FLOUNDER, SCUP AND BLACK SEA BASS MANAGEMENT BOARD (MAY 1, 2019)

Meeting Summary

The Summer Flounder, Scup and Black Sea Bass Management Board met to receive a report from the Plan Development Team (PDT) on strategies for addressing issues in the black sea bass commercial fishery; consider feedback from the Board's and Mid-Atlantic Fishery Management Council's Advisory Panels (APs) on those strategies; and review and populate AP membership.

The Board first reviewed the PDT Report on black sea bass commercial management. The Board formed the PDT in February 2019, with the purpose of further developing and analyzing approaches for adjusting the commercial state allocations to address changes to the distribution of the resource. The PDT analyzed several options, including:

- 1) status quo commercial allocations;
- 2) a dynamic approach, referred to as the TMGC approach, which gradually shifts allocations over time based on a combination of historical landings information and current stock distribution information;
- 3) a trigger-based allocation approach,
- 4) an Auctioned Seasonal Quota (ASQ) approach; and
- 5) hybrid approaches that combine multiple options.

After reviewing these strategies and related input from the APs, and engaging in a discussion of the Board's objectives in considering changes to commercial allocations, the Board agreed to continue developing the proposed options with the exception of the ASQ approach. The Board may consider initiating a management action related to commercial black sea bass allocations at the Commission's 2019 Summer Meeting.

Detailed descriptions and examples of each of the management strategies are available in the PDT Report, which is available at http://www.asmfc.org/uploads/file/5cc9f91fBSB_PDT_ReportApril2019.pdf. For more information on black sea bass, please contact Caitlin Starks, Fishery Management Plan Coordinator, at cstarks@asmfc.org.

Motions

Move to approve Paul Caruso from MA to the Advisory Panel.

Motion made by Ms. Meserve and seconded by Mr. Hasbrouck. Motion carries unanimously.

BUSINESS SESSION (MAY 1, 2019)

Press Release

ASMFC Approves 2019 – 2023 Strategic Plan

Arlington, VA – The Atlantic States Marine Fisheries Commission unanimously approved its 2019 – 2023 Strategic Plan at its 2019 Spring Meeting. The Strategic Plan revises the Commission's long-term vision

to “Sustainable and Cooperative Management of Atlantic Coastal Fisheries” and establishes eight major goals and related objectives to pursue this vision. The Strategic Plan will guide the Commission’s activities over the next five years and will be implemented through annual action plans.

“The states recognize circumstances today make the work of the Commission more important than ever before. The Strategic Plan articulates the mission, vision, goals, and objectives needed to accomplish the Commission’s mission,” said Commission Chair James J. Gilmore of New York. “It serves as the basis for annual action planning, whereby Commissioners identify strategies to tackle the highest priority issues and activities for the upcoming year. With 27 species currently managed by the Commission, finite human and fiscal resources, changing ocean conditions, and ever-increasing political pressures, Commissioners recognize the absolute need to prioritize activities. The Commission must dedicate staff time and resources where they are needed most and address less pressing issues only as resources allow. A key to prioritizing issues and maximizing efficiencies will be working closely with the three East Coast Regional Management Councils and NOAA Fisheries.”

The Strategic Plan’s eight goals are:

1. Rebuild, maintain, fairly allocate, and promote sustainable Atlantic coastal fisheries
2. Provide sound, actionable science to support informed management actions
3. Produce dependable and timely marine fishery statistics for Atlantic coast fisheries
4. Protect and enhance fish habitat and ecosystem health through partnerships and education
5. Promote compliance with fishery management plans to ensure sustainable use of Atlantic coast fisheries
6. Strengthen stakeholder and public support for the Commission
7. Advance Commission and member states’ priorities through a proactive legislative policy agenda
8. Ensure the fiscal stability and efficient administration of the Commission

Goal 3, which focuses on the data collection and data management efforts of the Atlantic Coastal Cooperative Statistics Program (ACCSP), was added to reflect the incorporation of ACCSP as a Commission program in 2017.

The 2019 – 2023 Strategic Plan is available on the Commission website at http://www.asmfc.org/files/pub/2019-2023StrategicPlan_Final.pdf. For more information, please contact Tina Berger, Director of Communications, at tberger@asmfc.org.

###

PR19-16

Meeting Summary

During its Business Session the Commission approved the 2019-2023 Strategic Plan. The above press release provides a summary of the Plan.

The Commission also approved the Summer Flounder Commercial Issues Amendment. The Amendment updated the FMP’s goals and objectives and modified the state allocation of the commercial quota. Prior to approval of the Amendment there was lengthy and passionate debate regarding the reallocation of the commercial quota. Some Commissioners expressed concern that the current approach to reallocation, as specified by the new Amendment, is not effective and needs to be revisited and modified. Commission leadership agreed to work with Mid-Atlantic Fishery Management Council

(MAFMC) to consider alternate approaches to future reallocation decisions. The Commission approved the Amendment to avoid a breakdown in the relationship with the MAFMC and the difficulties associated with differing state and federal quota allocations.

For more information, please contact Robert Beal, Executive Director, at rbeal@asmfc.org or 703.842.0740.

Motions

Move to approve the 2019-2023 Strategic Plan as presented today.

Motion made by Mr. Keliher and seconded by Ms. Fegley. Motion carries by unanimous consent. Roll Call: In Favor – ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, VA, NC, SC, GA, FL.

Main Motion

Move on behalf of the Summer Flounder, Scup, and Black Sea Bass Management Board to consider approval of the Summer Flounder Commercial Issues Amendment. The effective date of any FMP modifications would be consistent with the effective date published in the final rule in the Federal Register.

Motion made by Mr. Ballou.

Motion to Substitute

Move to substitute to remand the Summer Flounder Commercial Issues Amendment to the Summer Flounder, Scup and Black Sea Management Board to develop and consider new approaches, including alternatives that use a dynamic approach to reallocation of the resource that considers the species' distribution.

Motion made by Dr. Davis and seconded by Mr. Hasbrouck. Motion fails (5 in favor, 9 opposed, 1 null).

Main Motion

Move on behalf of the Summer Flounder, Scup, and Black Sea Bass Management Board to consider approval of the Summer Flounder Commercial Issues Amendment. The effective date of any FMP modifications would be consistent with the effective date published in the final rule in the Federal Register.

Motion made by Mr. Ballou. Motion carries. Roll Call: In Favor – NJ, PA, DE, MD, VA, NC, SC, GA, FL; Opposed – ME, RI, CT, MA, NY; Abstentions – NH.

HORSESHOE CRAB MANAGEMENT BOARD (MAY 1, 2019)

Press Release

ASMFC Horseshoe Crab Board Approves Benchmark Stock Assessment for Management Use

Arlington, VA – The 2019 Horseshoe Crab Benchmark Stock Assessment evaluated the stock status of the resource by region, finding populations within the Delaware Bay and Southeast regions remaining consistently neutral and good, respectively, through time. The Northeast region population has changed from poor to neutral, while the status of the New York region population has trended downward from

good, to neutral, and now to poor. The Benchmark Assessment was endorsed by the Peer Review Panel and accepted by the Horseshoe Crab Management Board (Board) for management use.

To date, no overfishing or overfished definitions have been adopted for management use. For the assessment, biological reference points were developed for the Delaware Bay region horseshoe crab population although not endorsed by the Peer Review Panel for use in management. However, given the assessment results of low fishing mortality and relatively high abundance, overfishing and an overfished status are unlikely for female horseshoe crabs in the Delaware Bay region.

In the absence of biological reference points, stock status was based on the percentage of surveys within a region (or coastwide) having a >50% probability of the final year being below the model reference point (referred to as the Autoregressive Integrated Moving Average or ARIMA reference point). “**Poor**” status was >66% of surveys meeting this criterion, “**Good**” status was <33% of surveys, and “**Neutral**” status was 34 – 65% of surveys. Based on this criterion, stock status for the Northeast region was neutral; the New York region was poor; the Delaware Bay region was neutral; and the Southeast region was good. Coastwide, abundance has fluctuated through time with many surveys decreasing after 1998 but increasing in recent years. The coastwide status includes surveys from all regions and indicates a neutral trend, likely due to positive and negative trends being combined.

**Number of Surveys Below the Index-based 1998 Reference Point
in the Terminal (Final) Year of ARIMA Model**

| Region | 2009 Benchmark | 2013 Update | 2019 Benchmark | 2019 Stock Status |
|--------------|----------------|--------------|----------------|-------------------|
| Northeast | 2 out of 3 | 5 out of 6 | 1 out of 2 | Neutral |
| New York | 1 out of 5 | 3 out of 5 | 4 out of 4 | Poor |
| Delaware Bay | 5 out of 11 | 4 out of 11 | 2 out of 5 | Neutral |
| Southeast | 0 out of 5 | 0 out of 2 | 0 out of 2 | Good |
| Coastwide | 7 out of 24 | 12 out of 24 | 7 out of 13 | Neutral |

The Board will consider a possible management response to the assessment at its next meeting in August. A more detailed description of the stock assessment results is available on the Commission’s website at http://www.asmfc.org/uploads/file/5ccae597HSC_StockAssessmentOverview2019.pdf. The 2019 Horseshoe Crab Benchmark Stock Assessment and Peer Review Report will be available on the Commission website, www.asmfc.org, on the Horseshoe Crab webpage next week.

For more information, please contact Dr. Mike Schmidtke, Fishery Management Plan Coordinator, at mschmidtke@asmfc.org.

###

PR19-18

Motions

Main Motion

Move to accept the 2019 Horseshoe Crab Benchmark Stock Assessment and Peer Review Reports for management use as modified today.

Motion made by Mr. Nowalsky and seconded by Mr. Luisi.

Motion to Substitute

Move to substitute to accept the 2019 Horseshoe Crab Benchmark Stock Assessment and Peer Review Reports for management use.

Motion made by Mr. Luisi and seconded by Mr. Gilmore. Motion carries without objection.

Main Motion as Substituted

Move to accept the 2019 Horseshoe Crab Benchmark Stock Assessment and Peer Review Reports for management use.

Motion carries without objection.

Move to postpone management response to the 2019 Horseshoe Crab Benchmark Stock Assessment until the August 2019 meeting.

Motion made by Dr. Davis and seconded by Mr. McKiernan. Motion approved by consent.

Move to approve the nomination for Nora Blair to the Horseshoe Crab Advisory Panel.

Motion made by Mr. Boyles and seconded by Mr. Gilmore. Motion carries unanimously.

INTERSTATE FISHERIES MANAGEMENT PROGRAM POLICY BOARD (MAY 2, 2019)

Meeting Summary

The ISFMP Policy Board received a report from the Executive Committee, the details of which can be found above under Executive Committee meeting summary. Jason McNamee reported that further progress has been made on the Draft Risk and Uncertainty Policy. The Draft Policy will be forwarded to the Atlantic Striped Bass Technical Committee and the Committee on Economics and Social Sciences for their feedback and to conduct a test run of the Risk Policy.

Richard Cody from NOAA Fisheries provided an update on the Marine Recreational Information Program's (MRIP) transitions to new surveys. There will be an upcoming workshop hosted by the South Atlantic Fishery Management Council in August to help understand the changes from the coastal household telephone survey to the new fishing effort survey. Concerns were raised by some states regarding state estimates from MRIP, particularly in the shore mode. MRIP staff will be at future Commission quarterly meetings to address concerns and answer questions.

Mark Robson reported on the Law Enforcement Committee meeting earlier in the week (see LEC meeting summary). Dr. Lisa Havel updated the Board on the Artificial Reef Subcommittee's February meeting. The Subcommittee discussed the Artificial Reef Materials Guidelines update, monitoring protocols, and how to better integrate artificial reefs into the Commission process. There was a presentation on the impacts of Hurricane Michael to artificial reefs in the Gulf of Mexico; and guest presentations on Ocean Bricks Reef Systems in the Red Sea, as well as the new APAIS artificial reef survey question. Each state also provided updates. The Gulf States Marine Fisheries Commission will host the next meeting, which will take place in 2020.

The Board directed the Spiny Dogfish Management Board to initiate an Addendum to allow unused quota allocated to the northern state region to be transferred in the second half of the fishing year to the states that have state-specific allocations. This action is intended to promote full utilization of the

overall commercial quota. It is anticipated the Spiny Dogfish Board will consider a document for public comment in August.

The Board agreed to send two letters to NOAA Fisheries consistent with the recommendations from the Striped Bass and Lobster Management Boards (see relevant Board meeting summaries in this document).

Some members of the Board raised concerns that the Commission is not addressing allocation issues in a fair and equitable way. The Commission will be working with the Councils and NOAA Fisheries to explore alternative options for addressing allocation issues. Lastly, concerns were raised that in several Commission species dead discards are increasing for catch and release fishing. It was suggested the Commission explore options to address this issue including working with some of the recreational fishing associations.

For more information, please contact Toni Kerns, ISFMP Director, at tkerns@asmfc.org or 703.842.0740.

Motions

Move to direct the Spiny Dogfish Management Board to initiate an Addendum to allow unused quota allocated to the northern states collectively to be transferred in the second half of the fishing year to the states that have state-specific allocations. This action is intended to promote full utilization of the overall commercial quota. It is intended that these proposed transfers shall only be allowed if there is unanimous consent among the northern states regarding the timing and the amount. Also, the Board shall include quota overage forgiveness language similar to that in Addendum XX of the Summer Flounder, Scup, and Black Sea Bass FMP where in the event the overall annual quota of black sea bass and scup (during the summer) among the states is not exceeded, then individual state overages are forgiven.

Motion made by Mr. McKiernan and seconded by Dr. Davis. Motion carries without objection.

On behalf of the Atlantic Striped Bass Board, move to forward the Block Island Transit Zone letter to NOAA Fisheries.

Motion carries by unanimous consent.

SOUTH ATLANTIC STATE/FEDERAL FISHERIES MANAGEMENT BOARD (MAY 2, 2019)

Meeting Summary

The South Atlantic State/Federal Fisheries Management Board met to consider Draft Amendment 1 to the Interstate Fishery Management Plan (FMP) for Atlantic Migratory Group Cobia (Atlantic cobia) for public comment. Amendment 1 was initiated to address the approval of Regulatory Amendment 31 to the South Atlantic and Gulf Fishery Management Councils' Fishery Management Plan for Coastal Migratory Pelagic Resources (CMP FMP), which removes Atlantic cobia from the CMP FMP, making the Commission the sole management body for this stock. Amendment 1 addresses a variety of issues including FMP Goals and Objectives, biological reference points, establishment of a harvest specification process, recreational and commercial management measures, *de minimis* status for the commercial fishery, and what regulations will be recommended for implementation by NOAA Fisheries in federal

waters. The Board made several edits to the Draft Amendment, which will be incorporated before it is released for public comment. The Board then approved the document, as modified, for public comment.

The Board also considered state-gathered public input on potential management changes for Atlantic croaker and spot that would be triggered by incorporation of updates to the annual Traffic Light Analyses (TLA) conducted for these species. The TLA assigns a color (red, yellow, or green) to categorize relative levels of indicators on the condition of the fish population (abundance metric) or 16 fishery (harvest metric). For example, as harvest or abundance increases relative to its long-term mean, the proportion of green in a given year will increase and as harvest or abundance decreases, the amount of red in that year will increase. The Board annually evaluates amounts of red against threshold levels to potentially trigger management action. While both species have shown strong declines in recent harvest, neither species had management action triggered because abundance metrics from fishery-independent surveys do not show similar declines. Updates to the TLAs have been recommended by the Atlantic Croaker Technical Committee and Spot Plan Review Team, which include regional harvest and abundance metrics, additional fishery-independent surveys, incorporation of age information, and changes to the triggering mechanisms. If all recommended updates are incorporated, management action would be triggered, regardless of results from the 2019 TLA, which will be presented in August. Public input from Maryland, Virginia, and North Carolina was generally against establishment of new management measures, although some support was expressed for appropriately-sized trip limits or seasons. The Board initiated addenda to the Atlantic Croaker and Spot FMPs to update the TLAs and management responses to triggers.

For more information, please contact Dr. Mike Schmidtke, Fishery Management Plan Coordinator, at mschmidtke@asmfc.org or 703.842.0740.

Motions

Move to approve Draft Amendment I to the Cobia Fishery Management Plan for public comment as modified today.

Motion made by Mr. Woodward and second by Mr. Bell. Motion passes (8 in favor, 1 abstention).

Move to initiate addenda to the Spot and Croaker FMPs to incorporate the revised TLA and redefine management response.

Motion made by Mr. Batsavage and seconded by Ms. Fegley. Motion carries unanimously.



ASMFC

FISHERIES *focus*

Vision: Sustainably Managing Atlantic Coastal Fisheries

INSIDE THIS ISSUE

Upcoming Meetings
page 2

From the Executive Director's Desk
The Ongoing Challenges of Allocation
page 3

Species Profile
Atlantic Menhaden
page 4

2019 Spring Meeting Preliminary Agenda
page 6

Comings & Goings
page 9

Habitat Happenings
page 10

ACCSP Update
New Technologies for Recreational Data Collection
page 12

Employees of the Quarter
page 14

ASMFC American Lobster Board Initiates Draft Addendum to Consider Reducing Vertical Lines in the Water

In February, the Commission's American Lobster Management Board initiated Draft Addendum XXVIII to Amendment 3 to the Interstate Fishery Management Plan for American Lobster. The Draft Addendum considers reducing the number of vertical lines in the water in response to concerns about the North Atlantic right whale population and the potential impacts of whale conservation measures on the conduct of the lobster fishery.

"With this proposed action, the Board is entering uncertain waters," stated Maine Commissioner Pat Keliher. "However, as the lead management authority for American lobster, we have a responsibility to ensure the viability of the lobster fishery. Through the active engagement of the states and the lobster industry in our management process, we believe the Board is best suited to navigate the growing challenges facing the lobster fishery."

A key focus of the Board meeting was the intersection of lobster management and the conservation of protected resources. While the Commission is primarily a forum for the Atlantic coast states to cooperatively manage fish and shellfish species, the Board noted several factors associated with North Atlantic right whale conservation which could substantially impact the economic and cultural future of the lobster fishing industry. These include future recommendations of the Atlantic Large Whale Take Reduction Team and the anticipated Biological Opinion being developed under the Endangered Species Act. Given the high economic value of the lobster fishery and its social significance to coastal communities, the Board agreed it is important to ensure the implementation of measures to conserve North Atlantic right whales takes place in a way that maintains the sustainability and culture of the lobster fishery.

Draft Addendum XXVIII will propose options to reduce vertical lines from zero to 40%, to be achieved by trap limits, gear configuration changes, seasonal closures, and/or the acceleration of currently planned trap reductions. The Board noted reductions will consider ongoing state and federal management actions, including trap reductions and trap caps, which have already reduced vertical lines. By initiating this action, states can continue to cooperatively participate in the management of this species during ongoing discussions on the conservation of North Atlantic right whales. In addition, those who are most familiar with the intricacies of the lobster fishery, including industry, can provide input on future regulations.

A first draft of the addendum will be presented to the Board in May. If approved, it will be released for public comment and state hearings over the summer, with Board consideration of final action in the fall.

Upcoming Meetings

The Atlantic States Marine Fisheries Commission was formed by the 15 Atlantic coastal states in 1942 for the promotion and protection of coastal fishery resources. The Commission serves as the deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell and diadromous species. The fifteen member states of the Commission are: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida.

Atlantic States Marine Fisheries Commission

James J. Gilmore, Jr. (NY), *Chair*
Patrick C. Keliher (ME), *Vice-Chair*

Robert E. Beal,
Executive Director

Patrick A. Campfield,
Science Director

Michael Cahall,
ACCSP Director

Toni Kerns,
ISFMP Director

Laura C. Leach,
Director of Finance & Administration

Tina L. Berger, *Editor*
Director of Communications
tberger@asmfc.org

703.842.0740 Phone
703.842.0741 Fax
www.asmfc.org
info@asmfc.org

April 1 (begins at 9 AM) - 3 (ends at Noon)

Ecological Reference Point Assessment Workshop 1, ASMFC, 1050 N. Highland Street, Suite 200 A-N, Arlington, VA

April 2 (1 - 3 PM)

Summer Flounder, Scup and Black Sea Bass Advisory Panel Conference Call; go to <http://www.asmfc.org/calendar/4/2019/summer-flounder-scup-and-black-sea-bass-advisory-panel-conf-call/1371> for more details

April 3 (9 AM - Noon)

Atlantic Herring Days Out Meeting, Maine Historical Society, 489 Congress Street, Portland, ME

April 3 (begins at 1 PM) - 5 (ends at 3:30 PM)

Atlantic Menhaden Assessment Workshop 1, ASMFC, 1050 N. Highland Street, Suite 200 A-N, Arlington, VA

April 9 (9:30 AM - 12:30 PM)

Atlantic Striped Bass Technical Committee Webinar; go to <http://www.asmfc.org/calendar/4/2019/striped-bass-technical-committee/1359> for more details

April 9 (1:30 - 3:30 PM)

Summer Flounder Technical Committee Conference Call; go to <http://www.asmfc.org/calendar/4/2019/summer-flounder-technical-committee-conf-call/1375> for more details

April 9 - 11

Mid-Atlantic Fishery Management Council, Icona Golden Inn, 7849 Dune Drive, Avalon, NJ

April 16 - 18

New England Fishery Management Council, Hilton Hotel, Mystic, CT

April 29 - May 2

ASMFC Spring Meeting, Westin, 1800 South Eads Street, Arlington, VA (see preliminary agenda on page 6)

June 4 - 6

Mid-Atlantic Fishery Management Council, Yotel Hotel, 570 West 10th Avenue, New York, NY

June 10 - 14

South Atlantic Fishery Management Council, Hutchinson Island Marriott, 555 NE Ocean Boulevard, Stuart, FL

June 11 - 13

New England Fishery Management Council, Doubletree by Hilton, So. Portland, ME

August 6 - 8

ASMFC Summer Meeting, Westin, 1800 South Eads Street, Arlington, VA

August 12 - 15

Mid-Atlantic Fishery Management Council, Courtyard Philadelphia Downtown, 21 N. Juniper St., Philadelphia, PA



The Ongoing Challenges of Allocation

As our Commissioners prepare to approve the Commission's next 5-year Strategic Plan at our Spring Meeting in May, I am struck by not only how far we have come since the first ASMFC Strategic Plan in 1999 but also by how much we still have to accomplish over the next 5 years. Certainly many of the issues the Commission and the states faced 20 years ago are different from those of today but one common thread over the years has been the issue of resource allocation, among the states and between various user groups. Regardless of whether you have an abundant resource or one that is rebuilding, dividing up the resource among the states and user groups is never an easy undertaking because ultimately there is not enough fish available to give everyone what they want, need, or feel they deserve. Invariably allocation, or even worse re-allocation, results in stakeholders that feel they are "winners" or "losers".

Many of the Commission FMPs divvy up the harvestable resource through various types of allocation schemes, with the resource distributed by state, region, season, or gear type. Most of these allocation schemes are based on historical participation or landings and have not been modified despite changes in resource abundance and distribution or shifting user demands. However, there are a growing number of species, such as Atlantic cobia, black sea bass, and summer flounder, whose changing species ranges and distributions are driving fisheries managers to begin the difficult task of revisiting long-standing allocation decisions.

Why are these decisions so challenging you may ask? Well, as I stated earlier, there is the notion of winners and losers. In states with significant allocations, substantial investments have been made in fishing communities and infrastructure, from marinas and working water fronts to processing plants and bait and tackle shops. Commercial fishermen and the for-hire industry base their business

plans (and recreational anglers their fishing trips) on how much of the resource they expect to have access to each year. No one wants to give up what they perceive as their share of the resource and no state wants to explain to its stakeholders why it voted in favor of another state getting a greater share. Nor is this issue limited to state waters fisheries. The Commission jointly manages a number of species with the Mid-Atlantic Fishery Management Council, where the scope and extend of today's fisheries are vastly different than they were 20 to 30 years ago when the first fishery management plans and their associated allocation schemes were established. An additional complication is the recent changes in the Marine Recreational Information Program that have changed our estimation of the overall impact of recreational fishing on a number of fisheries and, in some cases, changing the balance of resource use among recreational and commercial fisheries.

Regardless of how difficult or divisive discussions on resource allocation may be, I firmly believe it's in the best interest of our states and their stakeholders to have fishery managers lead those discussions. Because if we don't, there are external drivers that will force our hands. For example, New York has filed suit against NOAA Fisheries concerning the state's share of the summer flounder resource. Another driver is proposed federal legislation called the SHIFT Act, short for Supporting Healthy Interstate Fisheries in Transition, which would require the Commission to consider shifting trends in fish abundance and distribution, and any potential adverse economic impact when establishing or revising quota allocations between any state or other management unit.

In either case, litigation or Congressional intervention in fisheries management decision making is not the preferred route. What is needed is a willingness among the states and our federal management partners to seek innovative ways to consider species reallocation so that collectively all states feel their needs are met. This will require the commitment to cooperatively work through the issues, seeking outcomes that balance the traditional needs of the states and their stakeholders with the ever changing realities of shifting resource abundance and availability.

What is needed is a willingness among the states and our federal management partners to seek innovative ways to consider species reallocation so that collectively the states feel their needs are met.

the resource distributed by state, region, season, or gear type. Most of these allocation schemes are based on historical participation or landings and have not been modified despite changes in resource abundance and distribution or shifting user demands. However, there are a growing number of species, such as Atlantic cobia, black sea bass, and summer flounder, whose changing species ranges and distributions are driving

fisheries managers to begin the difficult task of revisiting long-standing allocation decisions.

Why are these decisions so challenging you may ask? Well, as I stated earlier, there is the notion of winners and losers. In states with significant allocations, substantial investments have been made in fishing communities and infrastructure, from marinas and working water fronts to processing plants and bait and tackle shops. Commercial fishermen and the for-hire industry base their business

Species Profile: Atlantic Menhaden

Ongoing Benchmark Stock Assessments to Inform Stock Health and Guide Ecosystem-Based Management Goals

Introduction

Atlantic menhaden (*Brevoortia tyrannus*) are small, oily, schooling fish of historical, economic, and ecological importance. Historically, menhaden supported large-scale commercial reduction fisheries, bringing considerable growth to Atlantic coastal communities. Today, the reduction fishery is a fraction of what it once was, with one processing plant and several vessels operating on the Atlantic coast. The reduction fishery is so named because menhaden are processed (or reduced) into other products, such as agricultural fertilizer, fishmeal and fish oil, as well as livestock and aquaculture feeds. Additionally, menhaden are becoming increasingly valuable for use as bait in many important fisheries, including American lobster, blue crab, and striped bass.

Ecologically, the species plays an important role in marine ecosystems as a forage fish (prey) for many fish, sea birds, and marine mammals. The Commission is continuing work on two menhaden-specific benchmark stock assessments, a single-species assessment and an ecosystem-based assessment, both of which will be used to evaluate stock health and guide management in an ecological context.

Life History

Atlantic menhaden occupy estuaries and coastal waters from northern Florida to Nova Scotia and are believed to consist of a single population. Adult and juvenile menhaden form large schools near the surface, primarily in estuaries and nearshore ocean waters from early spring through early winter. By summer, menhaden schools stratify by size and age along the coast, with older and larger menhaden migrating farther north. During fall-early winter, menhaden of all sizes and ages migrate south around the North Carolina capes to spawn.

Sexual maturity begins as early as age one to just before age three, with major spawning areas from the Carolinas to New Jersey. The majority of spawning occurs primarily offshore (20-30 miles) during winter. Buoyant eggs hatch at sea, and larvae are carried into estuarine nursery areas by ocean currents. Juveniles spend most of their first year in estuaries, migrating to the ocean in late fall.

Menhaden are very efficient filter feeders. Water is pushed through specialized gill rakers that are formed into a basket to allow them to capture plankton. Menhaden are an important component of the food chain, providing a link between primary production and higher organisms by consuming plankton and providing forage for species such as striped bass, bluefish, and weakfish, to name just a few.

Commercial Fisheries

The Atlantic menhaden commercial fishery consists of a reduction fishery and a bait fishery. The reduction fishery first began in New England during the early 1800s and spread south after the Civil War. The reduction fishery grew with the advent of the purse seine after the Civil War in the mid-1800s. Purse seine landings reached a high point in 1956 when landings peaked at 712,100 metric tons (mt). At that time, over 20 menhaden reduction factories ranged from northern Florida to southern Maine. In the 1960s, the Atlantic menhaden stock contracted geographically, and many of the fish factories north of the Chesapeake Bay closed because of a scarcity of fish. Reduction landings dropped to a low of 161,000 mt in 1969. In the 1970s and 1980s, the menhaden population began to expand primarily due to a series of above average year classes entering the fishery. By the mid-1970s, adult menhaden were again abundant in the northern half of their range and, as a result, reduction factories in New England and Canada began processing

Species Snapshot



Atlantic Menhaden

Brevoortia tyrannus

Common Names: menhaden, bunker, mossbunker, pogy, fatback, bugmouth, skipjack

Species Range: Atlantic coast of North America from Nova Scotia to northern Florida

Family: Clupeidae (includes herring, sardine, and shad species)

Interesting Facts:

- The modern record for the largest menhaden landed occurred in Reedville, VA in 1996, measuring in at 19.4" and weighing 3.4 lbs.
- Pre-colonial Native Americans called menhaden 'munhawhatteaug,' which means fertilizer.
- A large crustacean parasite is commonly found in the mouth of Atlantic menhaden; hence its common name "bugmouth."
- Adults can filter 6-7 gallons of water/minute.
- Ethel Hall, now retired from the NMFS Beaufort Lab, aged Atlantic menhaden for over 40 years using a 1967 Eberbach projector.

Stock Status:

Not overfished nor experiencing overfishing



Photo (c) NC DMF

menhaden again. Reduction landings rose to around 300,000-400,000 mt during that time; however, by 1989, all shoreside reduction plants in New England had closed, mainly because of odor abatement regulations.

During the 1990s, the Atlantic menhaden stock contracted again, largely due to a series of poor to average year classes. Over the next decade, several reduction plants consolidated or closed, resulting in a significant reduction in fleet size and fishing capacity. By 2005, there was only one remaining reduction plant in operation on the Atlantic coast processing menhaden into fishmeal and fish oil. The plant is located in Reedville, Virginia and is still in operation today.

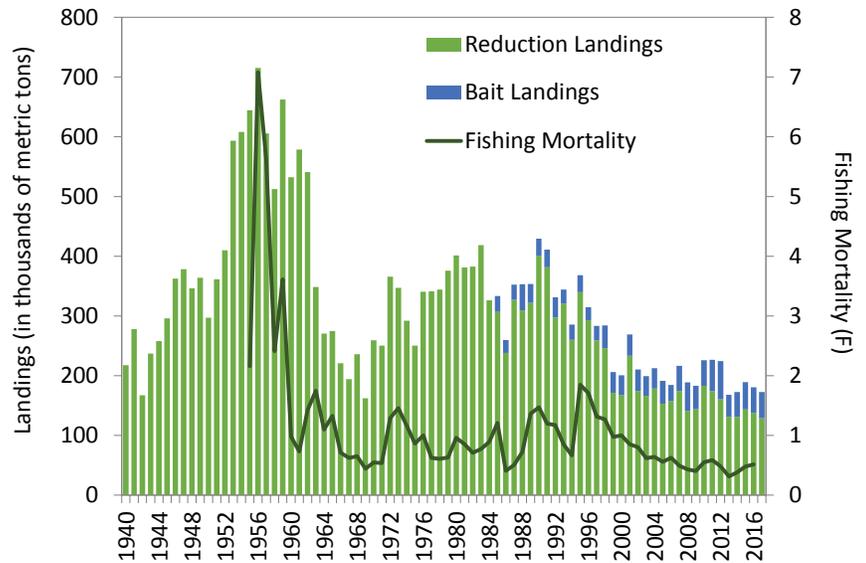
Although annual reduction landings have been decreasing since about 1990, they are an order of magnitude larger than those of the bait sector. From 1985-2000, the reduction fishery accounted for 90% of total landings (bait and reduction combined). From 2001-2012, that proportion decreased to 80% of total landings. From 2013-2017, under the provisions of Amendment 2 (e.g., a total allowable catch and quota system), annual reduction landings have averaged 134,374 mt or 76% of total landings. In 2017, reduction landings were estimated at 128,926 mt, which is a 6.2% decrease from the previous season.

The coastwide bait fishery supplies fishermen with bait for popular commercial (e.g., American lobster and blue crab) and sport fish (e.g., striped bass and bluefish) fisheries, and has grown with the expansion of many fisheries that utilize menhaden as bait. Landings for bait peaked in 2012 at 63,680 mt and then dipped slightly under the provisions of Amendment 2. In 2017, bait landings were estimated at 43,825 mt, which is 4.7% above the average landings during 2013-2016 (41,877 mt).

The bait fishery has increased in relative importance from New England to North Carolina. This is evident in the increasing percent of total menhaden landings that are attributed to the bait fishery. The percent of total landings that were landed for bait rose from 13% in 2001 to 28% in 2012. In 2017, bait harvest composed approximately 25% of the total menhaden harvest. The majority of bait landings have come from New Jersey and Virginia, followed by Maryland, Massachusetts, and the Potomac River Fisheries Commission.

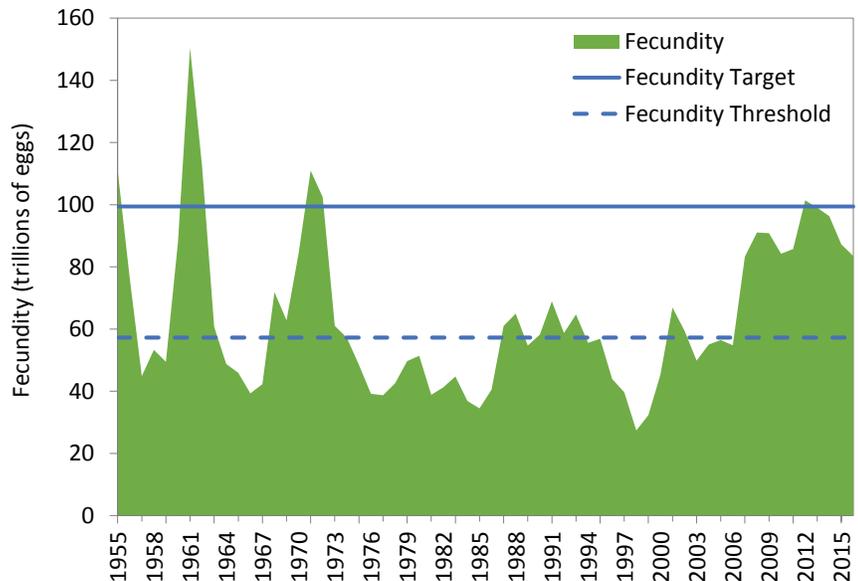
Atlantic Menhaden Bait & Reduction Landings and Fishing Mortality (Ages 2-4)

Source: ASMFC State Compliance Reports and NOAA Fisheries, 2018



Atlantic Menhaden Fecundity

Source: ASMFC Atlantic Menhaden Stock Assessment Update, 2017



Stock Status

The 2017 stock assessment update indicates that Atlantic menhaden are neither overfished nor experiencing overfishing. Stock status was evaluated against the 2015 benchmark assessment's reference points, which used historical performance of the population during the 1960-2012 time frame. Fishing mortality

continued, see ATLANTIC MENHADEN on page 8

2019 Spring Meeting Preliminary Agenda

Public Comment Guidelines

For issues that are not on the agenda, management boards will continue to provide opportunity to the public to bring matters of concern to the board's attention at the start of each board meeting. Board chairs will use a speaker sign-up list in deciding how to allocate the available time on the agenda (typically 10 minutes) to the number of people who want to speak.

For topics that are on the agenda, but have not gone out for public comment, board chairs will provide limited opportunity for comment, taking into account the time allotted on the agenda for the topic. Chairs will have flexibility in deciding how to allocate comment opportunities; this could include hearing one comment in favor and one in opposition until the chair is satisfied further comment will not provide additional insight to the board.

For agenda action items that have already gone out for public comment, it is the Policy Board's intent to end the occasional practice of allowing extensive and lengthy public comments. Currently, board chairs have the discretion to decide what public comment to allow in these circumstances.

In addition, the following timeline has been established for the submission of written comment for issues for which the Commission has NOT established a specific public comment period (i.e., in response to proposed management action).

1. Comments received 3 weeks prior to the start of a meeting week will be included in the briefing materials.

2. Comments received by 5 PM on Tuesday, April 23rd will be distributed electronically to Commissioners/Board members prior to the meeting and a limited number of copies will be provided at the meeting.

3. Following the April 23rd deadline, the commenter will be responsible for distributing the information to the management board prior to the board meeting or providing enough copies for management board consideration at the meeting (a minimum of 50 copies).

The submitted comments must clearly indicate the commenter's expectation from the ASMFC staff regarding distribution. As with other public comment, it will be accepted via mail, fax, and email.

ASMFC Spring Meeting

April 29 - May 3

The Westin

1800 South Eads Street

Arlington, VA

Preliminary Agenda

The agenda is subject to change. Bulleted items represent the anticipated major issues to be discussed or acted upon at the meeting. The final agenda will include additional items and may revise the bulleted items provided below. The agenda reflects the current estimate of time required for scheduled Board meetings. The Commission may adjust this agenda in accordance with the actual duration of Board meetings. Interested parties should anticipate Boards starting earlier or later than indicated herein.

MONDAY, APRIL 29

1:00 – 5:00 p.m. American Lobster Management Board

- Update on the Atlantic Large Whale Take Reduction Team Spring Meeting and Recommendations to NOAA Fisheries
- Consider Draft Addendum XXVIII for Public Comment
- Report from the Bait Working Group
- Update from Delaware and New York Regarding Implementation of Jonah Crab Fishery Management Plan Measures

TUESDAY, APRIL 30

8:30 - 10:00 a.m. Atlantic Herring Management Board

- Consider Addendum II for Final Approval
- Consider Approval of 2019 Fishery Management Plan Review and State Compliance Reports
- Update on 2020-2021 Fishery Specifications

10:15 a.m. - Noon Atlantic Striped Bass Management Board

- Consider Acceptance of 2018 Benchmark Stock Assessment and Peer Review Reports for Management Use
- Consider Management Response to the 2018 Benchmark Stock Assessment
 - o Review Technical Committee Report on Reductions Needed to Achieve Fishing Mortality Reference Points
- Consider Forwarding a Letter to NOAA Fisheries Opposing Proposed Measures to Lift the Ban on Recreational Striped Bass Fishing in the Federal Block Island Sound Transit Zone

12:30 - 5:00 p.m. Law Enforcement Committee

(A portion of this meeting may be a closed session for the LEC Coordinator and Committee members only)

- Presentation and Discussion on Police-Assisted Addiction and Recovery Initiative and Use of NARCAN/NALAXONE
- Review 2019 Action Plan and 2019-2023 ASMFC Strategic Plan
- Review and Discuss Outcomes from the MAFMC Enforcement Workshop
- Federal and State Agency Reports
- Review and Discuss Progress of the Offshore Enforcement Vessel Working Group

- Review Ongoing Enforcement Issues (Closed Session)
- Discuss Usefulness of Criteria/Metrics in Evaluating Enforcement Effectiveness

1:00 - 2:30 p.m. Atlantic Striped Bass Management Board (continued)

2:45 - 3:15 p.m. Coastal Sharks Management Board

- Review Highly Migratory Species North Atlantic Shortfin Mako Amendment 11 and Consider a Management Response
- Consider Approval of 2019 Fishery Management Plan Review and State Compliance Reports

3:30 - 5:00 p.m. Atlantic Coastal Cooperative Statistics Program (ACCSP) Coordinating Council

- Program/Committee Updates
- Review and Consider Approval of 2020 Request for Proposals
- Discuss Committee Restructure

5:30 - 7:00 p.m. Annual Awards of Excellence Reception

WEDNESDAY, MAY 1

8:00 - 10:30 a.m. Executive Committee

(A portion of this meeting may be a closed session for Committee members and Commissioners only)

- Report of the Administrative Oversight Committee
 - Presentation of the FY20 Budget
- Review Draft Standard Operating Procedures and Policies for Management Board Work Groups
- Future Annual Meetings Update
- Executive Director Performance Review (Closed Session)

8:00 a.m. - Noon Law Enforcement Committee (continued)

10:45 a.m. - 12:15 p.m. Summer Flounder, Scup, and Black Sea Bass Management Board

- Review Plan Development Team Analysis of Black Sea Bass Commercial Management Strategies to Address Fishery Shifts
- Consider Approval of Advisory Panel Nomination

1:15 - 2:30 p.m. Business Session

- Consider Approval of the Comprehensive Summer Flounder Amendment
- Review and Consider Approval of 2019-2023 Strategic Plan

2:45 - 5:15 p.m. Horseshoe Crab Management Board

- Review and Consider Acceptance of 2019 Horseshoe Crab Benchmark Stock Assessment and Peer Review Reports for Management Use
- Consider Potential Management Response to the 2019 Benchmark Stock Assessment
- Consider Approval of Advisory Panel Nomination

THURSDAY, MAY 2

8:00 - 9:45 a.m. Interstate Fisheries Management Program Policy Board

- Reports from the Executive Committee, Law Enforcement Committee, and Artificial Reef Committee
- Consider Noncompliance Recommendations (If Necessary)

9:45 - 10:00 a.m. Business Session (continued)

- Consider Noncompliance Recommendations (If Necessary)

10:15 a.m. - 12:15 p.m. South Atlantic State/Federal Fisheries Management Board

- Consider Approval of Cobia Draft Amendment 1 for Public Comment
- Consider Potential Management Action for Spot and Atlantic Croaker

rates have remained below the overfishing threshold (1.85) since the 1960s, and hovered around the overfishing target (0.8) through the 1990s. In 2003, fishing mortality dropped below the target and was estimated to be 0.51 in 2016 (the terminal year in the assessment update). Generally, fishing mortality has fluctuated around the target level throughout the history of the fishery.

The biological reference point used to determine the fecundity target is defined as the mature egg production one would expect when the population is being fished at the threshold fishing mortality rate. Population fecundity, a measure of reproductive capacity, has been well above the threshold (57,295 billion eggs) and at or near the target (99,467 billion eggs) in recent years. In 2016, fecundity was estimated to be 83,486 billion eggs, still well above the threshold but below the target.

Atlantic Coastal Management

The Atlantic menhaden commercial fishery has been managed via a total allowable catch (TAC) and a quota system since the implementation of Amendment 2 to the Interstate Fishery Management Plan (FMP) in 2013. The annual TAC was set at 170,800 mt (representing a 20% reduction from average landings between 2009 and 2011) for both the 2013 and 2014 seasons. Since then, the TAC increased to 187,866 mt for the 2015 and 2016 seasons, 200,000 mt for the 2017 season, and 216,000 mt for the 2018 and 2019 fishing seasons with the expectation that the setting of the TAC for subsequent years will be guided by menhaden-specific ERPs.

Atlantic menhaden are currently managed under Amendment 3 to the FMP. Approved by the Board in November



Photo credits: Creative Commons Via Pixabay (top); RI DEM, Marine Fisheries (center); Frank Marengi, MD DNR (bottom)

2017, the Amendment maintains the management program's current single-species biological reference points until the review and adoption of menhaden-specific ecological reference points (ERPs) as part of the 2019 benchmark stock assessment process. In doing so, the Board placed the development of menhaden-specific ERPs as its highest priority.

Amendment 3 also changes fishery allocations in order to strike an improved balance between gear types and jurisdictions. The amendment allocates a baseline quota of 0.5% to each jurisdiction, and then allocates the rest of the TAC based on historic landings between 2009 and 2011. This measure provides fishing opportunities to states that previously had little quota while still recognizing historic landings in the fishery. The Board also agreed to maintain the quota transfer process, prohibit the rollover of unused quota, maintain the 6,000 lb trip limit for non-directed and small-scale gears following the closure of a directed fishery, and set aside 1% of the TAC for episodic events in the states of New York through Maine.

Finally, the Amendment reduces the Chesapeake Bay cap, which was first implemented in 2006 to limit the amount of reduction harvest within the Bay, to 51,000 mt from 87,216 mt. This recognizes the importance of the Chesapeake Bay as nursery grounds for many species by capping reduction landings from the Bay to current levels.

In February 2019, the Board postponed indefinitely action to find the Commonwealth of Virginia out of compliance with the provisions of Amendment 3, specifically the Commonwealth's failure to implement the Chesapeake Bay reduction fishery cap of 51,000 mt. This action is contingent upon the Chesapeake Bay reduction fishery not exceeding the cap. If the cap is exceeded, the Board can reconsider the issue of compliance.

In making its decision, the Board took into account the fact that reduction fishery harvest within the Chesapeake Bay has been below the cap level since 2012, including 2018 harvest. During its deliberations, the Board commended Virginia Commissioners on their efforts to monitor landings and work with the Commonwealth's General Assembly to seek full implementation of the provisions of Amendment 3.

While the Bay cap was established as a precautionary measure given the importance of menhaden as a prey species, additional information stemming from the development of ERPs may be informative to the Bay cap issue. Accordingly, the Board will consider action to modify the Bay cap after it completes action on ERPs, anticipated for 2020.

Next Steps

The Commission continues to work on two Atlantic menhaden benchmark stock assessments: a single-species benchmark assessment and the highly anticipated ecosystem-based benchmark assessment that aims to develop menhaden-specific ecological reference points. Both assessments will be used to evaluate the health of the stock and inform the management of the species in an ecological context. The Stock Assessment Subcommittee is leading the single-species assessment and is exploring single-species modeling approaches, while the ERP Workgroup continues to explore modeling approaches that estimate the abundance of menhaden and account for the species' role as a forage fish. Both benchmark assessments will be peer-reviewed at the end of 2019.

For more information, please contact Max Appelman, Fishery Management Plan Coordinator, at mappelman@asmfc.org.

Comings & Goings

COMMISSIONERS



DR. JUSTIN DAVIS

Early this year, Dr. Justin Davis, Assistant Director of the Fisheries Division of the Connecticut Department of Energy and Environmental Protection (CT DEEP), became Connecticut's Administrative Commissioner to the ASMFC. In his position as Assistant Director, Dr. Davis oversees the state's Marine Fisheries Program. Dr. Davis has worked for CT DEEP since 2007 and holds a B.S. in Marine and Freshwater Biology from the University of New Hampshire, an M.S. in Natural Resource Management, and a Ph.D. in Ecology and Evolutionary Biology from the University of Connecticut. Welcome aboard Dr. Davis!



SENATOR BRIAN LANGLEY

Having not sought re-election due to term limits, Senator Brian Langley stepped down as Maine's Legislative Commissioner to the ASMFC. Senator Langley was a Commissioner from 2011-2013 and 2015-2019, participating on numerous species management boards and sections over that time. We are grateful for Senator Langley's involvement and wish him great success in all his future endeavors.



SENATOR DAVID MIRAMANT

In March, Senator David Miramant, who represents coastal Knox County, was named Maine's Legislative Commissioner to the ASMFC. Attending high school in a suburb of Boston during the Vietnam War, Senator Miramant was first introduced to the values about our society, environment and natural resources that still motivate him today. After attending the University of Maine at Farmington, Senator Miramant began a long career in aviation. As an airline pilot and captain, he learned to bring a crew together to accomplish complicated tasks. Those leadership skills would later serve him in the Legislature. During that time, he also connected with diverse groups of people all over the world, only to learn how similar we all are. He spent a lot of time listening to a broad range of perspectives.

While he no longer works in the major airlines, Miramant continues to fly, as the owner and operator of Spirit Soaring Glider Rides. In addition to his work in the air, Senator Miramant also has been a small-business owner and boat captain.

Senator Miramant was elected to the Maine House of Representatives in 2006, and the Maine Senate in 2014. In these positions, he was able to use the leadership skills he had developed throughout his life. Senator Miramant lives in Camden with his wife, Dee, with whom he has two adult children, Ashley and Josh. Welcome aboard, Senator Miramant!



REPRESENTATIVE CHAD NIMMER

Rep. Chad Nimmer stepped down as Georgia's Legislative Commissioner having not sought re-election to the Georgia House of Representatives. Rep. Nimmer served as ASMFC Commissioner since 2016 and was represented by ongoing proxy Pat Geer for the majority of his tenure. We are grateful for Rep. Nimmer's involvement and wish him great success in all his future endeavors.

COMINGS AND GOINGS, continued on page 14

Habitat Happenings

In late 2018, the Atlantic Coastal Fish Habitat Partnership (ACFHP) and the Commission's Habitat Program completed a number of major outreach projects. This article highlights three of those projects: the revamped ACFHP website, a new living shorelines factsheet, and the 2018 issue of *Habitat Hotline Atlantic*.

ACFHP Launches New Website

In December, ACFHP, a partnership of federal, tribal, state, local, and other entities dedicated to enhancing, preserving and protecting diadromous, estuarine and coastal fish habitats, launched its revised website at www.atlanticfishhabitat.org. Bold and visually appealing, the new site seeks to be a resource to partners, as well as those who are working on fish habitat conservation or simply want to become more informed about habitat issues. The website highlights how ACFHP works to make the connection – from the headwaters to the continental shelf, between fish and people, and among stakeholders.

The website has improved functionality and is mobile and tablet-friendly. The 'About Us' section contains information on our mission and vision, the ACFHP region, our team, guidance documents, and the National Fish Habitat Partnership. The website also includes pages on each of ACFHP's priority habitats: submerged aquatic vegetation, shellfish beds, riverine bottom, coral and live/hard bottom, and tidal vegetation. These pages highlight the importance of each habitat to fish and the greater ecosystem, the threats facing each habitat, as well as our conservation work in each habitat.

An exciting feature of the new website is the Species-Habitat Matrix Tool, which evaluates the relative importance of 26 coastal, estuarine, and freshwater habitats to 131 selected fish and invertebrate species. Specifically, the Matrix quantifies the importance of different habitats as shelter, nursery, feeding, or spawning areas for each species during the egg/larval, juvenile/young of year, adult, and spawning adult life stages. The new website tool is a database that allows users to search by species and/or life stage, and populates in real-time. Users can download their results, or the entire database, as a CSV file for further analysis. The tool is intended to provide useful information for people and organizations to make better informed, quantifiable decisions about habitat conservation for Atlantic marine species.

The website's on-the-ground project map identifies ACFHP-funded and endorsed projects along the

coast, with links to each of the projects. Project pages feature an overview of each project, photos, and links to outreach materials and press on the project. The website also includes links to ACFHP and partner outreach materials, as well as ACFHP science and data products.

The 'Get Involved' section of the website provides information on upcoming meetings, funding opportunities, project endorsement, the Melissa Laser Fish Habitat Conservation Award, and the various ways to donate to ACFHP and the National Fish Habitat Partnership. You can also sign up for the newsletter and find information on how to join the Partnership. We invite you to explore the new website at www.atlanticfishhabitat.org.

New Living Shoreline Factsheet

The Commission recently approved an update to the 2010 Habitat Management Series document, "Living Shorelines: Impacts of Erosion Control Strategies on Coastal Habitats," that highlights the growing body of literature and lessons learned since the original publication. The factsheet and additional information feature selected case studies, websites, and references in support of the application of best practices moving forward. Both can be accessed on the Commission's website at <http://www.asmf.org/habitat/hot-topics>.

A living shoreline (LSL) is a protected, stabilized coastal edge made of natural materials such as plants, sand, or rock. Unlike a concrete seawall or other hard structure, which impede the growth of plants and animals, LSLs grow over time. LSLs are adopted with increasing frequency to address coastal shoreline erosion issues along both public and private shoreline properties. They are mostly used along bays, sounds, and in other estuarine settings, as beach and inlet systems experience energy



Living shorelines in Punta Rassa, FL. Photo © www.floridalivingshorelines.com

levels higher than those for which natural materials can successfully be used. LSLs integrate habitats across the shoreline landscape by promoting the land-water continuum, provide enhanced habitat for fish and wildlife, naturally adapt to changing sea levels in the face of climate change, and enhance the natural beauty of adjacent properties.

As sea level rise continues, armoring shorelines against wave energy and erosion will continue to be important to those living along coastal waters. Using LSLs to accomplish this will ensure connections remain established between the uplands and estuaries to maintain or even improve the health of the important fish habitats they sustain.

2018 Issue of Habitat Hotline Atlantic

The 2018 issue of *Habitat Hotline Atlantic* focuses on the importance of monitoring changing habitats along the United States East Coast. Monitoring of fishery resources is crucial to understanding changes to habitat and ecological functions of Commission-managed species. As these resources react to increases in ocean and sea surface temperatures, sea level rise, and increasing ocean acidity, understanding the behavioral and functional processes within and between habitats can provide tools for planning adaptive management strategies.

Evaluation of marine and estuarine habitats can also capture shifts in geographic distribution of species, document disease events and species vulnerabilities, monitor changes in the quality and quantity of wetlands, and assess human activities occurring within these habitats.

Habitat Hotline Atlantic also features examples of the commitment of the Habitat Committee and affiliated partners in improving fisheries habitat conservation

through scientific research, restoration activities, partnerships, policy development, and education. It demonstrates creative approaches to the challenges of understanding the dynamics of marine and coastal fish habitats.

The issue is available at <http://tinyurl.com/y7wfrw6a>.



For more information on any of these projects, please contact Dr. Lisa Havel, ACFHP & Habitat Committee Coordinator, at lhavel@asmfc.org.

ACCSP Marks Deployment of New Technologies for Recreational Data Collection

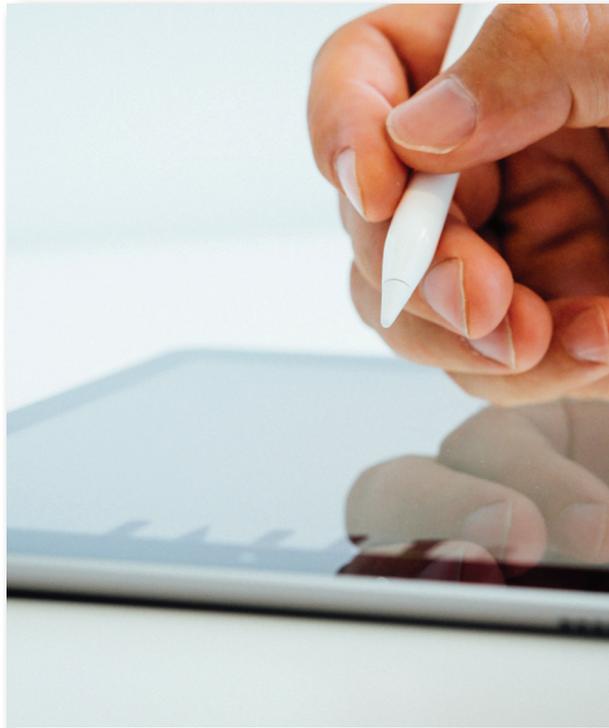
This January, ACCSP deployed two new technologies for advancing state-conducted recreational data collection on the Atlantic coast. Both the tablet-based Dockside Interceptor application and the Computer Assisted Telephone Interviewing System (CATI) have been designed to streamline and automate survey components of the National Oceanic and Atmospheric Administration's (NOAA) Marine Recreational Information Program (MRIP), making it feasible for states to take on a greater role in recreational fisheries data collection. The tools are the latest products of a collaborative effort among ACCSP, state, and federal partners to improve recreational data collection in order to provide timelier, more accurate data for fisheries management.

Dockside Interceptor

On January 1st, North Carolina field interviewers became the first to use the Dockside Interceptor application to conduct their Access Point Angler Intercept Survey (APAIS) assignments. The application allows interviewers to record and transmit angler intercept data electronically via tablets, and features built-in logic to reduce the introduction of data errors. Electronic transmission of intercept data will eliminate time spent on shipping and scanning paper forms, reducing processing time by two to three weeks and providing state partners with additional time to review edits and perform final data checks before ACCSP submits the final data to NOAA at the end of each month.

In the first week since its release, the Dockside Interceptor application was used successfully by eight different interviewers to complete 21 site assignments in North Carolina. Having been submitted electronically, the data from these assignments are already available in the ACCSP database for review. Initial feedback has been positive.

The Dockside Interceptor application will be used by all Atlantic states to conduct their APAIS assignments on tablets once their sampling seasons begin.



FHTS CATI

On January 7th, North Carolina began using ACCSP's new CATI to conduct the For-Hire Telephone Survey (FHTS). At present, this survey, which collects data used to generate for-hire effort estimates, is only state-administered in North Carolina, Maine, and Georgia. The remaining Atlantic states rely on NOAA Fisheries to administer this survey.

Based on the successful transition to state conduct of the APAIS, state and federal representatives on the ACCSP Recreational Technical Committee voted back in June of 2018 to explore coastwide state conduct of the FHTS. To make this possible, ACCSP worked with state and federal partners to develop the CATI, a centralized tool for scheduling, conducting, and recording FHTS interviews.

Each week, the CATI presents state staff with a list of vessels selected for interview and contact details for the vessel captains. Using the information displayed, a state interviewer contacts a captain to initiate the interview. The system then leads the interviewer through a series of questions for the captain, and the interviewer records the responses directly into ACCSP's database. Additional functionalities of the current iteration include automatic generation of weekly notification letters and the creation of Vessel Directory update records during the call.

Georgia and Maine will both use the CATI to administer the FHTS in their respective jurisdictions this year once their sampling seasons begin.



ACCSP is a cooperative state-federal program focused on the design, implementation, and conduct of marine fisheries statistics data collection programs and the integration of those data into a single data management system that will meet the needs of fishery managers, scientists, and fishermen. It is composed of representatives from natural resource management agencies coastwide, including the Atlantic States Marine Fisheries Commission, the three Atlantic fishery management councils, the 15 Atlantic states, the Potomac River Fisheries Commission, the D.C. Fisheries and Wildlife Division, NOAA Fisheries, and the U.S. Fish & Wildlife Service. For further information please visit www.accsp.org.

Employees of the Quarter: Dr. Katie Drew & Caitlin Starks

For the last quarter of 2018 and the first quarter of 2019, Commission staff had the opportunity to recognize Dr. Katie Drew and Caitlin Starks, respectively, for their notable contributions to the Commission's fisheries science and fisheries management programs.

DR. KATIE DREW

For nearly a decade, Dr. Katie Drew, as the Commission's Stock Assessment Team Leader, has played an important role in advancing the use and public understanding of fisheries science along the Atlantic coast. She has been the lead or contributing scientist on dozens of important stock assessments, and has assisted in the development and conduct of ASMFC stock assessment training workshops to improve stock assessment expertise at the state level.

Throughout 2018, Katie, working closely with state and federal members of various species stock assessment subcommittees, was instrumental in the completion of a new peer review-endorsed benchmark stock assessment and stock assessment update for northern shrimp, and a peer-reviewed benchmark assessment for



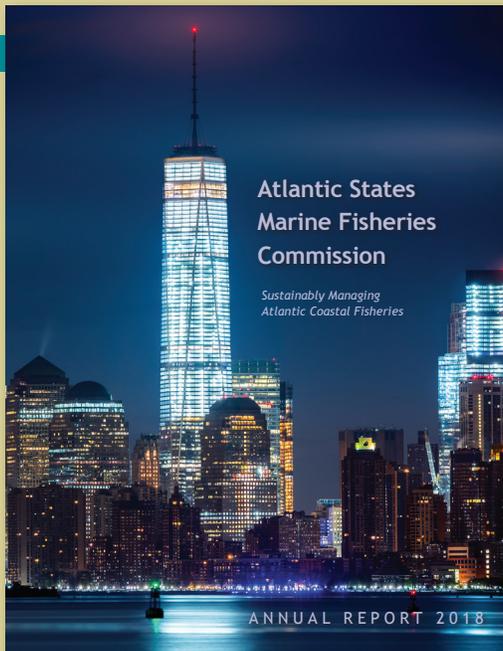
Atlantic striped bass. She also was an important contributor in developing and evaluating multispecies models for use in the ecological reference points benchmark stock assessment for Atlantic menhaden, currently scheduled for completion in 2020.

Katie consistently works at the highest level to produce quality science documents to inform fisheries management decisions. A great co-worker and team player, Katie is passionate about excelling and bringing out the best in all those that work with her.

CAITLIN STARKS

In the almost two years since she joined the Commission, Caitlin Starks, FMP Coordinator for black sea bass, bluefish, shad & river herring, and tautog, has made noteworthy contributions to the Commission's fisheries management program and in particular black sea bass management. In the short time she has worked on black sea bass, she has assisted in the completion of three plan addenda and taken a lead role in coordinating the activities of

continued, see EMPLOYEES OF THE QUARTER on page 14



ASMFC 2018 Annual Report Now Available

The Commission has released its 2018 Annual Report, which provides an overview of significant management actions and associated science activities the Commission and its member states took in 2018 to maintain and restore the abundance of Commission-managed species. This report reflects our Commissioners' commitment to accountability and transparency in all they do to manage and rebuild stocks under their care. We hope that you will find the information contained within this report useful and interesting.

This year's cover photo of the New York City (NYC) skyline with views of the One World Trade Center and the Statue of Liberty is in honor of our 77th Annual Meeting, which was held October 2018 in NYC. NYC also played an important role in the Commission's history, having served as its administrative home and frequent meeting location during the Commission's first two decades.

The report is available on the Commission website at www.asmfc.org, under Quick Links or directly at http://www.asmfc.org/files/pub/2018AnnualReport_web.pdf

two Board-level Working Groups on commercial allocation and recreational management. With each project, her ability to stay on top of assignments, collaborate with committee members, and communicate complex issues and management options in a simple, straightforward way has elevated the quality of Commission management documents.

Caitlin is a strong team player and actively seeks out opportunities to work collaboratively with other staff and across departments. At the same time, she continues to provide critical support to her species committees. Despite setbacks, Caitlin has kept the tautog commercial tagging program moving forward through her tireless pursuit of a new tag and applicator when the previous applicator proved to be ineffective on the water. Caitlin also has been successfully coordinating the development of the American shad benchmark stock assessment with Jeff Kipp and the Stock Assessment Subcommittee, which includes a wide range of state (both marine and inland), federal, and academic biologists and stock assessment scientists.

Caitlin's inquisitiveness, meticulousness, and strong work ethic have served her well in her position and are clearly reflected in her work products. These traits, combined with her strong working relationships with Commissioners, committee members, and Commission and Mid-Atlantic Council staff, make her a valuable asset to the Commission and its fisheries management program.

As Employees of the Quarter (EOQ), Katie and Caitlin received a cash award and a letter of appreciation to be placed in their personal record. In addition, their names are on the EOQ plaque displayed in the Commission's lobby. Congratulations, Katie & Caitlin!



DR. TIMOTHY SCHAEFFER

Dr. Tim Schaeffer, Executive Director of the Pennsylvania Fish and Boat Commission (PFBC), is now Pennsylvania's Administrative Commissioner to the ASMFC, replacing John Arway who served in that role since 2010.

Dr. Schaeffer previously served with PFBC as Director of Policy and Planning and recently as Deputy Secretary for the Office of Water Programs for the Department of Environmental Protection. Welcome aboard Dr. Schaeffer!

STAFF



SARAH RAINS

In December, Commission staff said goodbye to Sarah Rains, who has moved on to an exciting new position with the Department of Defense. For three years, Sarah served as Recreational Data Analyst on the Atlantic Coastal Cooperative Statistics Program's Angler

Point Access Intercept Survey (APAIS) team, assisting with the management and processing of state APAIS data. Sarah was a great asset to the APAIS team and we wish her the very best in her new position.



MEGAN WARE

After nearly four years as FMP Coordinator, Megan Ware accepted the position of Director of External Affairs with the Maine Department of Marine Resources. In her time with the Commission, Megan skillfully coordinated a number of challenging marine

fisheries management issues. These included the development and implementation of the first Interstate FMP for Jonah crab as well as Amendment 3 to the Atlantic Menhaden Plan. She also worked closely with the American Lobster Board to develop management responses to the 2015 benchmark stock assessment and, more recently, possible measures to reduce lobster gear/whale interactions. Fortunately for us, we anticipate that we will continue to work with Megan on a number of ASMFC issues. We wish Megan the very best in her new position.



ALI SCHWAAB

On March 29th, Commission staff bid farewell to Ali Schwaab, as she moves to New Zealand to pursue a new life with her fiancé. Ali worked for ACCSP for the past three years, first as Outreach Coordinator and most recently as Program Manager. Over that time, Ali was

responsible for a number of projects and issues, including website design and maintenance, annual report development and dissemination, committee coordination, and outreach to industry and media. We wish Ali the very best in her new adventure half way around the globe.



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Chris Batsavage, Special Assistant for Councils

SUBJECT: Mid-Atlantic Fishery Management Council Meeting Summary-March 6-7, 2019

Issue

This memo informs the Marine Fisheries Commission of the issues discussed and actions taken by the Mid-Atlantic Fishery Management Council.

Findings

- The memo highlights management actions of particular interest to the Marine Fisheries Commission.
- Additional information about the meeting can be found in the Mid-Atlantic Fishery Management Council meeting materials in the briefing book.

Action Needed

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

Overview

Summer Flounder Benchmark Stock Assessment Overview

The peer review of the 2018 benchmark summer flounder stock assessment found that the stock* is not overfished and overfishing* is not occurring in 2017. The assessment incorporated the revised time series of recreational catch from the Marine Recreational Information Program, which contributed to increases in the estimated summer flounder biomass over the assessment time series compared to previous stock assessments. However, juvenile recruitment* has been below the time series average over the last several years, which has contributed to the declining trend in spawning stock biomass*.

Summer Flounder 2019-2021 Specifications

The council and board approved revised summer flounder catch and quota limits for 2019 and new limits for 2020 and 2021 that are based on the summer flounder benchmark stock assessment results. The annual coastwide summer flounder commercial quota for 2019-2021 is 11.53 million pounds and the annual coastwide recreational harvest limit for those years is 7.69 million pounds. However, an accountability measure will be applied to the 2019 commercial quota due to the annual catch limit being exceeded in 2017. This results in a commercial quota of 10.98

million pounds with North Carolina's state-specific quota at 3.01 million pounds. The 2019-2021 quotas and harvest limits are higher than those based on the previous stock assessment.

2019 Recreational Summer Flounder Management Measures

The council and board continued using regional conservation equivalency to manage the recreational summer flounder fishery. Conservation equivalency allows individual states or multi-state regions to develop customized measures that constrain harvest to the recreational harvest limit (7.69 million pounds for 2019-2021). Despite the higher recreational harvest limit compared to previous years, states are largely required to maintain their 2018 recreational regulations because the revised coastwide recreational harvest estimate in 2018 is nearly equal to the 2019 harvest limit.

The council and board also approved non-preferred coastwide regulations (19-inch minimum size limit, 4-fish bag limit and a May 15-Sept. 15 open season) and approved precautionary default measures (20-inch minimum size limit, 2-fish bag limit, and a July 1-Aug. 31 open season). The non-preferred coastwide measures are written into the federal regulations, but are waived in favor of conservation equivalency, and the precautionary default measures would be implemented in any state or region that does not adopt measures consistent with the conservation equivalency guidelines.

Summer Flounder Commercial Issues Amendment

The council and board selected management options for the Summer Flounder Commercial Issues Amendment. The commercial allocation option selected maintains status quo state-specific allocations when the annual commercial quota is at or below the 9.55 million-pound trigger. When the coastwide annual commercial quota is greater than 9.55 million pounds, the excess quota beyond the trigger is equally distributed to all of the states, except for Maine, New Hampshire and Delaware, which would split 1% of the additional quota. This results in a more equal distribution of allocations when the quota is high and considers the historic importance of the commercial summer flounder fishery to the states. The tables in the council's Summer Flounder Commercial Allocation Modifications fact sheet provides more detail on how the quota will be distributed. The fact sheet is in the briefing book.

The council and board also approved revised summer flounder goals and objectives for the fishery management plan and they took no action on federal permit requalification criteria. In addition, the council took no action on adding landings flexibility as a frameworkable item to the fishery management plan.

The Atlantic States Marine Fisheries Commission will consider approval of the amendment at its meeting on May 1. The National Marine Fisheries Service also needs to approve the amendment because it is a joint fishery management plan with the Mid-Atlantic Council and the Atlantic States Marine Fisheries Commission. The revised allocations could go into effect as early as Jan. 1, 2020, but would be more likely effective on Jan. 1, 2021.

Interim 2020 Black Sea Bass, Scup, and Bluefish Specifications

The council approved interim black sea bass, scup, and bluefish catch and quota limits for 2020, which are the same as the 2019 management measures. These measures will be revised in 2020 after the operational stock assessments for these species are completed later this year. This

action was required by the council to allow the 2019 specifications to extend into the first few months of 2020 because catch and landings limits for these three species do not roll over from one year to the next.

Chub Mackerel Amendment

The council approved management measures for a chub mackerel amendment to the council's Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan. The approved management measures include an annual total allowable landings limit of 4.50 million pounds, a 40,000-pound commercial possession limit when 90% of this limit is projected to be landed, and a 10,000-pound possession limit when 100% of this limit is projected to be landed. In addition, federal permits for Atlantic mackerel, longfin squid, *Illex* squid or butterfish are required for commercial or for-hire vessels to retain chub mackerel. This amendment applies to chub mackerel caught in federal waters (3-200 miles offshore) from Maine through North Carolina.

Upcoming Meeting

The next regularly scheduled meeting of the Mid-Atlantic Fishery Management Council is on April 8-11, 2019 at the Icona Golden Inn in Avalon, NJ.

***Definitions**

Stock – A group of fish of the same species in a given area. Unlike a fish population, a stock is defined as much by management concerns (jurisdictional boundaries or harvesting locations) as by biology.

Fishery Dependent – Data derived from the commercial and recreational fisheries and dealers; including catch, landings, and effort information.

Fishery Independent – Data derived from activities such as research and surveys that does not involve the commercial or recreational harvest of fish.

Terminal Year – The final year of estimates being used in an analysis.

Overfishing – Occurs when the rate that fish that are harvested or killed exceeds a specific threshold.

Spawning Stock Biomass – Total weight of mature females in the stock.

Recruitment – The number of fish that survive to the juvenile stage.

Fishing Mortality – Rate at which fish are removed from the population.



March 2019 Council Meeting Summary

March 6-7, 2019

Virginia Beach, VA

The following summary highlights actions taken and issues considered at the Mid-Atlantic Fishery Management Council's March 2019 meeting in Virginia Beach, VA. Presentations, briefing materials, and webinar recordings are available on the Council website at www.mafmc.org/briefing/march-2019.

Summer Flounder Specifications and Management Measures

Summary of Stock Assessment Workshop (SAW)/Stock Assessment Review Committee (SARC) 66

Dr. Jon Hare of the Northeast Fisheries Science Center presented the outcomes of the November 2018 peer review of benchmark stock assessments for summer flounder and striped bass. The summer flounder assessment concluded that the stock was not overfished and overfishing was not occurring in 2017 relative to the revised biological reference points. The assessment incorporated the revised time series of recreational catch from the Marine Recreational Information Program, which contributed to increases in the estimated summer flounder biomass over the assessment time series.

Summer Flounder 2019-2021 Specifications

The Council and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) approved revised summer flounder catch and landings limits for 2019, as well as new limits for 2020-2021, based on the results of the recent benchmark stock assessment. The approved specifications include constant catch and landings limits to be applied in each year based on a three-year averaging approach.

The table below summarizes the proposed commercial quota and recreational harvest limit (RHL) for summer flounder in each year 2019-2021. 2019 interim values and the percent change from these values are provided for comparison purposes. Interim and revised limits are prior to any deductions for past discards and landings overages.

| | <i>2019 Interim Limits (mil lb)</i> | <i>Council and Board Recommended 2019-2021 Limits (mil lb)</i> | <i>% Change from Interim 2019 Limits</i> |
|-------------------------|--|---|---|
| Commercial Quota | 7.72 | 11.53 | +49% |
| RHL | 5.15 | 7.69 | +49% |

The Commission's actions are final and apply to state waters (0-3 miles from shore). The Council will forward its recommendations for federal waters (3 – 200 miles from shore) to the NOAA Fisheries Greater Atlantic Regional Fisheries Administrator for review and final approval.

Summer Flounder 2019 Recreational Measures

The Council and Board approved the continued use of regional Conservation Equivalency for the recreational summer flounder fishery in 2019 to achieve, but not exceed, the recommended 2019 summer flounder RHL of 7.69 million pounds.

Conservation equivalency allows individual states or multi-state regions to develop customized measures that, in combination, will achieve the coastwide RHL. The Council and Board also maintained the status quo non-

preferred coastwide measures that are written into the federal regulations but waived in favor of state regulations once conservation equivalency is approved by the National Marine Fisheries Service (NMFS). These measures include a 4-fish possession limit, a 19-inch total length minimum size, and an open season of May 15 – September 15. The Council and Board also maintained the status quo precautionary default measures (i.e., a 2-fish possession limit, a 20-inch total length minimum size, and an open season of July 1 – August 31) which would be implemented in any state or region that does not adopt measures consistent with the conservation equivalency guidelines.

The Board moved to consider regional proposals for recreational measures that maintain *status quo* harvest relative to preliminary 2018 MRIP recreational harvest. The Board will consider final approval of any regional proposals in early April 2019.

Summer Flounder Commercial Issues and Goals and Objectives Amendment

The Council and Board selected preferred commercial management alternatives in the [Summer Flounder Commercial Issues Amendment](#), and recommended revisions to the Fishery Management Plan (FMP) goals and objectives for summer flounder.

The Council and Board recommended no changes to the current eligibility criteria for commercial moratorium permits for summer flounder, established through Amendment 2 in 1993.

The Council and Board also agreed to modify the state-by-state commercial quota allocations such that annual coastwide quotas of up to 9.55 million pounds would be distributed according to the current allocations. In years when the coastwide quota exceeds 9.55 million pounds, additional quota beyond this trigger would be distributed in equal shares to all states except Maine, Delaware, and New Hampshire, which would split 1% of the additional quota. This is a modified version of Alternative 2C considered through the amendment. If approved by NMFS, these revised allocations may be effective as early as January 1, 2020, but would more likely be effective January 1, 2021.

The Council and Board considered, but did not approve, a motion that would have allowed for additional commercial allocation options to be developed for future consideration.

Additionally, the Council considered, but ultimately did not approve, adding landings flexibility policies as a frameworkable issue in the Council's FMP. Any future landings flexibility policies considered by the Council would likely need to be considered through an FMP amendment process. Currently, landings flexibility can be considered through state level agreements without Council action.

The Council and Board also approved revised FMP goals and objectives for summer flounder, which focus on ensuring biological sustainability of the summer flounder stock, supporting and enhancing development of effective management measures, and optimizing social and economic benefits from the resource.

Interim 2020 Specifications for Black Sea Bass, Scup, and Bluefish

The Council approved interim 2020 catch and landings limits for black sea bass, scup, and bluefish. These include the same commercial quotas and RHLs implemented for these three species for 2019. These measures are expected to be in place only for the first few months of 2020 and will be revised as soon as possible once the results of the forthcoming operational stock assessments for all three species are available later this year. Council action was required to allow the 2019 specifications to extend into the first few months of 2020 because catch and landings limits for these three species do not roll over from one year to the next.

Black Sea Bass Management Reform

The Council and the Board discussed ongoing work related to recreational and commercial management reform. They revisited the Commission's strategic plan addressing broad issues for black sea bass recreational

management, including annual variability in management measures and equity in regional harvest opportunities. The Council and Board reaffirmed their previous commitment to form a new joint working group to further develop and analyze approaches for improving management in these areas.

They also reviewed progress made by the Commission's Commercial Black Sea Bass Working Group on options for revisions to the commercial state-by-state quota allocations and discussed implications of the federal in-season closure regulations on state-by-state quota management. The Board will continue work on these issues through their Plan Development Team. The Council initiated an amendment to address commercial black sea bass issues but agreed to postpone development of management alternatives until later in the year to allow the Commission's Plan Development Team to further develop options which may warrant consideration of Council action.

Chub Mackerel Amendment

The Council approved a suite of management measures for Atlantic chub mackerel in federal waters from Maine through North Carolina. If approved by the Secretary of Commerce, the Chub Mackerel Amendment will add chub mackerel to the Mackerel, Squid, and Butterfish FMP.

The management measures approved by the Council include an annual total allowable landings limit of 4.50 million pounds, a 40,000 pound commercial possession limit when 90% of this limit is projected to be landed, and a 10,000 pound possession limit when 100% of this limit is projected to be landed. In addition, commercial fishermen will be required to have one of the existing federal commercial permits for longfin squid, *Illex* squid, Atlantic mackerel, or butterfish in order to retain any amounts of chub mackerel in federal waters from Maine through North Carolina. Fishermen who do not already have one of these permits can obtain one of the existing open access permits. Similarly, for-hire vessels will be required to have the mackerel, squid, butterfish party/charter permit in order to retain chub mackerel.

SSC Membership

The Council approved reappointments of all 16 members of the Scientific and Statistical Committee who reapplied for additional three-year terms.

Kitty Hawk Wind Project

The Council received a presentation from Avangrid Renewables on their Kitty Hawk Wind Project, which is currently in the planning, assessment, and stakeholder outreach stage.

Next Council Meeting

Monday, April 8, 2019 – Thursday, April 11, 2019

Icona Golden Inn
7849 Dune Drive
Avalon, NJ 08202
609-368-5155



MID-ATLANTIC
FISHERY MANAGEMENT COUNCIL

PRESS RELEASE

FOR IMMEDIATE RELEASE
March 11, 2019

PRESS CONTACT: Julia Beaty
(302) 526-5250

Council Approves Chub Mackerel Management Measures

At their meeting in Virginia Beach, VA last week, the Mid-Atlantic Fishery Management Council approved a suite of management measures for Atlantic chub mackerel (*Scomber colias*) in federal waters from Maine through North Carolina. If approved by the Secretary of Commerce, the Chub Mackerel Amendment will add chub mackerel to the Mackerel, Squid, and Butterfish Fishery Management Plan.

The management measures approved by the Council include an annual total allowable landings limit of 4.50 million pounds, a 40,000 pound commercial possession limit when 90% of this limit is projected to be landed, and a 10,000 pound possession limit when 100% of this limit is projected to be landed. In addition, commercial fishermen will be required to have one of the existing federal commercial permits for longfin squid, *Illex* squid, Atlantic mackerel, or butterfish in order to retain any amounts of chub mackerel in federal waters from Maine through North Carolina. Fishermen who do not already have one of these permits can obtain one of the existing open access permits. Similarly, for-hire vessels will be required to have the mackerel, squid, butterfish party/charter permit in order to retain chub mackerel.

The Council developed these management measures to help ensure orderly growth and sustainability of the emerging chub mackerel fishery which recently developed in the mid-Atlantic and southern New England. In addition, Council management will help elevate the priority of data collection for this data-limited species. The Council has already taken steps to address an important data limitation by funding a study on the importance of chub mackerel in the diets of tunas, marlins, and other predators in the mid-Atlantic.

Questions? See <http://www.mafmc.org/actions/chub-mackerel-amendment> or contact Julia Beaty, Fishery Management Specialist, jbeaty@mafmc.org, (302)526-5250.



Summer Flounder

2018 Stock Assessment Results and Implications for Recreational and Commercial Management

Summary

The November 2018 benchmark stock assessment found that the summer flounder stock is not overfished, and overfishing is not occurring. Among other changes, the assessment incorporated a revised, higher time series of recreational catch (harvest and discards) that contributed to increased biomass estimates. The higher biomass projections result in a proposed 49% increase in the commercial quota and recreational harvest limit (RHL) for 2019. Although the RHL will increase by 49%, the new revised estimates of recreational landings also increased. As a result, recreational measures cannot be liberalized in 2019.

2018 Stock Assessment Results

The assessment incorporated the revised time series of recreational catch from the Marine Recreational Information Program (MRIP), which is 30% higher on average compared to the previous summer flounder estimates for 1981-2017. The MRIP estimate revisions account for changes in both the angler intercept survey and recreational effort survey methodologies. While fishing mortality rates were not strongly affected by incorporating these revisions, increased recreational catch resulted in increased estimates of stock size compared to past assessments.

As described in the [assessment summary report](#), summer flounder spawning stock biomass was estimated at 78% of the revised biomass target in 2017 (not overfished), and the fishing mortality rate was estimated to be 25% below the revised overfishing threshold (not overfishing).

Recruitment of juvenile summer flounder to the fishery has been below-average since about 2011, although the driving factors behind this trend have not been identified. Bottom trawl survey data also indicates a recent trend of decreasing length and weight at age, which implies slower growth and delayed maturity. These factors affected the change in biological reference points used to determine stock status.

Proposed Changes to Catch and Landings Limits

Based on the assessment biomass projections, the Council and Atlantic States Marine Fisheries Commission recommended new commercial quotas and RHLs for 2019-2021. The proposed commercial quota (prior to deductions for past overages) is 11.53 million pounds, an approximate 49% increase from the current 2019 interim limit of 7.72 million pounds. The proposed RHL is 7.69 million pounds, also a 49% increase from the current interim limit of 5.15 million pounds. Final implementation of these limits by NOAA Fisheries is expected in Spring 2019.

2019 Recreational Measures

As in other recent years, the recreational fishery in 2019 is proposed to be managed under regional conservation equivalency, with state measures remaining mostly unchanged. States may consider minor modifications to their measures if these measures will keep harvest at the same level as 2018.

Why can't recreational measures be liberalized in 2019 if the RHL is increasing?

The completion of the stock assessment marks the full transition to using the revised estimates of recreational harvest in the management process. Each year, recent harvest must be evaluated relative to the following year's RHL to determine how measures can be modified. Under the new MRIP methodology, the preliminary 2018 harvest for summer flounder was 7.17 million pounds, about 7% below the revised RHL of 7.69 million pounds. Because the 2019 RHL is within the coastwide percent standard error (PSE, a measure of precision) of the 2018 estimate, no liberalization is proposed in order to account for uncertainty in the recreational harvest estimate. In other words, the 2019 RHL is increasing, but the estimates of recreational harvest have also substantially increased, leaving little room for changes in 2019.

What will happen with recreational measures going forward?

Recreational measures for 2020 will be considered in December 2019. Whether and how measures could be modified will depend on harvest levels through late summer/early fall 2019, and how projected 2019 harvest compares to the 2020 RHL. Alternative methods for setting recreational measures may be considered in 2020, based on ongoing work by Council contractors and the Monitoring/Technical Committees.

2019 Commercial Measures

No changes are proposed to the commercial minimum fish size (14" inches), minimum mesh size (5.5" diamond or 6.0" square), minimum mesh size possession limit triggers or exemption programs, or other gear requirements for summer flounder in 2019. These measures will be reconsidered later in 2019 for possible changes for 2020, if warranted. The increases in the coastwide commercial quota will be reflected in increases in state quotas, and states may adjust their commercial management measures accordingly.

Additional Resources

- [66th Stock Assessment Workgroup/Stock Assessment Review Committee Assessment Summary Report](#)
- [March 2019 Council and ASMFC Board Meeting Summary](#)
- [MRIP Effort Survey Change Overview](#)
- [Public Comment Instructions & Opportunities](#)

Questions or comments? Contact Kiley Dancy at (302)-526-5257 or kdancy@mamfc.org.



Summer Flounder

Commercial Allocation Modifications

At their March 2019 meeting, the Council and Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Board (Board) identified preferred alternatives for the [Summer Flounder Commercial Issues & Goals and Objectives Amendment](#) to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan. The commercial quota allocation is proposed to be modified as described below.

Summary of Allocation Changes

The Council and Board selected a modified version of Alternative 2C, which modifies the state-by-state commercial quota allocations in years when the annual coastwide commercial quota exceeds the specified trigger of 9.55 million pounds. Annual coastwide commercial quota of up to 9.55 million pounds will continue be distributed according to the current allocations. In years when the coastwide quota exceeds 9.55 million pounds, the *additional* quota amount beyond this trigger would be distributed by equal shares to all states except Maine, Delaware, and New Hampshire, which would split 1% of the additional quota (Table 1). The total percentage allocated annually to each state is dependent on how much additional quota beyond 9.55 million pounds, if any, is available to be distributed in any given year. This allocation system is designed to provide for more equitable distribution of quota when stock biomass is relatively higher, while also considering the historic importance of the fishery to each state.

Table 1: Modified version of Alternative 2C adopted by the Council and Board as the preferred alternative for commercial allocation.

| State | Allocation of baseline quota ≤9.55 mil lb | Allocation of <u>additional</u> quota <u>beyond</u> 9.55 mil lb |
|--------------|---|---|
| ME | 0.04756% | 0.333% |
| NH | 0.00046% | 0.333% |
| MA | 6.82046% | 12.375% |
| RI | 15.68298% | 12.375% |
| CT | 2.25708% | 12.375% |
| NY | 7.64699% | 12.375% |
| NJ | 16.72499% | 12.375% |
| DE | 0.01779% | 0.333% |
| MD | 2.03910% | 12.375% |
| VA | 21.31676% | 12.375% |
| NC | 27.44584% | 12.375% |
| Total | 100% | 100% |

Implementation Timeline and Expected 2021 Allocations

The amendment will be submitted to the National Marine Fisheries Service for final approval. Once approved, these revised allocations may be effective as early as January 1, 2020 but would more likely be effective January 1, 2021.

The proposed initial commercial quota for 2019-2021 (prior to deductions for overages) is 11.53 million pounds, meaning that once revised allocations are implemented the "additional quota" in the implementation year would be approximately 2 million pounds. Table 2 compares how an 11.53 million pound coastwide quota would be distributed currently, versus how it will be distributed once the revised allocations take effect.

Table 2: Current allocation of an 11.53 million pound quota compared to proposed distribution under revised allocation system, once implemented.

| State | Current (<i>status quo</i>) state allocation percentages | <i>Status Quo</i> distribution (lb) of 11.53 mil lb quota ^a | Revised allocation percentages under 11.53 mil lb quota ^{a,b} | Revised allocation distribution (lb) in pounds of 11.53 mil lb quota ^a |
|--------------|--|--|--|---|
| ME | 0.04756% | 5,484 | 0.09663% | 11,142 |
| NH | 0.00046% | 53 | 0.05762% | 6,644 |
| MA | 6.82046% | 786,399 | 7.77432% | 896,379 |
| RI | 15.68298% | 1,808,248 | 15.11491% | 1,742,750 |
| CT | 2.25708% | 260,241 | 3.99459% | 460,576 |
| NY | 7.64699% | 881,698 | 8.45891% | 975,313 |
| NJ | 16.72499% | 1,928,391 | 15.97798% | 1,842,262 |
| DE | 0.01779% | 2,051 | 0.07198% | 8,299 |
| MD | 2.03910% | 235,108 | 3.81404% | 439,759 |
| VA | 21.31676% | 2,457,822 | 19.78123% | 2,280,776 |
| NC | 27.44584% | 3,164,505 | 24.85779% | 2,866,103 |
| Total | 100% | 11,530,000 | 100% | 11,530,000 |

^a Initial 11.53 mil lb quota for 2019-2021 is proposed by the Council and Board and pending implementation by the National Marine Fisheries Service. Quota level is prior to any deductions for past overages.

^b Percent allocation by state varies with overall coastwide quota in any given year; the revised percent allocations listed here will not apply to all future years.

Additional Resources

- [Summer Flounder Commercial Issues and Goals and Objectives Amendment Action Page](#)
- [March 2019 Council and ASMFC Board Meeting Summary](#)
- [Amendment Public Hearing Document](#)

Questions or comments? Contact Kiley Dancy at (302)-526-5257 or kdancy@mamfc.org.



April 2019 Council Meeting Summary

April 8-11, 2019

Avalon, NJ

The following summary highlights actions taken and issues considered at the Mid-Atlantic Fishery Management Council's April 2019 meeting in Avalon, NJ. Presentations, briefing materials, and webinar recordings are available at: <http://www.mafmc.org/briefing/april-2019>.

Law Enforcement, HMS, and Tilefish Committee Meeting

In November 2018 the Council held a workshop which addressed several topics, including: (1) operator versus angler (client) responsibilities for fisheries violations that occur on for-hire vessels, (2) issues related to the sale of golden tilefish and tuna by recreational vessels that do not possess U.S. Coast Guard (USCG) vessel safety requirements for commercial vessels, and (3) complexity of fishing regulations impacting enforceability.

At the April 2019 Council meeting, the Law Enforcement, Tilefish, and Highly Migratory Species (HMS) Committees met jointly and reviewed recommendations from the workshop and further prioritized them for action by the Council. The Council approved these recommendations and agreed to follow up on several topics with the NOAA Office of Law Enforcement, NOAA General Counsel, the Atlantic States Marine Fisheries Commission, the NOAA Fisheries HMS Division, the NOAA Fisheries Greater Atlantic Regional Fisheries Office, the U.S. Coast Guard, the NOAA Fisheries Southeast Regional Office, and the South Atlantic Fishery Management Council. Further updates are planned for the June Council meeting.

Atlantic Surfclam and Ocean Quahog Excessive Shares Amendment

The Council reviewed a draft public hearing document for the Atlantic Surfclam and Ocean Quahog Excessive Shares Amendment and heard public testimony on the subject. The Council decided to have the committee meet again to provide additional input on the document prior to bringing it back to the Council for consideration and approval. The Council is considering a variety of approaches to ensure that no individual, corporation, or other entity acquires an excessive share of the Atlantic surfclam and ocean quahog individual transferrable quota (ITQ) privileges. In addition, the amendment considers revisions to the Atlantic Surfclam and Ocean Quahog Fishery Management Plan (FMP) objectives. The amendment also includes alternatives to revise the process for specifying multi-year management measures, require periodic review of the excessive share cap level, and allow adjustments to be made under the frameworkable provisions of the FMP.

Atlantic Surfclam 2019-2020 Specifications

The Council revised its previous 2019 and 2020 Atlantic surfclam specification recommendations. In December 2018, the Scientific and Statistical Committee (SSC) revised their 2019 and 2020 Overfishing Limit and Acceptable Biological Catch (ABC) recommendations for surfclams based on new analyses presented by a joint SSC/Northeast Fisheries Science Center (NEFSC) working group. In response, at this meeting, the Council recommended a 2019 ACL of 56,419 mt and a 2020 annual catch limit (ACL) of 56,289 mt and retained the current annual catch target (ACT) of 29,363 mt and commercial quota of 26,218 mt for both years (2019 and 2020). The Council will send a letter communicating these recommendations to the National Marine Fisheries Service (NMFS).

Atlantic Surfclam and Ocean Quahog Catch Share Program Review

The Council received a presentation and heard public comments on the Atlantic surfclam and ocean quahog ITQ program review report prepared by Northern Economics, Inc. This presentation marked the beginning of a 30-day public comment period which will end on May 8.

Blueline Tilefish 2020 Specifications

The Council reviewed their previously recommended blueline tilefish specifications for the 2020 fishing year. After considering recommendations from the SSC, Tilefish Monitoring Committee, and Tilefish Advisory Panel, the Council recommended no changes to their previously recommended 2020 specifications, summarized below.

| Blueline Tilefish 2020 Specifications | |
|---------------------------------------|---|
| ABC | 100,520 pounds |
| Recreational total allowable landings | 71,912 pounds |
| Commercial total allowable landings | 26,869 pounds |
| Commercial trip limit | 500 pounds until 70% of quota is met, then 300 pounds |

Golden Tilefish 2020 Specifications

The Council reviewed their previously recommended golden tilefish specifications for the 2020 fishing year. After considering recommendations from the SSC, Tilefish Monitoring Committee, and Tilefish Advisory Panel, the Council recommended no changes to their previously recommended 2020 specifications, summarized below.

| Golden Tilefish 2020 Specifications | |
|-------------------------------------|----------------------|
| ACL | 1.636 million pounds |
| Commercial Quota - IFQ fishery | 1.554 million pounds |
| Incidental Quota | 72,398 pounds |
| Incidental Trip Limit | 500 pounds |
| Recreational Trip Limit | 8 fish |

Commercial eVTR Omnibus Framework

The Council discussed alternatives for an omnibus framework action that considers requiring federally permitted commercial vessels to submit vessel trip reports (VTRs) to NMFS electronically. This action is not intended to change existing data types being collected and operators would have a choice of which NMFS-approved eVTR application to use. This action would affect all vessels with federal commercial permits for species managed by the Mid-Atlantic Fishery Management Council; however, the Monkfish and Spiny Dogfish plans would only be affected if joint action is taken with the New England Fishery Management Council. After considering Advisory Panel and Fishery Management Action Team recommendations, the Council approved a range of alternatives, including a no action alternative, an alternative to require electronic submission of VTRs, and four alternatives that could change the VTR reporting deadline to 24 hours, 48 hours, 72 hours, or 7 days. NMFS indicated that they would likely have an extended implementation deadline of up to a year after the final rule if the Council selects an alternative to require electronic reporting. Lastly, the Council discussed the desire for a demonstration of the different applications at a future meeting.

Mid-Atlantic State of the Ecosystem Report

Sarah Gaichas (NEFSC) presented the 2019 Mid-Atlantic State of the Ecosystem report developed by the NEFSC. This report is intended to provide ecosystem-scale information relevant to fishery management decisions. Ecosystem indicators evaluate the status and trends of ecological, environmental, economic, and social components of the Mid-Atlantic Bight ecosystem. The 2019 report included new information requested by the Council such as the inclusion of the Northeast Area Monitoring and Assessment Program (NEAMAP) data and

new recreational fishery and estuarine habitat ecosystem indicators. Council members provided feedback and suggestions for continued refinement of future versions of the report.

EAFM Updates

Sarah Gaichas (NEFSC) provided an update on the Council's ecosystem approach to fisheries management (EAFM) risk assessment report. Conducting a risk assessment is the first step in the Council's EAFM structured framework to account for and incorporate ecosystem considerations into management. The Council completed its first risk assessment in 2017 and used it to evaluate and identify ecosystem indicators of highest priority. The 2019 State of the Ecosystem report updated the risk assessment ecosystem indicators. The Council also received an update on development of a summer flounder conceptual model. Conceptual model development is the second step in the EAFM framework and is meant to ensure that key relationships throughout the system are accounted for and to help answer high priority management questions. A workgroup of science and management experts was formed and has begun development of a draft model that will consider key risk factors affecting summer flounder and its fisheries. This work will take place throughout 2019.

Update on Habitat Activities

The Council received an update on the Northeast Regional Marine Fish Habitat Assessment. In addition, Karen Greene of the NMFS Greater Atlantic Regional Fisheries Office Habitat Conservation Division provided an update on projects of interest and other activities occurring in the mid-Atlantic region related to fish habitat.

Illex Permitting and Mackerel, Squid, and Butterfish Fishery Management Plan Goals Amendment

The Council held a scoping hearing on an amendment to consider modifications to the permitting system for *Illex* squid, as well as potential modifications to the FMP goals for all species in the FMP. The scoping comment period ended April 12, 2019. The Council will review scoping comments and discuss next steps at their June 2019 meeting.

ROSA Update and Meeting with UK Fishermen

The Council received an update on the formation of the Responsible Offshore Science Alliance (ROSA) and their plans regarding regional science and monitoring for offshore wind energy and fisheries interactions. In addition, fishermen from the United Kingdom presented their offshore wind experiences.

Next Council Meeting

Tuesday June 4 - Thursday June 6, 2019

Yotel Hotel

570 10th Ave.

New York, NY 10036

646-449-7700



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Steve Poland, Executive Assistant for Councils

SUBJECT: South Atlantic Fisheries Management Council Update

Issue

This memo is to update the Marine Fisheries Commission on issues discussed and actions taken by the South Atlantic Fisheries Management Council and bring to attention items of relevance to the state of North Carolina.

Findings

- NOAA Fisheries announced the 2019 American red snapper seasons for the commercial and recreational sectors. The council then initiated a framework amendment to the Snapper Grouper Fishery Management Plan to provide flexibility for setting red snapper seasons in the future.
 - Recreational season: July 12-14 and 19-20; 1-fish per person
 - Commercial season: July 8; 75-pounds gutted weight trip limit
- North Carolina Division of Marine Fisheries requested that the South Atlantic Fishery Management Council designate artificial reefs off the coast in federal waters as Special Management Zones for the Snapper Grouper fishery.
- The council began discussions about development of allocation review triggers for all of its managed fisheries.
- Further information about these findings and other issues that the council discussed can be found in the council meeting report in the briefing book, proceeding this memo.

Action Needed

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

Overview

The South Atlantic Fishery Management Council met on March 4 – 8, 2019 in Jekyll Island, GA. Highlights of the discussions and management actions taken by the Council are detailed below.

Red Snapper Season

The NOAA Fisheries announced the season dates for the 2019 American red snapper season in South Atlantic federal waters. The recreational season will last five days over two weekends.

Season duration was based on the overall catch rate of recreational red snapper from the 2018 season applied to the sector Annual Catch Limit of 29,656 fish. This resulted in five projected days for the recreational sector to catch the Annual Catch Limit. The dates will be July 12 – 14 and 19 – 20. Bag limits and size limits will remain the same as in years past; one-fish per person and no size limit. The division will also continue its recreational American red snapper carcass donation program to collect much need size and maturity information for upcoming assessments. The commercial season will open July 8 and continue until the commercial Annual Catch Limit of 124,815 pounds is met. The commercial trip limit will be 75 pounds gutted weight of fish per trip.

Following the announcement of the 2019 American red snapper season by NOAA Fisheries, the council expressed a desire to adjust the recreational dates to begin before the commercial season and to spread the five days over additional weekends to mitigate impacts from poor weather. Council staff and NOAA Fisheries staff informed the council that this was not possible under the current management plan because the language in the final rule specified the timing of the commercial and recreational seasons to the first Monday and Friday, respectively, following Independence Day. The council voted to initiate an abbreviated framework amendment to the Snapper Grouper Fishery Management Plan to allow the council flexibility in specifying the season start dates and period. The amendment is intended to be completed prior to the 2020 American red snapper season.

Special Management Zone request

The North Carolina Division of Marine Fisheries' Director formally requested the establishment of Special Management Zones to encompass the state's artificial reefs in federal waters. The Snapper Grouper Fishery Management Plan allows for states to delineate their artificial reefs and establish gear restrictions within these zones. The requested gear restrictions for the 30 artificial reef sites off of North Carolina include the prohibition of gear other than handline, rod-and-reel, and spearfishing gear and limit the possession of snapper grouper species to the recreational bag limits when using spearfishing gear. The council will review the draft regulatory amendment at its September meeting and schedule public hearings in North Carolina in the fall.

Allocation Review Triggers

NOAA Fisheries and the councils updated their policy for evaluating fishery allocations between sectors periodically and the criteria for triggering these reviews. The new policy required that each council specify triggers for initiating these reviews at regular intervals, with a deadline of August 2019. Subsequently, the passing of the Modernizing Recreational Fisheries Management Act requires that the Comptroller General conduct a study within one year in the Gulf of Mexico and South Atlantic Fishery Management Councils' jurisdictions that will "recommend criteria that could be used for allocating/reallocating fishing privileges" among sectors and "develop recommendations of procedures for allocation reviews and potential adjustments in allocations." The South Atlantic Fishery Management Council began developing their allocation review triggers policy in 2018 and decided to continue development based on the new legislation to provide a basis for the Comptrollers report. The council discussed potential criteria to trigger a review of allocations and settled on indicator-based and time-based triggers. Potential indicator-based criteria include continued over or under harvest of a sector's allocation over a specified time, or results from a stock assessment or Fishery Performance Report that may indicate a need for an allocation review. Time-based triggers include discreet time periods for each species that

will trigger a review. The council briefly began a discussion on types of information to be considered when determining allocations between sectors. Discussions on the allocation review policy will continue at the June council meeting.

Miscellaneous actions

Regulatory Amendment 42 to the Snapper Grouper Fishery Management Plan was approved for formal secretarial review. This amendment modifies the allowable sea turtle release gear that a fisherman is required to have on board their vessel.

Results of the recreational scoping workshops for innovative ways to manage the snapper grouper fishery that were conducted by the American Sportfishing Association, Coastal Conservation Association and Yamaha Marine Group were presented to the council for consideration. Recommendations included regional regulation for some snapper grouper species, harvest tags for deep-water species, development of state-based permit or angler registry, require recreational reporting of some species and continue development of descending device requirements. The council requested input from the Snapper Grouper Advisory Panel and will consider the recommendations when working on snapper grouper management plan actions in the future.

Upcoming Events

The next meeting of the South Atlantic Fisheries Management Council will be June 8 – 12, 2019 in Stuart, FL.



SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

4055 Faber Place Drive, Suite 201, North Charleston SC 29405
 Call: (843) 571-4366 | Toll-Free: (866) SAFMC-10 | Fax: (843) 769-4520 | Connect: www.safmc.net

Jessica McCawley, Chair | Mel Bell, Vice Chair
 Gregg T. Waugh, Executive Director

MARCH 4-8, 2019 COUNCIL MEETING REPORT JEKYLL ISLAND, GEORGIA

The following summary highlights the major issues discussed and actions taken at the South Atlantic Fishery Management Council’s March 2019 meeting in Jekyll Island, Georgia. Briefing materials, presentations, and public comments are available on the Council’s website at: <http://safmc.net/safmc-meetings/council-meetings/>

Final Committee Reports contain more details of what was accomplished for each committee and are located on the March 2019 briefing book page. In addition, the Summary of Motions on the Council’s website includes all motions from the meeting. Read further details and see images and other links at the March 2019 Council Meeting Round-up Story Map: <https://www.arcgis.com/apps/MapJournal/index.html?appid=46c78d75841c4cf6baacd5d36cef365c>

| Issue: | Action Taken: | Schedule: |
|-------------|--|---|
| Red Snapper | NMFS reported that the 2019 season would be 5 days long with the following regulations: <ul style="list-style-type: none"> ○ The recreational annual catch limit will be 29,656 fish. <ul style="list-style-type: none"> ▪ The recreational bag limit will be one red snapper per person per day. This applies to private and charterboat/headboat vessels (the captain and crew on for-hire vessels may retain the recreational bag limit). ▪ No minimum size limit. ○ The commercial annual catch limit will be 124,815 pounds whole weight (12,854 fish). <ul style="list-style-type: none"> ▪ The commercial trip limit will be 75 pounds gutted weight. (trip limits are per day - if a vessel makes multiple trips per day, the 75lbs (gw) trip limit can only be harvested once per day) ▪ No minimum size limit. | <ul style="list-style-type: none"> ○ The recreational sector will open for harvest on the following days: <ul style="list-style-type: none"> ▪ July 12, 13, & 14 – The recreational season opens at 12:01 a.m., local time, on Friday July 12, 2019, and closes at 12:01 a.m., local time, on July 15, 2019. ▪ July 19 & 20 – The recreational season opens again at 12:01 a.m., local time, on Friday July 19, 2019, and closes at 12:01 a.m., local time, on July 21, 2019. ○ The commercial sector will open at 12:01 a.m., local time, on July 8, 2019, and will close at 11:59 p.m., local time, on January 1, 2020, unless the commercial annual catch limit is met or projected to be met before this date. |

| Issue: | Action Taken: | Schedule: |
|---|--|---|
| Snapper Grouper Regulatory Amendment 29 (Best Fishing Practices & Powerheads) | Reviewed document and: <ol style="list-style-type: none"> 1. Added a research & monitoring plan for descending devices 2. Modified alternatives to require descending devices or venting within 6 months of implementation and selected descending devices as a preferred alternative for private, for-hire, and commercial vessels 3. Clarified that descending device should be rigged and ready for use while fishing is occurring 4. Require the use of non-offset, non-stainless-steel circle hooks when using hook-and-line gear and natural baits in the EEZ north of 28 degrees north latitude (about 25 miles south of Cape Canaveral, FL) 5. Consult with the SSC on how a non-offset circle hook requirement will be used in stock assessments 6. Require use of non-stainless-steel hooks when fishing with hook-and-line gear and natural baits in the EEZ 7. Allow powerheads in the EEZ off SC | Take to the Law Enforcement AP for review. Conduct public hearings prior to the June 2019 meeting. |
| Red Grouper Regulatory Amendment 30 | The Council reviewed and modified the amendment and approved all actions in the amendment for final approval in June. Actions include: <ul style="list-style-type: none"> • Revise the rebuilding schedule to equal the maximum time allowed to rebuild (Tmax) which is 10 years ending in 2028 with 2019 = Year 1 • Jan thru April no recreational or commercial harvest/possession/sale/purchase of any shallow-water grouper (gag, black grouper, scamp, red grouper, yellowfin grouper, yellowmouth grouper, red hind, rock hind, grasby, or coney) and extend the closure off NC & SC for red grouper in May • Establish a commercial red grouper trip limit = 200 pounds gutted weight | Council requested that staff bring Regulator Amendment 30 back at the June 2019 meeting for consideration for final approval. |
| Sea Turtle Release Gear & Framework Modification | Regulatory Amendment 42 – the Council reviewed and modified the amendment: <ul style="list-style-type: none"> • Removed vision blueprint objectives • Actions make compliance easier | Approved for formal review. The document will be sent for formal review prior to the June Council meeting. |
| Wreckfish ITQ Review | The Council received an update and will see a draft final document in June. | Approve for formal review at the September 2019 meeting. |

| Issue: | Action Taken: | Schedule: |
|---|--|---|
| Results of Recreational Workshops | <p>ASA, CCA, and Yamaha Marine Group reported the following recommendations:</p> <ul style="list-style-type: none"> • The Council should consider regional regulations for appropriate species. • The Council should continue to explore harvest rate management for high value snapper grouper species, especially for red snapper. • The Council could consider an Exempted Fishing Permit for a pilot program to test harvest tags for certain deep-water species (i.e., those with low annual catch limits or low abundance). • The Council should work with state partners to establish a registration for anglers targeting snapper grouper species, with consistency across all states. • The Council should continue development of Snapper Grouper Amendment 46 to implement required or selective reporting for recreational anglers and continue outreach on benefits of providing data. • The Council should continue development of Snapper Grouper Amendment 29 to require use of descending devices or venting tools, along with other best fishing practices, to reduce release mortality. | <p>Results will be presented to the SG AP for their recommendations.</p> <p>The Council will consider the ASA, CCA, and Yamaha Marine Group’s recommendations as they work on the snapper grouper FMP.</p> |
| Spearfishing in the Snapper Grouper Fishery | <p>The Council reviewed a white paper on this topic.</p> <p>The Council requested staff to prepare options for vessels with SG1 permits and a spiny lobster tailing permit be allowed to retain commercial quantities (20, 30 or 40 lobsters) of spiny lobster in the EEZ north of Florida.</p> | <p>White paper to be presented to SG AP at their spring meeting. Staff to conduct a webinar with commercial spearfishing participants after the June 2019 meeting.</p> <p>Lobster options to be presented at the June 2019 Council meeting.</p> |
| Special Management Zones (SMZs) around Artificial Reefs | <p>NC requested SMZs around 30 artificial reefs in the EEZ off NC to prohibit gear other than handline, rod-and-reel, and spearfishing gear and to limit possession of SG species to the recreational bag limit when using spearfishing gear.</p> | <p>Draft document to be reviewed at the September 2019 meeting. SC expected to add sites and other states may as well.</p> |
| Possible move of Jacks Complex from Snapper Grouper to Mackerel Cobia FMP | <p>The Council requested staff to prepare options to consider removing the jacks complex from the SG FMP, possibly to the mackerel cobia FMP</p> | <p>The Council will review options at the June 2019 Council meeting.</p> |

| Issue: | Action Taken: | Schedule: |
|--|--|--|
| Allocation Review Trigger Policy | <p>This action would establish a policy that determines which triggers would automatically initiate a review of allocations. The Council reiterated its desire to apply both indicator-based and time-based criteria as triggers for re-examining allocations. The Council added an additional trigger criterion to consider a change to the social or economic status of at least one sector to the indicator-based criteria. The Council also discussed the GMFMC's recommendation that the "between Council" allocations of black grouper, mutton snapper, and yellowtail snapper be reassessed every 10 years. The South Atlantic Council recommended that the "between Council" allocations for these species be reconsidered every 7 years.</p> <p>The Council also made the following decisions:</p> <ul style="list-style-type: none"> • The Council will revisit allocations for species each time a stock assessment for a species is accepted. • The default review for allocations will occur every 7 years. • To avoid reviewing all allocations potentially every 7 years, the Council wants managed species to be sorted into 3 bins: 1) species that have an allocation in effect in any year prior to 2013; 2) species that last had their allocation set in 2013; and 3) species that had their allocations set in 2014 or later. The Council will review these groupings the next time they review the amendment. • A sector would need to exceed its allocation 3 out of 5 years to trigger an allocation review. • A sector would need to under harvest at least 50% of its sector ACL for 3 out of 5 years to trigger an allocation review. • The Council will review at a later date the information they would like to have to help them in determining whether or not sector allocation is warranted. | The Council will review a revised document at the June 2019 meeting. |
| Recreational Accountability Measures Amendment | The Council reviewed scoping comments, modified alternatives, and provided guidance to staff. | The Council will review an updated document at the September 2019 meeting. |

| Issue: | Action Taken: | Schedule: |
|---------------------------------|---|--|
| Citizen Science Program | The Council received a short update on the program and projects (the Scamp app to collect discard data for the next assessment and a project to document the historical catch and length distribution for early headboat catches). | Work will continue on the program and these two projects. The Scamp app is now available, and funding was just received for the photo project. |
| Dolphin Wahoo | <p>The Council reviewed a white paper on mechanisms and regulatory parameters for adding ecosystem component (EC) species to a fishery management plan (FMP), ways that other Councils have addressed EC species in FMPs, as well as background information on fisheries for bullet mackerel, frigate mackerel, and other major prey species for dolphin and wahoo.</p> <p>The Council also reviewed items for inclusion in Amendment 10 and provided guidance to staff:</p> <ul style="list-style-type: none"> • Apply catch level recommendations to actions as appropriate when available. • In Action 9, include sub-alternatives to accommodate the following gears: <ul style="list-style-type: none"> ○ American lobster traps ○ Spiny lobster pots ○ Stone crab pots ○ Black sea bass pots • Include information on HACCP training that may be required for for-hire vessel operators or crew if bag limit sales are allowed. • Bring back information on adding buoy gear to the list of allowable gears. • Removed ABC, ACL & ACT changes from the amendment. | <p>The Council requested staff hold scoping meetings on adding bullet and frigate mackerel as ecosystem components to the Dolphin Wahoo FMP in the spring of 2019. The Council will review scoping comments at the June 2019 meeting.</p> <p>A draft list of options for items to be included in Amendment 10 will be presented at the March 2019 meeting.</p> |
| For-Hire Recreational Reporting | The Council received an update on the amendment: The Amendment was approved on June 12, 2018 and the Final Rule is expected to publish in mid-April 2019 with a 60-day cooling off period. | A mid-June 2019 effective date will allow ACCSP to incorporate the permit information from NMFS. NMFS is exploring exempting dual permit holders until the Gulf system is implemented. Training and outreach will continue, and details will be shared once the final rule publishes. |

| Issue: | Action Taken: | Schedule: |
|---|--|--|
| <p>Habitat and Ecosystem Based Management</p> | <p>The Council hosted the representatives from the New England/Mid-Atlantic Councils and ASMFC to discuss the issue of species expanding northwards.</p> <p>There was agreement to move forward with the following two groups/activities:</p> <ol style="list-style-type: none"> 1. Science/Data – the Northeast and Southeast Fisheries Science Centers are leading this effort and a workshop is currently being scheduled. The Councils want to be involved in the workshop/discussions, in part to ensure ongoing fishery independent data collection programs continue (e.g., SEAMAP, NEAMAP, SEFIS, and State programs). The South Atlantic Council’s Citizen Science Program is exploring a mechanism for the public to act as an early warning system to report when new species show up in an area. 2. Governance – the CCC members of the New England, Mid-Atlantic, and South Atlantic Councils and the ASMFC Executive Director will work to develop a way to manage these species that clearly identifies each groups roles/responsibility without any group losing any authority. This group should meet more frequently as needed via conference calls, webinars, and additional in-person meetings in conjunction with other meetings of the partners (e.g., NRCC meetings). The CCC/ASMFC group will designate staff from their respective organizations to evaluate the following approaches: <ol style="list-style-type: none"> a. Options included in Attachment A5 from this meeting. b. Scenario Planning Exercise used by the Pacific Council. c. Base Realignment and Closure (BRAC) approach used to consider potential military base closures. d. Identify roles for each group in this “obligatory partnership”. <p>Debra Hernandez, Executive Director of the Southeast Coastal Ocean Observing Regional Association (SECOORA) provided the Committee an overview of the organization composed of coastal and ocean scientists, businesses and stakeholders working together to monitor and observe the ocean to understand change and enable better decision-making.</p> | <p>The Council will have further talks with the NEFMC, MAFMC and ASMFC at various meetings in 2019 meeting.</p> <p>The NEFSC and SEFSC will be hosting a meeting in the near future to discuss data issues and the Council will participate.</p> |

| Issue: | Action Taken: | Schedule: |
|---------------|--|---|
| SEDAR | <p>The Council received an update on projects and the impacts of the government closure. The Council also discussed concerns raised by the State of Florida and others about the new MRIP numbers. The Council directed staff to organize an SSC workshop to identify MRIP data concerns across the South Atlantic, identify specific uncertainties or potential bias, and develop recommendations on how to proceed in the short-term for using the data in stock assessments, in developing ABC recommendations, and evaluating ACLs; include representatives from each State, MRIP/S&T, and SEFSC. The Council also approved the king mackerel assessment terms of reference.</p> | <p>The SSC will discuss the proposed MRIP workshop at their April 2019 meeting.</p> <p>The next SEDAR Steering Committee meeting will be May 16-17, 2019 in Charleston, SC to discuss project planning, long-term priorities, and other issues.</p> |
| AP Selection | <p>The Council made appointments for the SMP Workgroup and for the Coral, Dolphin Wahoo, Habitat, Law Enforcement, Mackerel Cobia, and Snapper Grouper Advisory Panels. Discussions will continue on options for having a GA Commercial representative on the SMP Workgroup and a designated Research/Geologist At-Large seat on the Habitat AP during its June 2019 meeting.</p> | <p>Discussions will continue on options for having a GA Commercial representative on the SMP Workgroup and a designated Research/Geologist At-Large seat on the Habitat AP during its June 2019 meeting.</p> |
| MyFishCount | <p>Kelsey Dick, Council staff, gave an update:</p> <ul style="list-style-type: none"> • 862 users/member profiles • 915 trips logged • App & web portal continue to be promoted; webinar trainings are underway • Cooperation with SC Wildlife Federation on a Best Fishing Practices tutorial • Shiny app (data.safmc.net/MyFishCount) that allows anglers to access information collected through MyFishCount • Survey to understand angler perceptions & opinions • Data are being edited and uploaded to ACCSP | <p>Council staff will continue working with private recreational fishermen to have them report, especially during the red snapper season. This experience will be used by the Council as they continue to work on the permitting and reporting amendment at the September 2019 meeting.</p> |

| Issue: | Action Taken: | Schedule: |
|---------------|---|---|
| Mackerel | <p>The Council reviewed stakeholder and Mackerel Cobia Advisory Panel (MCAP) concerns about the low commercial trip limit in the Atlantic Southern Zone during season two (October to the end of February) and directed staff to begin work on a framework amendment to increase the trip limits; staff will work with the Mackerel AP to develop a range of trip limit alternatives.</p> <p>The Council reviewed concerns expressed by the AP regarding increased participation in the commercial Spanish mackerel fishery and closures that have occurred recently in the Atlantic northern zone (NY through NC) and southern zone (SC through Miami-Dade/Monroe, Florida). The Council discussed options to address commercial closures and directed staff to take the issue to the AP for discussion.</p> | <p>The Council directed staff to hold a Mackerel Cobia AP meeting via webinar prior to the June 2019 Council meeting to discuss Atlantic king mackerel commercial trip limits, closures in the commercial Spanish mackerel fishery, and CMP Framework Amendment 7.</p> <p>The Council will review an Options Paper on king mackerel trip limits and receive an update on items in CMP Amendment 24 (Spanish mackerel allocations) at the June 2019 meeting.</p> |



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Randy Gregory, Division of Marine Fisheries, NCDEQ

SUBJECT: Highly Migratory Species Update

Issue

Highly Migratory Species activity update.

Action Needed

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

Overview

The Highly Migratory Species Advisory Panel will meet May 21-23, 2019 in Silver Spring, Maryland. The advisory panel will discuss the Amendment 7 bluefin tuna management three-year review, a proposed rule and Draft Environmental Impact Statement for pelagic longline bluefin tuna area-based weak hook management measures, and scoping for Amendment 13 (bluefin tuna). In April, NOAA Fisheries updated the commercial, recreational, and dealer compliance guides for Highly Migratory Species to reflect changes in regulations for tunas and mako shark. The compliance guides can be accessed on the NOAA Fisheries Atlantic Highly Migratory Species website.

Tuna

On Jan. 1, 2019, the January General category Atlantic bluefin tuna sub-quota opened with a daily retention limit of one large medium or giant bluefin tuna (measuring 73 inches or greater) per vessel per day/trip. Although it is called the "January" sub-quota, the regulations allow the General category fishery under this quota to continue until the sub-quota is reached or until March 31, whichever comes first, and it will remain closed until the General category fishery reopens on June 1, 2019. NOAA Fisheries transferred 19.5 metric tons of quota from the 28.9 metric ton General category December 2019 sub-quota period to the January 2019 sub-quota period, resulting in a sub-quota of 49 metric tons for the January 2019 period and a sub-quota of 9.4 metric ton for the December 2019 period. In February, NOAA Fisheries transferred additional quota into the January sub-quota from the Reserve category resulting in a 100 metric ton sub-quota. On Feb. 28, 2019, NOAA Fisheries closed the January sub-quota with landings of 108 metric tons.

NOAA Fisheries closed the recreational Atlantic bluefin tuna Angling category fishery for large medium and giant "trophy" bluefin tuna (measuring 73" or greater) in the southern area (includes North Carolina) on March 14, 2019, and the fishery will remain closed through Dec. 31, 2019. The southern area is the area south of 39°18'N (off Great Egg Inlet, NJ), outside the Gulf of Mexico. The recreational Atlantic bluefin tuna fishery remains open for bluefin tuna less than 73 inches. The bluefin tuna daily retention limit is the default limit of one school, large school, or small medium bluefin tuna (27 inches to less than 73 inches).

Red Drum Landings 2017-2019

Landings are complete through January 31, 2019.

2017 landings are final. 2018 and 2019 landings are preliminary.

| Year | Month | Species | Pounds | 2009-2011 Average | 2013-2015 Average |
|------|-------|----------|--------|----------------------|----------------------|
| 2017 | 9 | Red Drum | 28,280 | 28,991 | 35,003 |
| 2017 | 10 | Red Drum | 58,824 | 43,644 | 63,662 |
| 2017 | 11 | Red Drum | 28,201 | 14,318 | 27,643 |
| 2017 | 12 | Red Drum | 4,714 | 3,428 | 2,197 |
| 2018 | 1 | Red Drum | 2,056 | 5,885 | 1,699 |
| 2018 | 2 | Red Drum | 2,176 | 3,448 | 3,996 |
| 2018 | 3 | Red Drum | 4,797 | 5,699 | 3,971 |
| 2018 | 4 | Red Drum | 17,096 | 7,848 | 6,528 |
| 2018 | 5 | Red Drum | 15,656 | 13,730 | 9,664 |
| 2018 | 6 | Red Drum | 11,673 | 12,681 | 6,985 |
| 2018 | 7 | Red Drum | 9,934 | 13,777 | 15,618 |
| 2018 | 8 | Red Drum | 14,995 | 21,252 | 15,846 |

Fishing Year (Sept 1, 2017 - Aug 31, 2018) Landings **198,401**

| Year | Month | Species | Pounds | 2009-2011 Average | 2013-2015 Average |
|------|-------|----------|--------|----------------------|----------------------|
| 2018 | 9 | Red Drum | 11,149 | 28,991 | 35,003 |
| 2018 | 10 | Red Drum | 42,805 | 43,644 | 63,662 |
| 2018 | 11 | Red Drum | 10,076 | 14,318 | 27,643 |
| 2018 | 12 | Red Drum | 2,052 | 3,428 | 2,197 |
| 2019 | 1 | Red Drum | 2,101 | 5,885 | 1,699 |
| 2019 | 2 | Red Drum | 1,236 | 3,448 | 3,996 * |
| 2019 | 3 | Red Drum | 740 | 5,699 | 3,971 * |

Fishing Year (Sept 1, 2018 - Aug 31, 2019) Landings **70,157**

*partial trip ticket landings only

***landings are confidential

| Year | Month | Species | Pounds | Dealers | Trips | Average (2007-2009) |
|------|-------|-------------------|---------|---------|-------|---------------------|
| 2015 | 1 | SOUTHERN FLOUNDER | 1,984 | 30 | 237 | 7,713 |
| 2015 | 2 | SOUTHERN FLOUNDER | 495 | 21 | 93 | 4,617 |
| 2015 | 3 | SOUTHERN FLOUNDER | 10,750 | 62 | 768 | 23,512 |
| 2015 | 4 | SOUTHERN FLOUNDER | 20,812 | 88 | 1,072 | 68,389 |
| 2015 | 5 | SOUTHERN FLOUNDER | 42,424 | 117 | 1,279 | 122,514 |
| 2015 | 6 | SOUTHERN FLOUNDER | 53,835 | 116 | 1,481 | 154,090 |
| 2015 | 7 | SOUTHERN FLOUNDER | 42,806 | 106 | 1,144 | 170,387 |
| 2015 | 8 | SOUTHERN FLOUNDER | 43,900 | 111 | 1,152 | 201,862 |
| 2015 | 9 | SOUTHERN FLOUNDER | 255,067 | 122 | 2,335 | 396,301 |
| 2015 | 10 | SOUTHERN FLOUNDER | 429,234 | 127 | 2,554 | 781,717 |
| 2015 | 11 | SOUTHERN FLOUNDER | 301,556 | 90 | 1,756 | 392,150 |
| 2015 | 12 | SOUTHERN FLOUNDER | 89 | 7 | 10 | 37,303 |
| 2016 | 1 | SOUTHERN FLOUNDER | 2,625 | 33 | 264 | 7,713 |
| 2016 | 2 | SOUTHERN FLOUNDER | 1,643 | 31 | 291 | 4,617 |
| 2016 | 3 | SOUTHERN FLOUNDER | 9,260 | 58 | 915 | 23,512 |
| 2016 | 4 | SOUTHERN FLOUNDER | 10,558 | 72 | 628 | 68,389 |
| 2016 | 5 | SOUTHERN FLOUNDER | 24,522 | 90 | 821 | 122,514 |
| 2016 | 6 | SOUTHERN FLOUNDER | 44,952 | 100 | 1,242 | 154,090 |
| 2016 | 7 | SOUTHERN FLOUNDER | 43,574 | 102 | 1,132 | 170,387 |
| 2016 | 8 | SOUTHERN FLOUNDER | 53,057 | 106 | 1,409 | 201,862 |
| 2016 | 9 | SOUTHERN FLOUNDER | 246,269 | 131 | 3,011 | 396,301 |
| 2016 | 10 | SOUTHERN FLOUNDER | 280,689 | 117 | 2,181 | 781,717 |
| 2016 | 11 | SOUTHERN FLOUNDER | 182,768 | 102 | 1,479 | 392,150 |
| 2016 | 12 | SOUTHERN FLOUNDER | 14 | 5 | 5 | 37,303 |
| 2017 | 1 | SOUTHERN FLOUNDER | 1,677 | 38 | 122 | 7,713 |
| 2017 | 2 | SOUTHERN FLOUNDER | 2,758 | 55 | 215 | 4,617 |
| 2017 | 3 | SOUTHERN FLOUNDER | 8,254 | 67 | 874 | 23,512 |
| 2017 | 4 | SOUTHERN FLOUNDER | 9,591 | 83 | 787 | 68,389 |
| 2017 | 5 | SOUTHERN FLOUNDER | 33,105 | 105 | 1,121 | 122,514 |
| 2017 | 6 | SOUTHERN FLOUNDER | 74,785 | 115 | 1,904 | 154,090 |
| 2017 | 7 | SOUTHERN FLOUNDER | 74,879 | 108 | 1,755 | 170,387 |
| 2017 | 8 | SOUTHERN FLOUNDER | 102,751 | 116 | 2,364 | 201,862 |
| 2017 | 9 | SOUTHERN FLOUNDER | 235,915 | 128 | 2,849 | 396,301 |
| 2017 | 10 | SOUTHERN FLOUNDER | 548,740 | 142 | 3,971 | 781,717 |
| 2017 | 11 | SOUTHERN FLOUNDER | 302,286 | 123 | 2,003 | 392,150 |
| 2017 | 12 | SOUTHERN FLOUNDER | 166 | 7 | 8 | 37,303 |
| 2018 | 1 | SOUTHERN FLOUNDER | 610 | 14 | 43 | 7,713 |
| 2018 | 2 | SOUTHERN FLOUNDER | 1,833 | 34 | 154 | 4,617 |
| 2018 | 3 | SOUTHERN FLOUNDER | 2,815 | 43 | 387 | 23,512 |
| 2018 | 4 | SOUTHERN FLOUNDER | 7,971 | 72 | 759 | 68,389 |
| 2018 | 5 | SOUTHERN FLOUNDER | 18,268 | 89 | 947 | 122,514 |
| 2018 | 6 | SOUTHERN FLOUNDER | 42,495 | 105 | 1,406 | 154,090 |
| 2018 | 7 | SOUTHERN FLOUNDER | 57,054 | 116 | 1,491 | 170,387 |
| 2018 | 8 | SOUTHERN FLOUNDER | 72,528 | 121 | 1,917 | 201,862 |
| 2018 | 9 | SOUTHERN FLOUNDER | 108,945 | 114 | 1,772 | 396,301 |
| 2018 | 10 | SOUTHERN FLOUNDER | 362,388 | 109 | 3,056 | 781,717 |
| 2018 | 11 | SOUTHERN FLOUNDER | 226,832 | 89 | 1,352 | 392,150 |
| 2018 | 12 | SOUTHERN FLOUNDER | 471 | 5 | 5 | 37,303 |
| 2019 | 1 | SOUTHERN FLOUNDER | 524 | 25 | 74 | 7,713 |
| 2019 | 2 | SOUTHERN FLOUNDER | 272 | 13 | 51 | 4,617 * |
| 2019 | 3 | SOUTHERN FLOUNDER | 871 | 26 | 173 | 23,512 * |
| 2019 | 4 | SOUTHERN FLOUNDER | *** | 1 | 1 | 68,389 * |

*2018 and 2019 data are preliminary. Data are complete through January 2019.

***data are confidential



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Lara Klibansky, Protected Resources Biologist Supervisor

SUBJECT: Protected Resources Program Update

Issue

Summary information is provided from the division's Protected Resources Program from January 2019 through March 2019.

Action Needed

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

Overview

Observer Program

Tables summarizing observer coverage and protected species interactions* from January 2019 through March 2019 are included. These tables provide the number of trips, observed trips, observer coverage and protected species interactions for anchored large and small mesh gill nets by month and management unit. Please note that observer coverage is based on the average number of trips from previous years' finalized trip ticket data since 2019 trip data are preliminary and not available for analysis.

One dead Atlantic sturgeon interaction was observed in anchored small mesh gill nets in February 2019. No interactions were observed for anchored large mesh gill nets from January 2019 through March 2019. Marine Patrol reported two Atlantic sturgeon interactions in February 2019, one was released alive and one was dead, both were takes in illegally set gill nets. No fishermen self-reported Atlantic sturgeon interactions occurred during this time.

No sea turtle interactions were observed in anchored large or small mesh gill nets from January 2019 through March 2019, and no fishermen self-reported sea turtle interactions occurred during this time.

Annual Reports for Sea Turtle and Atlantic Sturgeon Incidental Take Permits

Included in the briefing materials are the annual reports for the Sea Turtle and Atlantic Sturgeon Incidental Take Permits that were submitted to the NOAA Fisheries in February. The annual reports provide a thorough description of all N.C. Observer Program activities, data collection methods and results.

Notable Protected Resources Related Management Regulation Changes (see Table 5 for all changes)

- Proclamation M-9-2019 reopened large portions of Management Unit A to gill nets on April 8. This opening was possible because of increased observer coverage in Management Unit A, reducing the extrapolatory impact of individual sturgeon takes.
- Proclamation M-8-2019 created a 100-yard gillnet corridor beginning April 8, 2019 by expanding the gill net restriction described in Proclamation M-20-2014 from 5-inch mesh and smaller to all mesh sized anchored gill nets. This proclamation was issued in response to the Bottlenose Dolphin Take Reduction Team recommendations. The oceanside corridor is known to be frequented by both the northern and southern estuarine bottlenose dolphin stocks.
- There were no closures during the January – March time period.

***Definition**

Incidental Take Permit Interaction - when a protected species is caught or otherwise comes in contact with a gill net.

Table 1. Preliminary data collected for large mesh gill nets by month and management unit through the NCDMF Observer Program through March 2019.

| Month | Unit | Trips | | Observer Large Mesh | | | | Observed Takes By Species | | | | | | | | | |
|----------|------|------------------------|---------------------|--------------------------|-------|--------|-----------------------|---------------------------|------|-------|------|------------|------|---------|------------|------|---|
| | | Estimated ¹ | Actual ₂ | AP Attempts ³ | Trips | Yards | Coverage ⁴ | Kemp's | | Green | | Loggerhead | | Unknown | A.Sturgeon | | |
| | | | | | | | | Live | Dead | Live | Dead | Live | Dead | Live | Live | Dead | |
| January | A | 248 | 258 | 30 | 16 | 5,920 | 6.5 | | | | | | | | | | |
| | B | 28 | 3 | 14 | 0 | 0 | 0.0 | | | | | | | | | | |
| | C | 7 | 18 | 13 | 1 | 100 | 14.3 | | | | | | | | | | |
| | D1 | 0 | 0 | 1 | 0 | 0 | 0.0 | | | | | | | | | | |
| | D2 | 0 | 8 | 6 | 0 | 0 | 0.0 | | | | | | | | | | |
| | E | 6 | 13 | 46 | 3 | 600 | 50.0 | | | | | | | | | | |
| February | A | 433 | 158 | 43 | 19 | 11,108 | 4.4 | | | | | | | | | | |
| | B | 44 | 8 | 12 | 0 | 0 | 0.0 | | | | | | | | | | |
| | C | 77 | 13 | 16 | 8 | 5,230 | 10.4 | | | | | | | | | | |
| | D1 | 0 | 0 | 6 | 0 | 0 | 0.0 | | | | | | | | | | |
| | D2 | 2 | 0 | 5 | 0 | 0 | 0.0 | | | | | | | | | | |
| | E | 18 | 2 | 39 | 0 | 0 | 0.0 | | | | | | | | | | |
| March | A | 1,001 | 722 | 25 | 63 | 34,156 | 6.3 | | | | | | | | | | |
| | B | 48 | 19 | 13 | 0 | 0 | 0.0 | | | | | | | | | | |
| | C | 680 | 3 | 16 | 2 | 100 | 0.3 | | | | | | | | | | |
| | D1 | 0 | 0 | 2 | 0 | 0 | 0.0 | | | | | | | | | | |
| | D2 | 6 | 0 | 3 | 2 | 800 | 33.3 | | | | | | | | | | |
| | E | 52 | 6 | 43 | 1 | 500 | 1.9 | | | | | | | | | | |
| Total | | 2,650 | 1,231 | 333 | 115 | 58,514 | 4.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

¹ Finalized trip ticket data averaged from 2013-2017

² Preliminary trip ticket data for 2019

³ Alternative Platform trips where no fishing activity was found

⁴ Based on estimated trips and observer large mesh trips

Table 2. Preliminary data collected for large mesh gill nets by month through the NCDMF Observer Program through March 2019.

| Month | Trips | | Observer Large Mesh | | | | Observed Takes By Species | | | | | | | | | |
|----------|------------------------|---------------------|--------------------------|-------|--------|-----------------------|---------------------------|------|-------|------|------------|------|---------|--------------------------|------|---|
| | Estimated ₁ | Actual ₂ | AP Attempts ³ | Trips | Yards | Coverage ₄ | Kemp's | | Green | | Loggerhead | | Unknown | A. Sturgeon ⁵ | | |
| | | | | | | | Live | Dead | Live | Dead | Live | Dead | Live | Live | Dead | |
| January | 289 | 300 | 110 | 20 | 6,620 | 6.9 | | | | | | | | | | |
| February | 574 | 181 | 121 | 27 | 16,338 | 4.7 | | | | | | | | | | |
| March | 1,787 | 750 | 102 | 68 | 35,556 | 3.8 | | | | | | | | | | |
| Total | 2,650 | 1,231 | 333 | 115 | 58,514 | 4.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

¹ Finalized trip ticket data averaged from 2013-2017

² Preliminary trip ticket data for 2019

³ Alternative Platform trips where no fishing activity was found

⁴ Based on estimated trips and observer large mesh trips

Table 3. Preliminary data collected for small mesh gill nets by month and management unit through the NCDMF Observer Program through March 2019.

| Month | Unit | Trips | | Observer Small Mesh | | | Observed Takes By Species | | | | | | | | | |
|----------|------|------------------------|---------------------|---------------------|--------|-----------------------|---------------------------|------|-------|------|------------|------|---------|-------------|------|---|
| | | Estimated ¹ | Actual ₂ | Trips | Yards | Coverage ³ | Kemp's | | Green | | Loggerhead | | Unknown | A. Sturgeon | | |
| | | | | | | | Live | Dead | Live | Dead | Live | Dead | Live | Live | Dead | |
| January | A | 385 | 178 | 2 | 70 | 0.5 | | | | | | | | | | |
| | B | 178 | 173 | 0 | 0 | 0.0 | | | | | | | | | | |
| | C | 63 | 85 | 8 | 2,800 | 12.7 | | | | | | | | | | |
| | D1 | 1 | 0 | 0 | 0 | 0.0 | | | | | | | | | | |
| | D2 | 20 | 5 | 3 | 600 | 15.0 | | | | | | | | | | |
| | E | 26 | 23 | 3 | 900 | 11.5 | | | | | | | | | | |
| February | A | 479 | 151 | 6 | 1,860 | 1.3 | | | | | | | | | | |
| | B | 153 | 187 | 17 | 7,530 | 11.1 | | | | | | | | | | |
| | C | 83 | 47 | 18 | 7,400 | 21.7 | | | | | | | | | | |
| | D1 | 1 | 0 | 0 | 0 | 0.0 | | | | | | | | | | |
| | D2 | 11 | 0 | 3 | 500 | 27.3 | | | | | | | | | | |
| | E | 16 | 8 | 0 | 0 | 0.0 | | | | | | | | | | |
| March | A | 521 | 301 | 8 | 2,050 | 1.5 | | | | | | | | | | |
| | B | 316 | 288 | 21 | 10,045 | 6.6 | | | | | | | | | | |
| | C | 111 | 30 | 10 | 4,360 | 9.0 | | | | | | | | | | |
| | D1 | 7 | 7 | 0 | 0 | 0.0 | | | | | | | | | | |
| | D2 | 4 | 0 | 0 | 0 | 0.0 | | | | | | | | | | |
| | E | 23 | 9 | 2 | 400 | 8.7 | | | | | | | | | | |
| Total | | 2,398 | 1,492 | 101 | 38,515 | 4.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

¹ Finalized trip ticket data averaged from 2013-2017

² Preliminary trip ticket data for 2019

³ Based on estimated trips and observer small mesh trips

Table 4. Preliminary data collected for small mesh gill nets by month through the NCDMF Observer Program through March 2019.

| Month | Trips | | Observer Small Mesh | | | Observed Takes By Species | | | | | | | | | | |
|----------|------------------------|---------------------|---------------------|--------|-----------------------|---------------------------|------|-------|------|------------|------|---------|-------------|------|---|----------|
| | Estimated ¹ | Actual ² | Trips | Yards | Coverage ³ | Kemp's | | Green | | Loggerhead | | Unknown | A. Sturgeon | | | |
| | | | | | | Live | Dead | Live | Dead | Live | Dead | Live | Live | Dead | | |
| January | 673 | 464 | 16 | 4,370 | 2.4 | | | | | | | | | | | |
| February | 743 | 393 | 44 | 17,290 | 5.9 | | | | | | | | | | | 1 |
| March | 982 | 635 | 41 | 16,855 | 4.2 | | | | | | | | | | | |
| Total | 2,398 | 1,492 | 101 | 38,515 | 4.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

¹ Finalized trip ticket data averaged from 2013-2017

² Preliminary trip ticket data for 2019

³ Based on estimated trips and observer small mesh trips

Table 5. Gill net regulation changes that occurred from January to March 2019 in accordance with the Sea Turtle and Atlantic Sturgeon Incidental Take Permits.

| Date | Description of Regulation Change (Proclamation referenced) |
|-------------|--|
| January 1 | This proclamation supersedes proclamation M-14-2018 dated November 29, 2018. In Management Unit A, it is unlawful to use gill nets with a stretched mesh length other than 3 ¼ inches, or from 5 ½ inches through 6 ½ inches, EXCEPT IN THE AREAS DESCRIBED IN SECTION IV. It also maintains large mesh gill net closures and vertical height restrictions for all anchored gill net sets. This action is being taken to allow various directed gill net fisheries while minimizing interactions with endangered Atlantic sturgeon and to reduce river herring regulatory discards. (M-17-2018) |
| February 1 | This proclamation supersedes proclamation M-17-2018 dated December 21, 2018. In a portion of Management Unit A, it makes it lawful to use runaround, strike, and drop gill nets with a stretched mesh length from 5 ½ inches through 6 ½ inches. It also maintains large mesh gill net closures and vertical height restrictions for all anchored gill net sets. This action is being taken to allow a directed fishery for invasive blue catfish and continue to allow other various directed gill net fisheries while minimizing interactions with endangered Atlantic sturgeon and to reduce river herring regulatory discards. (M-2-2019) |
| February 15 | This proclamation supersedes proclamation M-10-2018 dated September 28, 2018. This proclamation implements gear exemptions for portions of the Internal Coastal Waters south of Management Unit A to allow fishermen to set gill nets for the shad fishery (See Section III.). It opens the remaining portions of Management Unit B to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches (except as described in Section III.) in accordance with the Sea Turtle Incidental Take Permit. This proclamation also maintains openings for Management Units C, D2 and portions of Management Unit E (except those described in Section II.) to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches. This action is being taken to allow directed gill net fisheries for shad while minimizing interactions with threatened and/or endangered species. (M-3-2019) |
| March 2 | This proclamation supersedes Proclamation M-2-2019 dated January 30, 2019. It opens all of Management Unit A to the use of gill nets and allows gill net configurations for harvesting American shad by removing vertical height restrictions for up to 1,000 yards of gill net with stretched mesh lengths of 5 ¼ through 6 ½ inches. This proclamation also implements additional gill net restrictions for Management Unit A, Subunit A1-South of US-64-BYP/US-64, in accordance with the Sea Turtle and Atlantic Sturgeon ITPs. Proclamation FF-56-2018 makes it unlawful to possess American shad for commercial purposes prior to 12:01 A.M. Sunday, March 3, 2019 and after 12:01 A.M. Sunday, March 24, 2019. (M-4-2019) |
| March 11 | This proclamation implements tie-down (vertical net height restrictions) and distance from shore restrictions for gill nets with a stretched mesh length five inches or greater in the western Pamlico Sound and rivers in accordance with Supplement A to Amendment 1 to the N.C. Estuarine Striped Bass Fishery Management Plan. (M-5-2019) |

Table 5. Continued

| Date | Description of Regulation Change (Proclamation referenced) |
|----------|---|
| March 18 | <p>During an emergency meeting on March 13, 2019, the N.C. Marine Fisheries Commission directed the N.C. Division of Marine Fisheries Director to issue this proclamation 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. This proclamation supersedes proclamation M-5-2019, dated March 7, 2019. This proclamation prohibits the use of ALL gill nets upstream of the ferry lines from the Bayview Ferry to Aurora Ferry on the Pamlico River and the Minnesott Beach Ferry to Cherry Branch Ferry on the Neuse River. It maintains tie-down (vertical net height restrictions) and distance from shore restrictions for gill nets with a stretched mesh length 5 inches and greater in the western Pamlico Sound and rivers (excluding the areas described in Section I. B.) in accordance with Supplement A to Amendment 1 to the N.C. Estuarine Striped Bass Fishery Management Plan. (M-6-2019)</p> |
| March 25 | <p>This proclamation supersedes proclamation M-4-2019 dated February 27, 2019. In Management Unit A it removes the use of gill nets configured for harvesting American shad by implementing vertical height restrictions for all stationary gill nets. This proclamation also closes portions of Management Unit A to large mesh stationary gill nets, allows the use of run-around, strike, and drop nets with a stretched mesh length of 5½ inches through 6½ inches in a portion of Management Unit A, and maintains additional gill net restrictions for Management Unit A, Subunit A1, South of US-64-BYP/US-64, in accordance with the Sea Turtle and Atlantic Sturgeon ITPs. (M-7-2019)</p> |



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

John McConnaughey, Jacob Boyd, and Lara Klibansky

North Carolina Department of Environmental Quality
North Carolina Division of Marine Fisheries
Protected Resources Section
3441 Arendell Street
Morehead City, NC 28557

February 2019

TABLE OF CONTENTS

| | |
|--------------------------------------|-----|
| TABLE OF CONTENTS..... | ii |
| LIST OF TABLES..... | iii |
| 1 Introduction..... | 5 |
| 2 Methods..... | 6 |
| 2.1 Observer Activity | 6 |
| 2.1.1 Seasons | 8 |
| 2.2 Authorized Takes | 9 |
| 2.3 Compliance..... | 9 |
| 3 Results..... | 9 |
| 3.1 Observer Activity | 9 |
| 3.1.1 Fall 2017 | 9 |
| 3.1.2 Spring 2018..... | 10 |
| 3.1.3 Summer 2018..... | 11 |
| 3.2 Authorized Takes | 12 |
| 3.3 Compliance..... | 12 |
| 3.4 Marine Mammals | 13 |
| 4 Discussion | 13 |
| 4.1 Management history..... | 13 |
| 4.2 Observer Activity | 15 |
| 4.3 Compliance..... | 16 |
| 4.3.1 Estuarine Gill-Net Permit..... | 17 |
| 5 Literature Cited | 18 |
| 6 Tables..... | 21 |
| 7 Figures..... | 37 |
| 8 Appendix A..... | 47 |
| 9 Appendix B | 49 |
| 10 Appendix C | 55 |
| 11 Appendix D..... | 57 |

LIST OF TABLES

| | |
|---|----|
| Table 1. Authorized and actual annual estimated takes with confidence intervals (95%) using a bootstrap method based on observer data for coverage and sea turtle interaction levels in large mesh (≥ 4 inch stretched mesh) gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018)..... | 21 |
| Table 2. Authorized and actual annual observed (not estimated) takes in large mesh (≥ 4 inch stretched mesh) gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018).... | 22 |
| Table 3. Authorized and actual annual observed (not estimated) takes in anchored large mesh (≥ 4 inch stretched mesh) and anchored small mesh (< 4 inch stretched mesh) gill nets combined for ITP Year 2018 (September 1, 2017–August 31, 2018)..... | 22 |
| Table 4. Authorized and actual annual observed (not estimated) takes in small mesh (< 4 inch stretched mesh-ISM) gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018)..... | 23 |
| Table 5. Total annual authorized and actual takes (estimated and observed) by species and condition for ITP Year 2018 (September 1, 2017–August 31, 2018).Table 5. | 24 |
| Table 6. Categories and descriptions of fisherman responses for the Observer Program's contact logs used for analysis..... | 24 |
| Table 7. Regulations for Management Units by date and regulation change for anchored large and small mesh gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018).... | 25 |
| Table 8. Observer coverage calculated from previous year's trip ticket data and observer data for anchored large mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018). | 27 |
| Table 9. Observer coverage calculated from previous year's trip ticket data and observer data for anchored small mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018). | 28 |
| Table 10. Summary of observed sea turtle interactions in anchored large ($n = 45$) and small ($n = 0$) mesh gill nets through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018)..... | 29 |
| Table 12. Number of gill-net checks made, and citations issued by Marine Patrol for large and small mesh gill nets by season during ITP Year 2018 (September 1, 2017–August 31, 2018)..... | 31 |
| Table 13. Citations written by Marine Patrol for large and small mesh gill nets by season and violation code during ITP Year 2018 (September 1, 2017–August 31, 2018). | 32 |
| Table 14. Contacts attempted ($n = 1,638$) by the observers trying to set up trips by season categorized by contact type (0-14) and by total number, percent for each season, and percent for the entire ITP Year 2018 (September 1, 2017–August 31, 2018)..... | 35 |
| Table 15. Notice of Violations issued by season, date and violation code for the Estuarine Gill Net Permit for ITP Year 2018 (September 1, 2017–August 31, 2018). | 36 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1. Management Units (A, B, C, D1, D2, and E) as outlined in the Conservation Plan and utilized by the Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018). | 37 |
| Figure 2. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear throughout all Management Units for ITP Year 2018 (September 1, 2017–August 31, 2018). | 38 |
| Figure 3. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit A for ITP Year 2018 (September 1, 2017–August 31, 2018). | 39 |
| Figure 4. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit B for ITP Year 2018 (September 1, 2017–August 31, 2018). | 40 |
| Figure 5. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit C for ITP Year 2018 (September 1, 2017–August 31, 2018). | 41 |
| Figure 6. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit D1 for ITP Year 2018 (September 1, 2017–August 31, 2018). | 42 |
| Figure 7. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit D2 for ITP Year 2018 (September 1, 2017–August 31, 2018). | 43 |
| Figure 8. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit E for ITP Year 2018 (September 1, 2017–August 31, 2018). | 44 |
| Figure 9. Length-frequency (curved carapace length) from notch to tip of observed incidental captures of green sea turtles where measurements were obtained (n = 35) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018). | 45 |
| Figure 10. Length-frequency (curved carapace width) of observed incidental captures of green sea turtles where measurements were obtained (n = 34) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018). | 45 |
| Figure 11. Length-frequency (curved carapace length) from notch to tip of observed incidental captures of Kemp’s ridley sea turtles where measurements were obtained (n = 6) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018). | 46 |
| Figure 12. Length-frequency (curved carapace width) from notch to tip of observed incidental captures of Kemp’s ridley sea turtles where measurements were obtained (n = 6) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018). | 46 |

1 INTRODUCTION

The North Carolina Division of Marine Fisheries (NCDMF) applied for an Incidental Take Permit (ITP) under Section 10(a)(1)(B) of the Endangered Species Act (ESA) of 1973 (Public Law 93-205) on June 14, 2010 to address sea turtle interactions with anchored gill nets in North Carolina's internal coastal (estuarine) waters. Species of sea turtles found in the estuarine waters of North Carolina include green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kempii*), loggerhead sea turtle (*Caretta caretta*), hawksbill sea turtle (*Eretmochelys imbricate*), and leatherback sea turtle (*Dermochelys coriacea*). This request was prompted by notification from the National Marine Fisheries Service (NMFS) Southeast Regional Office (SERO) in July and November 2009 indicating the need for the state of North Carolina to address unauthorized takes of sea turtles occurring in inshore anchored gill-net fisheries. A revised ITP application was submitted on August 17, 2011 based on feedback received from the NMFS on May 12, 2011. Feedback on the revised application from the NMFS was provided again on May 2, 2012 after public and peer review comments had been compiled. In response to requested changes from the NMFS, and considering the public and peer review comments, including the comments made by the North Carolina Sea Turtle Advisory Committee (NCSTAC), the NCDMF made extensive revisions to its application and resubmitted it on September 6, 2012. After another round of public and peer review comments, the NMFS requested more information and clarification on certain portions of the application. On November 14, 2012, the response to the information request was discussed via teleconference between the NMFS and the NCDMF and provided to them beforehand. The NMFS recommended that the NCDMF update the current ITP application with an appendix containing all the updated information requested.

During the November 14, 2012 teleconference, the NMFS suggested breaking down the annual requested takes for Kemp's ridley and loggerhead sea turtles cumulatively, similar to previous ITPs for the Pamlico Sound Gill Net Restricted Area (PSGNRA). The NCDMF also suggested annual cumulative requested takes for all species of sea turtles for the exempt areas. A revised application was resubmitted on January 18, 2013.

On April 17, 2013, the NMFS set up a teleconference with the NCDMF to go over the revised ITP application that was submitted on January 18, 2013. Information was provided to the NMFS to clarify issues they had with the application. On April 22, 2013, the NMFS again asked for further clarification on various aspects of the ITP application which the NCDMF promptly responded to. At that time, the NCDMF was informed by the NMFS that they hoped to have a draft permit within a month to discuss with the NCDMF. On April 30, 2013, the NCDMF staff were contacted by the NMFS for further explanation on the methodologies of the Observer Program. Explanations were provided, and the NMFS did not have any more questions at the time.

On May 20, 2013, the NCDMF had another teleconference with the NMFS concerning the ITP application status and to review the Biological Opinion and Environmental Assessment protocols. At this time, the NMFS raised concerns on the number of observed takes requested in the ITP application. During the May teleconference, the NCDMF and the NMFS agreed to base authorized takes by area on an annual basis instead of a seasonal basis. The number of requested observed takes was reduced by taking the seasonal component out of the equation. The NMFS brought up the idea of having an Implementing Agreement for the Sea Turtle ITP, much like the Implementing Agreement the NMFS had suggested for the Atlantic Sturgeon ITP. The NMFS explained that an Implementing Agreement would provide more flexibility and could reduce the risk of the permit

being suspended due to excessive takes, but it will not allow for additional takes. The NMFS explained that any new information could be provided in another appendix to the existing application. The NCDMF asked the NMFS to provide a copy of a draft Implementing Agreement for consideration.

The NCDMF received the Sea Turtle ITP (No. 16230) on September 11, 2013. The Sea Turtle ITP defined an ITP Year as beginning on September 1 and running through August 31 of the following year. This ITP authorized the implementation of adaptive management measures to protect threatened and endangered sea turtles and other ESA listed species, while allowing anchored gill-net fisheries to operate in the estuarine waters of North Carolina. The ITP's Conservation Plan specifies further measures, which the NMFS determined will minimize, monitor, and mitigate the impacts of incidental takes of ESA-listed sea turtle species associated with the otherwise lawful anchored gill-net fisheries operating in estuarine North Carolina waters. Anchored gill nets are passive sets deployed with an anchor, stake, or boat at one or both ends of the net shots or operation. Anchored gill nets do not include the following types of gill nets: run-around, strike, drop or drift gill nets.

On November 21, 2016, the NCDMF requested a minor modification to extend the annual report deadlines for the Sea Turtle and Atlantic Sturgeon (No. 18102) ITPs from January 31 to the last day in February. This extension was to benefit staff due to a lag time in data being uploaded and verified, the time of year, the deadline for the fall seasonal report, and staff availability. On January 4, 2017, the NMFS sent a letter to the NCDMF agreeing with NCDMF's request for the minor modification and encouraging staff to incorporate any further anticipated minor modifications into the application process for an updated ITP ([Appendix A](#)).

The NCDMF Observer Program data were updated using the finalized 2017 Trip Ticket Program (TTP) data in May 2018 ([Appendix B](#)). The Annual Completion Report for the Sea Turtle ITP No. 16230 was completed for ITP Year 2017 and submitted in February 2018. Using the finalized 2017 data, Tables 1, 5, 10, and 11 from the Completion Report were updated to reflect the final estimates of observer coverage and sea turtle takes. The fall 2016 season was based on finalized 2016 TTP data and did not deviate from the previous report for both anchored large and small mesh gill nets ([Appendix B](#)).

2 METHODS

2.1 Observer Activity

The conservation plan includes managing the estuarine anchored gill-net fisheries by dividing North Carolina's estuarine waters into six Management Units (A, B, C, D1, D2, and E; Figure 1). Trip Ticket Program data along with Observer Program data from previous years are used when estimating the number of trips needed for the current year in each Management Unit and season. Real time TTP data are also used for areas where effort may be increasing. Each year effort can potentially shift from one Management Unit to another making it important for the NCDMF to not base the observer effort solely on previous years' data, but also on current effort. To account for fluctuations in TTP data caused by Management Unit closings, a five-year average was used for estimating anchored large mesh gill-net fishing trips and anchored small mesh gill-net fishing trips for ITP Year 2018. This method of estimating trips proved to more accurately reflect the current fishing effort. Once TTP data are finalized in May of 2019, the final observer coverage will be recalculated, and finalized estimates for observer coverage will be provided to the NMFS.

Observer coverage was calculated for each season in each Management Unit by estimating fishing trips using an average of the previous five years' TTP data (2013–2017) for anchored large and small mesh gill nets, while taking reduced season dates in each Management Unit into account by calculating the proportion of actual, to possible fishing days. This calculated estimated fishing effort was compared to the observer trips completed throughout the ITP Year. The average, normalized effort was used when estimating fishing trips to account for the fluctuation of fishing effort throughout the years due to closures and other regulations put in place throughout the time series.

The onboard Observer Program, where observers ride onboard fishermen's vessels, is the preferred method for obtaining observer data. Protected species interactions, gear parameters, as well as detailed gill-net catch, bycatch, and discard information for all species caught are recorded. The alternative platform Observer Program requires two observers in a state-owned vessel to monitor commercial fishermen as they fish their gill nets. The alternative platform observers document protected species interactions and provide catch and discard estimates for other species that are observed. The amount of biological data that are collected on alternative platform observer trips is notably less than onboard observer trips. Therefore, onboard observer trips are highly preferred due to the amount of biological data collected which are used when making management decisions, developing stock assessments, developing fishery management plans, and identifying bycatch (finfish, protected species) problem areas. NCDMF vessels are used to perform alternative platform trips by observers and Marine Patrol Officers and follow similar data collection protocols. Each observer attempts to obtain a minimum of three to four trips per working week when fishing activity is occurring.

Observers are assigned a Management Unit to work weekly and the number of observers assigned to a Management Unit depends upon the season and fishing effort. Fishing effort is estimated from the previous 5 years' TTP data by week, month, and Management Unit to determine how much observer coverage is needed in each Management Unit by week, month, and season. Reports from observers, fishermen, and other NCDMF staff are used to determine if effort is fluctuating between Management Units. Trends from the previous years' TTP data are also analyzed to determine if fishing effort is shifting from one Management Unit to another. Fishermen holding an Estuarine Gill Net Permit (EGNP) in North Carolina are pooled by Management Unit and further split into lists by geographic area within Units. Contact information for these fishermen is then given to observers assigned to specific Management Units so that they may contact the participants to schedule an onboard trip. Preliminary TTP information is also used to refine the list to represent individuals who are actively participating in fishing activities. Observers also visit fish houses and dealers where they hand out business cards with their contact information and brochures explaining the Observer Program, giving the fishermen another outlet to allow observers on their vessels. Additionally, the Observer Program uses a website (<http://portal.ncdenr.org/web/mf/observers-program>) to provide outreach to fishermen to facilitate obtaining trips.

Alternative platform trips are used for areas that may be hard to get onboard trips (i.e., fishermen in remote locations that leave from their residence by boat) or when a fisherman's vessel is too small to safely accommodate an onboard observer. Alternative platform trips are also used in areas where fishing effort may increase quickly, where sea turtle abundance is high, and when observers are unable to set-up onboard trips due to fisherman non-compliance. Marine Patrol also conducts alternative platform trips weekly in all Management Units based on similar methodologies as the Observer Program. Coordination of onboard, alternative platform, and Marine Patrol alternative

platform trips is done regularly to maximize efficiency, avoid multiple observations of a single trip, and to achieve the maximum amount of observer coverage possible for each Management Unit. Changes in effort, sea turtle abundance (i.e., observed and reported interactions), and other protected species interactions are monitored on a daily, weekly, and monthly basis to ensure proper observer coverage is being maintained. The ITP requires a minimum of 7% observer coverage, with a goal of 10% of the total anchored large mesh gill-net (≥ 4 inches stretched mesh-ISM) fishing trips, and a minimum of 1% coverage, with a goal of 2% of the total anchored small mesh gill-net (< 4 ISM) fishing trips per Management Unit for the spring, summer, and fall seasons.

Observers are trained to identify, measure, evaluate condition, resuscitate, and tag sea turtles by the NMFS – Beaufort Lab and the NCDMF. Data collected on observed sea turtles includes: date, time, tag numbers, location (latitude and longitude, when possible), condition (i.e., no apparent harm, injury including a description of the nature of the injury, or mortality), species, sex (if determinable), and curved carapace length (CCL) in mm and curved carapace width (CCW) in mm. Photographs and environmental parameters (i.e., salinity, water temperature) are also collected when feasible. Dead sea turtles are retained by the observer when possible. All live, debilitated sea turtles are retained by the observer and delivered to the North Carolina Sea Turtle Stranding Network for examination and treatment. Observers also collect data on location, gear parameters, catch, bycatch, and discards for each haul depending on the observed trip type (onboard/alternative platform). The catch is sampled throughout each onboard trip including species, quantities, weights, lengths, and disposition (alive/dead). Data are coded onto NCDMF data sheets and uploaded to the NCDMF Biological Database for analysis. All observers are debriefed within 24 hours of each trip to obtain data on catch, set locations, gear parameters, and sea turtle interactions to provide estimates of sea turtle bycatch.

The total bycatch of sea turtles for each Management Unit was estimated using the stratified ratio method via SAS (SAS 2004). The bycatch rate (sea turtles caught per fishing trip) estimated from observer data was multiplied by the total fishing trips (average of the previous 4–5 years’ TTP data). To estimate confidence intervals (95%), the bootstrap method was used to sample estimates. Strata consisted of the six Management Units (A, B, C, D1, D2, and E; Figure 1). Estimates were calculated by date of capture, Management Unit, species, and disposition. Estimates were accumulated each week to implement necessary management measures if authorized take thresholds were approached.

$$\text{Estimated Interactions} = \left(\frac{\# \text{ of sea turtle interactions observed}}{\text{total gill-net trips observed}} \right) \text{total gill-net trips}$$

2.1.1 Seasons

The Observer Program’s activities are reported on a weekly, seasonal, and annual basis. Seasons are defined as spring (March–May), summer (June–August), and fall (September–November). Weekly progress reports are required following a week in which a sea turtle interaction occurred and includes information such as take estimates, cumulative totals, number of observed trips, and observed takes with all associated information. The seasonal progress reports include a summary of the weekly reports, additional management measures if taken, compliance, violations that occurred, and any adaptive management actions taken during the season. Annual reports include actual and estimated takes including mortality and the level of uncertainty of the estimates (i.e., 95% confidence intervals) by Management Unit, size composition along with all other interaction

information, one or more maps illustrating the geographic distribution of all observed anchored large and small mesh gill-net trips, locations of all interactions, descriptions of mitigation activities, adaptive management actions, and enforcement activities conducted during the ITP year.

2.2 Authorized Takes

Authorized levels of annual incidental takes are specified in [Tables 1–5](#). The amount of incidental takes is expressed as either estimated or observed takes depending on the amount of data available for modeling predicted takes. Extrapolated sea turtle takes were computed by dividing the number of sea turtle interactions observed by the total anchored gill-net trips observed and then multiplying by the total anchored gill-net trips. Nonparametric confidence intervals (95%) were calculated using standard bootstrapping techniques (Efron and Tibshirani 1993) using the ‘boot’ package in R (Davison and Hinkley 1997; Canty and Ripley 2015; R Core Team 2015). Bootstrap replicates were generated by sampling observer trips with replacement 5,000 times within strata (mesh/season/Management Unit; [Tables 1–5](#)). Because reaching the estimated or observed level for any category of authorized takes for any species would end the incidental take authorization for all species; it is highly unlikely that all five species would be impacted at these full levels. Takes must be incidental to otherwise lawful activities associated with the anchored large and small mesh gill-net fisheries, and as conditioned herein. The ITP covers incidental takes from the date of issuance through August 31, 2023. The NCDMF uses preliminary data to monitor the total number of live and dead takes by species per Unit to determine if the fishery is approaching or has reached the authorized takes for any sea turtle species. Once TTP data are finalized in May of 2019, the final authorized estimated sea turtle takes will be recalculated and finalized estimates will be provided to the NMFS.

2.3 Compliance

The NCDMF observers and Marine Patrol conduct weekly fish house visits, boat patrols, fisherman spot checks, gear checks, aerial surveys, and continual outreach to the industry attempting to ensure industry compliance and to determine anchored large and small mesh gill-net fishing effort throughout the state.

The Observer Program has various ways to contact fishermen to schedule trips. The most common method is by phone, due to limited program resources, fishermen leaving from private launches, and overall efficiency. The Observer Program has a contact log which is filled out for every phone call or contact that is made when attempting to obtain a trip. Each contact was put into a specific category and other information was gathered ([Table 6](#)). The contact log was analyzed by month and category to determine what percentage of phone calls resulted in observer trips.

3 RESULTS

3.1 Observer Activity

3.1.1 Fall 2017

The fall 2017 season for anchored large and small mesh gill nets in North Carolina is September 2017 through November 2017 for ITP Year 2018 (September 1, 2017–August 31, 2018) as defined in ITP No. 16230. Portions of Management Unit A (eastern Albemarle Sound) closed to anchored large and small mesh gill nets via proclamation M-18-2017 on October 29, 2017 while maintaining the closure of all anchored gill nets in the Management Unit (eastern/southern Albemarle Sound

and Croatan and Roanoke sounds) to avoid interactions with sea turtles (Boyd 2017b; [Table 7](#)). Specific sections of Management Unit B (sub-Units CGNRA, SGNRA1-3) closed to anchored large mesh gill nets for the new ITP Year 2018 to avoid sea turtle interactions via proclamation M-13-2017 on September 1, 2017. These areas of Management Unit B reopened to anchored large mesh gill nets via proclamation M-14-2017 on September 25, 2017. Management Unit C opened to anchored large and small mesh gill nets for the new ITP Year 2018 on September 1, 2017 via proclamation M-13-2017. Management Unit D1 opened to anchored large mesh gill nets for the new ITP Year 2018 via proclamation M-17-2017 on October 16, 2017. On November 9, 2017 proclamation M-19-2017 closed all of Management Unit D1 to anchored large mesh gill nets due to reaching allowable sea turtle take thresholds.

The Observer Program achieved an estimated 8.2% overall anchored large mesh gill-net coverage for the fall 2017 season meeting the minimum requirement (7.0%) in all Management Units except Management Unit D2 based on finalized data (Boyd 2017b; [Table 8](#); [Figures 2–8](#)).

The Observer Program achieved an estimated 2.3% overall anchored small mesh gill-net coverage for the fall 2017 season meeting the minimum requirement (1.0%) in all Management Units except Management Unit B (0.9%) based on finalized data (Boyd 2017b; [Table 9](#); [Figures 2–8](#)).

There were 37 observed sea turtle interactions from anchored large mesh gill nets during the fall 2017 season (Boyd 2017b; [Table 10](#); [Figures 2–8](#)). There were no observed sea turtle interactions from anchored small mesh gill nets during the fall 2017 season. The species composition was made up of green sea turtles (n = 26 alive; n = 9 dead) and Kemp’s ridley sea turtles (n = 1 alive; n = 1 dead).

The percent breakdown of each Management Units observed contribution to incidental sea turtle interactions for the fall 2017 anchored gill-net fishery are as follows; Unit A = 5.4%, Unit B = 64.9%, Unit C = 0.0%, Unit D1 = 18.9%, Unit D2 = 2.7%, Unit E = 8.1% ([Table 10](#); [Figures 2–8](#)). There were eight fisherman self-reported sea turtle interactions that occurred in anchored large mesh gill nets and zero reported in anchored small mesh gill nets during this period (Boyd 2017b; [Table 11](#)).

3.1.2 Spring 2018

The spring 2018 season for anchored large and small mesh gill nets in North Carolina is March 2018 through May 2018 for ITP Year 2018 (September 1, 2017–August 31, 2018) as defined in ITP No. 16230. Management Unit A opened to the use of anchored large mesh gill nets with gill-net configurations for harvesting American shad by removing vertical height restrictions for up to 1,000 yards of gill net with stretched mesh lengths of 5 ¼ through 6 ½ inches via proclamation M-2-2018 on March 3, 2018. In accordance with the Sea Turtle and Atlantic Sturgeon ITPs, Proclamation M-2-2018 also implemented additional gill-net restrictions for Management SubUnit A-South of US-64-BYP/US-64 (McConnaughey 2018a; [Table 7](#)). Gill-net configurations for harvesting American shad were removed in Management Unit A following the end of the shad season via proclamation M-3-2018 on March 25, 2018. Proclamation M-3-2018 also upheld additional gill net restrictions that maintained congruity with Sea Turtle and Atlantic sturgeon ITPs. Small mesh gill-net attendance requirements and additional gill-net restrictions were implemented for Management Unit A, in accordance with the Sea Turtle ITP on May 3, 2018 via proclamation M-5-2018. This proclamation also maintained the closure for portions of western Albemarle Sound to all gill nets with a stretched mesh of 5 ½ through 6 ½ inches.

On May 4, 2018 proclamation M-6-2018 initiated attendance requirements for gill nets with a stretched mesh length less than 4 inches for Management SubUnit B.1 (McConnaughey 2018a; [Table 7](#)). Management Unit B was closed by proclamation M-7-2018 to gill nets with a stretched mesh of 4 inches through 6 ½ inches on May 18, 2018 due to approaching allowable take limits of Kemp's ridley sea turtles. M-7-2018 also reduced the maximum stretched mesh length for run-around, strike, drift, drop, and trammel gill nets to 5 inches.

Proclamation M-4-2018 implemented tie-down and distance from shore restrictions for gill nets with a stretched mesh length of five inches or greater in western Pamlico Sound and rivers on May 1, 2018 (McConnaughey 2018a; [Table 7](#)).

Management Unit D1 remained closed to anchored large mesh gill nets for the entire Spring 2018 season due to exceeding allowable take limits of sea turtles in the Fall 2017 season.

The Observer Program achieved an estimated coverage of 10.0% overall for anchored large mesh gill-net during the spring 2018 season, based on preliminary data, meeting the minimum requirement (7.0%) in Management Units A, D2, and E. Coverage goals were not met in Management Units B (3.4%) and C (6.7%). Management Unit D1 remained closed due to exceeding turtle takes during fall 2017 (McConnaughey 2018a; [Table 8](#); [Figures 2–8](#)).

The Observer Program achieved an estimated 2.3% overall anchored small mesh gill-net coverage for the spring 2018 season meeting the minimum requirement (1.0%) in all Management Units except Management Unit D2 (0.0%) based on preliminary data (McConnaughey 2018a; [Table 9](#); [Figures 2–8](#)).

There were six observed sea turtle interactions from anchored large mesh gill nets during the spring 2018 season (McConnaughey 2018a; [Table 10](#); [Figures 2–8](#)). There were no observed sea turtle interactions from anchored small mesh gill nets during the spring 2018 season. The species composition was made up of green sea turtles (n = 3 alive) and Kemp's ridley sea turtles (n = 2 alive; n = 1 dead). Management Unit B accounted for 67% of the interactions and Management Unit E saw 33% of the spring seasons interactions (McConnaughey 2018a; [Table 10](#); [Figures 2, 4, and 8](#)). There were no fisherman self-reported sea turtle interactions in anchored large mesh gill nets in the spring 2018 season

3.1.3 Summer 2018

The summer 2018 season for anchored large and small mesh gill nets in North Carolina is June 2018 through August 2018 for ITP Year 2018 (September 1, 2017–August 31, 2018) as defined in ITP No. 16230. There were no proclamations issued for anchored large or small mesh gill nets during the summer 2018 season (McConnaughey 2018b; [Table 7](#)). Management Unit B remained closed to anchored large mesh gill nets for the entire summer 2018 season due to approaching allowable take limits for Kemp's ridley sea turtles in May 2018. Unit D1 is closed from early May until mid-October annually, in accordance with the sea turtle ITP.

The Observer Program achieved an estimated 10.2% overall anchored large mesh gill-net coverage for the summer 2017 season meeting the minimum requirement (7.0%) in all Management Units except Management Unit D2 (5.1%) based on preliminary data (McConnaughey 2018b; [Table 8](#); [Figures 2–8](#)). Management Units B and D1 were closed to anchored large mesh gill net for the summer 2018 season.

The Observer Program achieved an estimated 0.4% overall anchored small mesh gill-net coverage for the summer 2018 season not meeting the minimum requirement (n = 1.0%) in all Management

Units except Management Unit D2 based on preliminary data (McConnaughey 2018b; [Table 9](#); [Figures 2–8](#)). Observer coverage in Management Unit D2 was 2.9%. Significant program staff changes, limited fishing effort, net attendance regulations, marginal weather conditions and issues with observers procuring trips are causes for the lack of coverage during the 2018 summer season.

There were two observed sea turtle interactions from anchored large mesh gill nets during the summer 2018 season (McConnaughey 2018b; [Table 10](#); [Figures 2–8](#)). The species composition consisted of Kemp’s ridley sea turtles (n = 2 alive). Both interactions occurred in Management Unit E. There were no observed sea turtle interactions from anchored small mesh gill nets during the summer 2018 season. There were no fisherman self-reported sea turtle interactions in anchored large mesh gill nets in the summer 2018 season.

3.2 Authorized Takes

There were 45 observed sea turtle interactions in anchored large mesh gill nets and zero in anchored small mesh gill nets for ITP Year 2018 (Boyd 2017b; McConnaughey 2018a, 2018b; [Table 10](#); [Figures 2–8](#)). The species composition consisted of primarily green sea turtles (84.4%; n = 29 alive; n = 9 dead; [Table 10](#); [Figures 2–8](#)). Kemp’s ridley sea turtles made up the remainder of sea turtle interactions (15.6%; n = 5 alive; n = 2 dead; [Table 10](#)). Observed interactions occurred in Management Unit A (4.4%), Management Unit B (62.2%), Management Unit D1 (15.6%), Management Unit D2 (2.2%), and Management Unit E (15.6%; [Table 9](#); [Figures 2–8](#)). There was a total of eight fisherman self-reported sea turtle interactions for ITP Year 2018 (Boyd 2017b; McConnaughey 2018a, 2018b; [Table 11](#)).

The size distribution of green sea turtles (n = 38) ranged from a CCL of 228 mm to 467 mm and a CCW of 220 mm to 376 mm ([Figures 9](#) and [10](#)). The size distribution of Kemp’s ridley sea turtles (n = 7) ranged from a CCL of 242 mm to 602 mm and a CCW of 245 mm to 540 mm (Boyd 2017b, McConnaughey 2018a, 2018b; [Table 10](#); [Figures 11](#) and [12](#)).

The cumulative total estimated takes for anchored large mesh gill nets exceeded authorized take threshold’s set for Management Unit D1 during the fall 2017 season. As a result, Management Unit D1 was closed to anchored large mesh gill net for the remainder of the 2018 ITP year. The cumulative total estimated and observed takes for anchored large mesh gill nets did not reach the threshold of authorized takes for any other Management Unit for ITP Year 2018 based on preliminary data. The cumulative total observed takes for anchored small mesh gill nets did not reach the threshold of authorized takes for any Management Unit for ITP Year 2018 based on preliminary data (Boyd 2017b; McConnaughey 2018a, 2018b; [Tables 1–5](#)).

The percentage of authorized takes that were used in ITP Year 2018 for anchored large mesh gill nets were calculated for estimated takes by species and disposition (green 69.4% alive, 34.5% dead; Kemp’s ridley 61.6% alive, 38.1% dead; Boyd 2017b, McConnaughey 2018a, 2018b). The percentage of authorized takes that were used in ITP Year 2018 were also calculated for observed takes (green 14.3% alive/dead; Kemp’s ridley 12.5% alive/dead). Overall, for both anchored large and small mesh gill nets, the percentage of estimated (67.6% alive, 35.2% dead) and observed (6% alive/dead) takes was below the authorized takes provided by the Sea Turtle ITP.

3.3 Compliance

Marine Patrol made 423 gill-net checks during the fall 2017 season resulting in 50 citations issued (Boyd 2017b, McConnaughey 2018a, 2018b; [Tables 12](#) and [13](#)). Marine Patrol made 476 gill-net

checks for the spring 2018 season resulting in 19 citations issued. Marine Patrol made 533 gill-net checks for the summer 2018 season with 16 citations being issued.

For ITP Year 2018, phone calls (n = 1,638) were made with 58.5% (n = 959) categorized as 1, 8, 11, 12, 13, and 14 which inclusively represents not being able to get in touch with fishermen or fishermen refusing trips (Boyd 2017b; [Table 14](#)). In the fall 2017 season (n = 207), phone calls were made with 62.8% (n = 130) categorized as 1, 8, 11, 12, 13, and 14. In the spring 2018 season (n = 214), phone calls were made with 64.0% (n = 137) categorized as 1, 8, 11, 12, 13, and 14. In the summer 2018 season (n = 1,217), phone calls were made with 56.9% (n = 692) categorized as 1, 8, 11, 12, 13, and 14.

Notice of Violations (NOV) were issued when fishermen were found to be out of compliance with the EGNP. Seven NOVs were issued during the fall 2017 season, eight NOVs were issued during the spring 2018 season, and zero NOVs were issued during the summer 2018 season (Boyd 2017b; McConnaughey 2018a, 2018b; [Table 15](#)).

3.4 Marine Mammals

There was one observed take of a dead bottlenose dolphin in Management Unit D1 that occurred in the fall 2017 season during ITP Year 2018. The marine mammal interaction occurred in small mesh gill net. When the animal was untangled from the gill-net, it quickly sank out of sight, which prevented the observers from collecting biological data ([Appendix C](#)).

4 DISCUSSION

4.1 Management history

The NCDMF has addressed protected sea turtle issues in the coastal waters since the 1970s. Sea turtle protection has been accomplished by cooperative agreements with the North Carolina Wildlife Resources Commission (NCWRC), establishment of a sea turtle sanctuary, proclamation authority delegated to the Director of the NCDMF, additional queries on recreational surveys, management of the PSGNRA, formation of the NCSTAC, implementation of an Observer Program, commercial bycatch reduction gear testing projects, outreach to the commercial and recreational fishing industries, and collaboration with the NMFS.

The NCDMF applied for and received four ITPs for the PSGNRA from 2000 to 2005 managing the area for sea turtle takes in the fall of each year through 2012 under these permits (Gearhart 2001, 2002, 2003; Price 2004, 2005, 2006, 2007a, 2008, 2009a, 2010a; Murphey 2011; Boyd 2012a, 2013). Between 2000 and 2012, a number of changes were made in the PSGNRA such as: adjustments to authorized fishing areas, modified restrictions (e.g., state closure and net length restriction), and authorized take levels reduced (Gearhart 2003; Price 2010a; Murphey 2011; Boyd 2012a). These adaptations were made feasible because of the extensive monitoring program conducted by the NCDMF in the PSGNRA. The NCDMF also observed limited trips in the large and small mesh gill-net fisheries outside of the PSGNRA from 2004 to 2010 (Brown and Price 2005; Price 2007b, Price 2009b, Price 2010b; Boyd 2012b). The information gathered from these direct observations authorized the NCDMF to generate requested estimated take numbers for observed fisheries and draft a functional Conservation Plan.

In June 2009, the NMFS began an Alternative Platform Observer Program in Core Sound, NC. The NMFS observers documented sea turtle interactions in anchored large mesh gill nets in this area beginning in late June and notified the NCDMF of their concern for these unauthorized takes.

The NCDMF consulted with the NMFS-SERO via conference calls and correspondence to discuss short and long-term actions to address sea turtle takes in gill nets in Core Sound and throughout the state. In the short term, the agencies agreed for the NCDMF to implement gear restrictions (yardage limits, mesh depth reduction, and net shot reductions) and increased observer coverage in Core Sound and adjacent water bodies (NCDMF Proclamation M-16-2009). For the long-term, the NCDMF continued consultations with the NMFS-SERO concerning the preparation of an ITP application for all internal coastal waters while compiling sea turtle interaction data from gill-net surveys, research projects, and direct observations.

On October 20, 2009, the day that authorized sea turtle takes were reached in the 2009 PSGNRA, a 60-day Notice of Intent (NOI) to sue the NCDMF and the North Carolina Marine Fisheries Commission (NCMFC) was received from the Duke Environmental Law and Policy Clinic on behalf of the Karen Beasley Sea Turtle Rescue and Rehabilitation Center Foundation (Beasley Center). The NOI stated that the NCDMF and the NCMFC violated Section 9 of the ESA by allowing gear in state waters that had unauthorized takes of threatened or endangered sea turtles.

The NCDMF consulted with the NMFS-SERO concerning this NOI while continuing to work toward the preparation of an application for a statewide ITP for gill-net fisheries in internal coastal waters. In November 2009, the NCDMF received further correspondence from the NMFS-SERO reiterating the need to “satisfy the requirements of the ESA” relative to Core Sound sea turtle interactions. The NCDMF continued to collect sea turtle interaction data while developing an interim plan to address sea turtle interactions in gill-net gear. As a result of discussions and correspondence with the NMFS-SERO, the NCDMF submitted an interim plan in January 2010 to address sea turtle interactions in gill-net fisheries prosecuted in internal coastal waters. The plan proposed to close large mesh gill-net fisheries throughout the majority of the estuarine waters of North Carolina from May to December 2010.

On February 18, 2010, the NCDMF presented the interim proposal to the NCMFC and the public at an emergency NCMFC meeting in New Bern, NC. During the meeting, numerous commercial fishery representatives expressed concern with the proposed closure based on their feelings that a negative economic impact that would result from such a closure. Representatives from the Coastal Conservation Association (CCA-NC) did not support the interim closure stating the plan was too limited in scope. After thoroughly debating the issue, the NCMFC voted to direct the NCDMF to implement alternative measures that included reductions in the number of days per week that large mesh gill nets were authorized to be fished, restricted soak times, reductions in the length of individual nets (shots), and reductions in total yardage.

On February 23, 2010, the Duke Environmental Law and Policy Clinic filed suit against the NCDMF and the NCMFC on behalf of the Beasley Center. Negotiations between the parties occurred between late February and March 23, 2010, when the NCMFC met again. During the meeting, the NCMFC directed the fisheries director to issue a gill-net proclamation effective May 15, 2010 restricting the number of days during the week that anchored large mesh gill nets would be authorized, limiting soak time, establishing a maximum yardage limit, mandating maximum mesh depth, requiring maximum individual gill-net (shot) lengths, establishing spacing between net shots, and eliminating the use of tie-downs and floats or corks along float lines. The NCDMF Director did not issue the proclamation because, as detailed below, ongoing negotiations with the Beasley Center and the Duke Environmental Law and Policy Clinic produced a settlement agreement which preempted this action.

The NCMFC met May 12 through 14, 2010 and discussed the parameters of the final Settlement Agreement between the Beasley Center (plaintiff) and the NCDMF and the NCMFC. At that meeting, the NCMFC reached an agreement concerning restrictions that would be implemented in the anchored large mesh gill-net fishery in NC estuarine waters. As a result of the NCMFC action, the NCDMF issued Proclamation M-8-2010 effective May 15, 2010 implementing the provisions of the Settlement Agreement. Gill-net restrictions implemented by the proclamation included: a range of 4 ISM to, and including, 6 ½ ISM for anchored large mesh gill nets; soak times limited to overnight soaks an hour before sunset to an hour after sunrise, Monday evenings through Friday mornings; anchored large mesh gill nets were restricted to a height of no more than 15 meshes, constructed with a lead core or leaded bottom line and without corks or floats other than needed for identification; a maximum of 2,000 yards of anchored large mesh gill nets authorized to be used per vessel; and maximum individual net (shot) length of 100 yards with a 25-yard break between shots (except for exempted areas including Management Unit C and portions of Management Unit A).

The Settlement Agreement included gill nets from 4 ISM to less than 5 ISM in the large mesh category because of observed sea turtle takes in 4 ISM and 4 ½ ISM gill nets in the NCDMF Independent Gill-Net Survey. The measures were modified slightly several times, with the concurrence of the Beasley Center, to improve gear efficiency or adjust fishing area boundaries without compromising the sea turtle conservation provisions of the Settlement Agreement with fishermen in the southern portion of the state authorized to set anchored large mesh gill nets an extra day (Sunday evenings through Friday mornings) and use floats on nets, but were restricted to the use of a maximum of 1,000 yards of anchored large mesh gill net per fishing operation.

The Annual Completion Report for ITP Year 2014 (September 1, 2013–August 31, 2014) was submitted January 30, 2015 (Boyd 2015). During review of the 2014 Sea Turtle ITP Annual Completion Report, the NMFS requested modifications to certain tables and figures in the annual report. These modifications were addressed in the Annual Completion report for ITP Year 2015 (September 1, 2014–August 31, 2015) which was submitted January 30, 2016 and included: maps for each Management Unit to include number of gill-net hauls, sea turtle interactions, and tables which list all estimated/observed takes exactly as portrayed in the permit with 95% confidence intervals included (Boyd 2016a).

During the summer 2015 season a minor modification was enacted through the NMFS combining authorized takes for Management Units A (n = 4) and C (n = 4) for total authorized take limit of eight sea turtles from anchored large or small mesh gill nets and any species or disposition (Boyd 2016a).

At the August 2016 NCMFC meeting, Chairman Sammy Corbett announced that he was disbanding the Sea Turtle Advisory Committee (STAC) because it is not statutorily required and the NCMFC committee system already has a multitude of committees which are statutorily mandated. Chairman Corbett sent a letter explaining his decision to the committee members on August 25, 2016 ([Appendix D](#)).

4.2 Observer Activity

There was turnover within the Observer Program with positions being filled as quickly as possible to maintain coverage. The Observer Program proportionally placed observers in areas with higher fishing effort. There were multiple closures of various Management Units throughout the state during ITP Year 2018 ([Table 7](#)). When a Management Unit closes for a portion of time, observer

efforts are shifted to open Management Units. The contact log, which includes different response categories for contact made to a fisherman, is beneficial for analyzing the type of response from fishermen to observer contact and to document the number of observer trips that were obtained through the calling system.

During the fall 2017 season, observer coverage for anchored large mesh gill net in Management Unit D2 was 5.5% (Boyd 2017b). Observer coverage for anchored small mesh gill net was 0.9% in Management Unit B. In recent years, attendance requirements were lifted during the month of November allowing for observer trips to be obtained. Fishing practices for attended gill nets can be very different than other fishing practices, with fishing activity occurring throughout the night creating safety hazards for observers. Furthermore, fishing effort tends to be lower when attendance is required.

The authorized annual estimated takes were exceeded in Management Unit D1 on November 9, 2017 resulting in the Unit being closed to anchored large mesh gill net for the remainder of the 2018 ITP. The Sea Turtle ITP authorized annual estimated takes for green sea turtles in Management Unit D1 are: 9 alive and 5 dead. D1 opened on October 16, 2017 for anchored large mesh gill net and as of October 25, one live green sea turtle had been observed with observer coverage of 23.4%. On November 9, 2017, four live and 2 dead green sea turtles were observed in Management Unit D1. Based on the trips observed and estimated trips to date, the program had achieved a coverage of 29.8%. This percentage was used to calculate the number of estimated turtles (n = 13.4 live, 6.7 dead green sea turtles) that the interaction event would extrapolate out to. Although observer coverage percentages far exceeded the goals set by the ITP, an anomalous interaction occurring in a small window of time resulted in the authorized number of both live and dead green sea turtle takes being exceeded for Management Unity D1. In response, the NCDMF closed Management Unit D1 for the remained of the 2018 ITP year ([Table 7](#)).

Observer coverage for anchored large mesh gill net was 3.4 % in Management Unit B and 6.7% in Management Unit C for the spring 2018 season. No anchored large mesh gill-net trips were obtained in Management Unit D1 due to it being closed for the remainder of the 2018 ITP year during the fall 2017 season. Observer coverage in the spring 2017 season for anchored small mesh gill-nets in Management Unit D2 was 0.0% due to minimal fishing effort (n = 20 fishing trips; McConnaughey 2018a). Five trips were observed in Management Unit D1 during the spring season, these trips are not recorded in the currently available trip ticket data. This may change with the trip ticket data finalization in May. Management Unit B was closed during the latter part of the spring season and did not reopen until the Fall 2018.

During the summer 2018 season, observer coverage for anchored large mesh gill-net in Management Unit D2 was 5.1% (McConnaughey 2018b). Management Units B and D1 were closed to anchored large mesh gill-net for the duration of the summer 2018 season. No anchored small mesh gill-net trips were obtained in Management Units C and D1 due to minimal fishing activity for the summer 2018 season. Observer coverage was low in all other Management Units for anchored small mesh gill-net, except D2, primarily due to a lack of fishing effort.

4.3 Compliance

Although ITP Year 2018 is the fifth year for the statewide ITP, fishermen in many portions of the state are not as familiar with the Observer Program and requirements of the ITP as desired, so more time is needed to educate the industry. Alternative platform trips were employed in all Management Units more frequently throughout ITP Year 2018 to maintain observer coverage due

to compliance issues with fishermen (i.e., not answering phone calls, not calling back). The required minimum 7% observer coverage for anchored large mesh gill nets is very difficult to achieve when observers must rely on alternative platform trips, as it requires two observers to obtain a trip. The NCDMF has discussed the situation with industry leaders in attempts to improve awareness and increase compliance. However, fisherman non-compliance continues to be a hurdle for ensuring the requirements for both ITPs are met. Each ITP Year (2015–2018) had >50% of contacts made by observers not being able to get in touch with fishermen or fishermen refusing trips (Boyd 2016a, 2017a, 2018a).

Eight fishermen self-reported sea turtle takes occurred during ITP Year 2018 (Boyd 2017b; McConnaughey 2018a, 2018b; [Table 11](#)). NCDMF has discussed the importance of self-reporting with industry leaders' numerous times. The NCDMF has conducted outreach and supplied detailed information to fishermen explaining the requirements in the ITP of self-reporting in attempts to improve self-reporting throughout the industry. These efforts have had limited success.

The data clearly illustrate that the Sea Turtle ITP has led to successful adaptive management and therefore fewer sea turtle takes in these fisheries. This can also be attributed to management related to the Atlantic Sturgeon ITP as any closure of anchored large or small mesh gill nets from sturgeon interactions lead to more infrequent sea turtle interactions with gear being out of the water for long periods of time. Also, as expected and discussed in the Sea Turtle ITP application, the requested authorized take numbers represent a worst-case scenario and it is highly unlikely. However, by not requesting the proper authorized amount for each species and disposition, the fisheries could close for long periods of time due to anomalous sea turtle events such as the one experienced this year in D1.

4.3.1 Estuarine Gill-Net Permit

Per the ITP the NCDMF established an Estuarine Gill-Net Permit (EGNP) to register all fishermen participating in the anchored large and small mesh gill-net fisheries via proclamation M-24-2014 on September 1, 2014. The ITP's Implementing Agreement states that the NCDMF has two years to implement the EGNP to serve as a certificate of inclusion for fishermen. However, due to the compliance issues the NCDMF was facing during ITP Year 2014, the EGNP was developed and became effective September 1, 2014 (one year from ITP issuance; Boyd 2015). The multifaceted EGNP was enacted to attempt to allow the NCDMF to closely monitor compliance. The EGNP is also used as a tool to improve fishermen compliance by including Specific Permit Conditions requiring fishermen to allow the NCDMF observers aboard their vessels to monitor catches. Failure to comply with this permit provision can result in a permit suspension. There were 2,676 EGNPs issued for Fiscal Year 2018 (July 1, 2017–June 30, 2018).

5 LITERATURE CITED

- Boyd, J.B. 2012a. North Carolina Division of Marine Fisheries Pamlico Sound Gill Net Restricted Area Report for 2011 Section 10 ITP # 1528 (September 19–November 30, 2011). North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries Completion Report for Incidental Take Permit # 1528. 4 p.
- Boyd, J.B. 2012b. North Carolina Fishery Observer Response Team. Final Report to the NOAA National Marine Fisheries Service and Atlantic Coastal Cooperative Statistics Program. Grant Award #NA10NMF4740073. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 24 p.
- Boyd, J.B. 2013. North Carolina Division of Marine Fisheries Pamlico Sound Gill Net Restricted Area Report for 2012 Section 10 ITP # 1528 (September 19–November 30, 2011). North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries Completion Report for Incidental Take Permit # 1528. 4 p.
- Boyd, J.B. 2015. North Carolina Division of Marine Fisheries Incidental Take Permit Annual Report for ITP Year 2014 Section 10 ITP # 16230 (September 1, 2013–August 31, 2014). North Carolina Division of Marine Fisheries Annual Report for Incidental Take Permit # 16230. 32 p.
- Boyd, J.B. 2016a. North Carolina Division of Marine Fisheries Incidental Take Permit Annual Report for ITP Year 2015 Section 10 ITP # 16230 (September 1, 2014–August 31, 2015). North Carolina Division of Marine Fisheries Annual Report for Incidental Take Permit # 16230. 45 p.
- Boyd, J.B. 2017a. North Carolina Division of Marine Fisheries Incidental Take Permit Annual Report for ITP Year 2016 Section 10 ITP # 16230 (September 1, 2015–August 31, 2016). North Carolina Division of Marine Fisheries Annual Report for Incidental Take Permit # 16230. 63 p.
- Boyd, J.B. 2017b. North Carolina Division of Marine Fisheries Incidental Take Permit Seasonal Report for Fall 2017 Section 10 ITP # 16230 (September 1, 2017–November 30, 2017). North Carolina Division of Marine Fisheries Seasonal Report for Incidental Take Permit # 16230. 21 p.
- Brown, K.B., and B. Price. 2005. Evaluation of Low-Profile Flounder Gill-net in Southeastern Pamlico Sound, North Carolina. Completion Report for NOAA Award No. NA 04 NMF 4740180 Segment 1. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 24 p.
- Canty, A., and B. Ripley. 2015. boot: Bootstrap R (S-Plus) Functions. R package version 1.3-17.
- Davison, A.C., and D.V. Hinkley. 1997. Bootstrap Methods and Their Applications. Cambridge University Press, Cambridge. ISBN 0-521-57391-2.

- Ephron, B., and R.J. Tibshirani. 1993. An introduction to the bootstrap. Chapman and Hall, New York. 436 p.
- ESA 1973. Endangered Species Act, 1973.
- Gearhart, J. 2001. Sea turtle bycatch monitoring of the 2000 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1259. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 26 p.
- Gearhart, J. 2002. Sea turtle bycatch monitoring of the 2001 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1348. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 44 p.
- Gearhart, J. 2003. Sea turtle bycatch monitoring of the 2002 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1398. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 39 p.
- McConnaughey, J.K. 2018a. North Carolina Division of Marine Fisheries Incidental Take Permit Seasonal Report for Spring 2018 Section 10 ITP # 16230 (March 1–May 31, 2018). North Carolina Division of Marine Fisheries Seasonal Report for Incidental Take Permit # 16230. 17 p.
- McConnaughey, J.K. 2018b. North Carolina Division of Marine Fisheries Incidental Take Permit Seasonal Report for Summer 2018 Section 10 ITP # 16230 (June 1–August 31, 2018). North Carolina Division of Marine Fisheries Seasonal Report for Incidental Take Permit # 16230. 10 p.
- Murphey, T. 2011. Sea turtle bycatch monitoring of the 2010 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 4 p.
- Price, B. 2004. Sea turtle bycatch monitoring of the 2003 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1398. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 26 p.
- Price, B. 2005. Sea turtle bycatch monitoring of the 2004 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1398. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 33 p.
- Price, B. 2006. Sea turtle bycatch monitoring of the 2005 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North

- Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 31 p.
- Price, B. 2007a. Sea turtle bycatch monitoring of the 2006 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 21 p.
- Price, B. 2007b. Estuarine Observer Program in North Carolina. Report to the United States Fish and Wildlife Service. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. Grant No. F-83-R. 44 p.
- Price, B. 2008. Sea turtle bycatch monitoring of the 2007 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 25 p.
- Price, B. 2009a. Sea turtle bycatch monitoring of the 2008 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 22 p.
- Price, B. 2009b. Estuarine Bycatch Assessment in NC Commercial Fisheries. NOAA Award Grant #NA07NMF4740061, under the Atlantic Coastal Cooperative Statistics Program. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 19 p.
- Price, B. 2010a. Sea turtle bycatch monitoring of the 2009 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 27 p.
- Price, B. 2010b. North Carolina Estuarine Gill-net Biological and Bycatch Assessment. Report to NOAA/NMFS and ACCSP under grant award NA05NMF4741032. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 24 p.
- R Core Team. 2015. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.
- SAS® 2004. SAS® 9.1 Language Reference: Dictionary, Volumes 1, 2, ,3 and 4. SAS Institute, Cary, NC.

6 TABLES

Table 1. Authorized and actual annual estimated takes with confidence intervals (95%) using a bootstrap method based on observer data for coverage and sea turtle interaction levels in large mesh (≥ 4 inch stretched mesh) gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Species | Management Unit | | | | | | | | | | | |
|---------------|-----------------|-------|--------------------|-----------------|-----------------|-------|---------------|--------|------------|-------|--------|------|
| | B | | | | D1 | | | | Total | | | |
| | Estimated Takes | | | | Estimated Takes | | | | Total | | | |
| | Authorized | | Actual | | Authorized | | Actual | | Authorized | | Actual | |
| Alive | Dead | Alive | Dead | Alive | Dead | Alive | Dead | Alive | Dead | Alive | Dead | |
| Green | 225 | 112 | 166.4 (79.6,284.8) | 48.4 (8.9,96.7) | 9 | 5 | 19.2 (0,53.4) | 3(0,9) | 234 | 117 | 185.6 | 51.4 |
| Kemp's ridley | 53 | 26 | 49.4 (0,135.2) | 18.2 (0,54.6) | 15 | 7 | 0 | 0 | 68 | 33 | 49.4 | 18.2 |
| Total | 278 | 138 | 215.8 | 66.6 | 24 | 12 | 19.2 | 3 | 302 | 150 | 235 | 69.6 |

| Species | Management Unit | | | | | | | | | | | |
|---------------|------------------|------------------|------------------|------------------|-----------------|-------|---------------|-------|------------|-------|--------|---|
| | D2 | | | | E | | | | Total | | | |
| | Estimated Takes | | | | Estimated Takes | | | | Total | | | |
| | Authorized | | Actual | | Authorized | | Actual | | Authorized | | Actual | |
| Alive | Dead | Alive | Dead | Alive | Dead | Alive | Dead | Alive | Dead | Alive | Dead | |
| Green | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ | 96 | 48 | 17.8 (0,45.6) | 0 | 96 | 48 | 17.8 | 0 |
| Kemp's ridley | 6 | 3 | 0 | 0 | 24 | 13 | 10.9 (0,28.0) | 0 | 30 | 16 | 10.9 | 0 |
| Total | 6 | 3 | 0 | 0 | 120 | 61 | 28.7 | 0 | 126 | 64 | 28.7 | 0 |

¹ Insufficient observer data exist to model an estimated annual take level; therefore, for Management Unit D2, an annual observed take number has been identified for green turtles, and is found in Table 2

Table 2 Authorized and actual annual observed (not estimated) takes in large mesh (≥ 4 inch stretched mesh) gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Species | Management Unit | | | | | | | | Total | |
|---------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | B | | D1 | | D2 | | E | | | |
| | Authorized | Actual |
| Green | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ | 6 | 1 | n/a ¹ | n/a ¹ | 6 | 1 |
| Kemp's ridley | n/a ¹ |
| Hawksbill | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 0 |
| Leatherback | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 0 |
| Loggerhead | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 12 | 0 |
| Total | 5 | 0 | 5 | 0 | 11 | 1 | 5 | 0 | 26 | 1 |

¹ Insufficient observer data exist to model an estimated annual take level for Kemp's ridley sea turtles in Management Units B, D1, D2 and E. See Table 1 for the authorized annual estimated take level

Table 3. Authorized and actual annual observed (not estimated) takes in anchored large mesh (≥ 4 inch stretched mesh) and anchored small mesh (< 4 inch stretched mesh) gill nets combined for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Species | Management Unit | | | | Total | |
|--|------------------------|--------------------|------------------------|--------------------|------------------------|--------------------|
| | A | | C | | | |
| | Authorized (live/dead) | Actual (live/dead) | Authorized (live/dead) | Actual (live/dead) | Authorized (live/dead) | Actual (live/dead) |
| Green, Hawksbill, Kemp's ridley, Leatherback, Loggerhead | 4 (any species) | 0 | 4 (any species) | 5 | 8 (any species) | 5 |

Table 4. Authorized and actual annual observed (not estimated) takes in small mesh (<4 inch stretched mesh-ISM) gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Species | Management Unit | | | | | | | | Total | | |
|---------------|-----------------|----------------------|--------|----------------------|--------|----------------------|--------|----------------------|--------|------------|--------|
| | B | | D1 | | D2 | | E | | | | |
| | Authorized | Observed (live/dead) | Actual | Authorized | Actual |
| Green | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 12 | 0 |
| Hawksbill | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 0 |
| Kemp's ridley | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 12 | 0 |
| Leatherback | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 0 |
| Loggerhead | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 12 | 0 |
| Total | 11 | 0 | 0 | 11 | 0 | 11 | 0 | 11 | 0 | 44 | 0 |

Table 5. Total annual authorized and actual takes (estimated and observed) by species and condition for ITP Year 2018 (September 1, 2017–August 31, 2018).Table 5.

| Species | Observed (live/dead) | | Estimated | | | |
|---------------|----------------------|--------|------------------|------------------|------------------|------------------|
| | | | Authorized | | Actual | |
| | Authorized | Actual | Alive | Dead | Alive | Dead |
| Green | 18 | 2 | 330 | 165 | 229 | 57 |
| Hawksbill | 8 | 0 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Kemp's ridley | 12 | 1 | 98 | 49 | 61 | 18 |
| Leatherback | 8 | 0 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Loggerhead | 24 | 0 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Any Species | 8 | 0 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Total | 78 | 3 | 428 | 214 | 290 | 75 |

¹ Insufficient observer data exist to model an estimated annual take level; therefore, takes are expressed as observed

Table 6. Categories and descriptions of fisherman responses for the Observer Program's contact logs used for analysis.

| Categories | Category description |
|------------|---------------------------------------|
| 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 |

Table 7. Regulations for Management Units by date and regulation change for anchored large and small mesh gill nets for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Year | Date(s) | Regulation change |
|------|--------------|--|
| 2017 | September 1 | Portions of Management Unit B (subUnits CGNRA, SGNRA1-3) closed to large mesh gill nets and Management Unit C opened to large and small mesh gill nets for the new ITP Year 2018. SubUnits SGNRA1-3 and CGNRA will remain closed until sea turtle abundance decreases to minimize interactions with sea turtles (M-13-2017). |
| 2017 | September 25 | This proclamation opens portions of Management Unit B (SubUnits SGNRA1 - SGNRA3 and CGNRA) to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches for the new ITP year (September 1, 2017 – August 31, 2018) in accordance with the Sea Turtle ITP. (M-14-2017) |
| 2017 | October 16 | This proclamation opens Management Unit D1 to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches in accordance with the Sea Turtle ITP. (M-17-2017) |
| 2017 | October 29 | Closes further portions of eastern Albemarle Sound and maintains closures for the Croatan and Roanoke Sounds (except as described in Section IV.). This action is being taken in order to minimize interactions with threatened and/or endangered sea turtles. (M-18-2017) |
| 2017 | November 9 | This proclamation closes Management Unit D1 (See map) to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches (except as described in Section III.) in accordance with the Sea Turtle Incidental Take Permit. (M-19-2017) |
| 2017 | December 1 | This proclamation implements the December closed commercial season provision identified in the N.C. Southern Flounder Fishery Management Plan Amendment 1. (FF-47-2017) |
| 2017 | December 1 | In Management Unit A, it closes the Albemarle Sound proper to the use of gill nets with a stretched mesh length of 5 ½ inches through 6 ½ inches, and allows the use of unattended, anchored small mesh gill nets (legal gill nets with a stretched mesh of 4 inches and smaller). Both anchored small mesh gill nets and gill nets with a stretched mesh length of 5 ½ inches through 6 ½ inches must be set to fish the bottom of the water column and not to exceed a vertical height of 48 inches. (M-20-2017) |
| 2018 | January 1 | In Management Unit A, it makes it unlawful to use gill nets with a stretched mesh length <i>other than 3 ¼ inches, or from 5 ½ inches through 6 ½ inches</i> , EXCEPT IN THE AREAS DESCRIBED IN SECTION IV. It also maintains large mesh gill net closures and vertical height restrictions for all anchored gill net sets. (M-24-2017) |

Table 7 cont.

| | | |
|------|-------------|---|
| 2018 | February 15 | This proclamation implements gear exemptions for portions of the Internal Coastal Waters south of Management Unit A to allow fishermen to set gill nets for the shad fishery (See Section III.). It also opens the remaining portions of Management Unit B to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches (except as described in Section III.) in accordance with the Sea Turtle Incidental Take Permit. (M-1-2018) |
| 2018 | March 3 | Opens all of Management Unit A to the use of gill nets and allows gill net configurations for harvesting American shad by removing vertical height restrictions for up to 1,000 yards of gill net with stretched mesh lengths of 5 ¼ through 6 ½ inches. This proclamation also implements additional gill net restrictions for Management SubUnit A-South of US-64-BYP/US-64, in accordance with the Sea Turtle and Atlantic Sturgeon ITPs. (M-2-2018) |
| 2018 | March 25 | Removes the use of gill nets configured for harvesting American shad by implementing vertical height restrictions for all gill nets. This proclamation also closes a portion of the western Albemarle Sound to all gill nets with stretched mesh lengths of 5 ½ through 6 ½ inches, and maintains additional gill net restrictions in accordance with the Sea Turtle and Atlantic Sturgeon ITPs. (M-3-2018) |
| 2018 | May 1 | Implements tie-down (vertical net height restrictions) and distance from shore restrictions for gill nets with a stretched mesh length five inches or greater in the western Pamlico Sound and rivers. (M-4-2018) |
| 2018 | May 3 | Implements small mesh gill net attendance requirements in Management Unit A and implements additional gill net restrictions in accordance with the Sea Turtle ITP. This proclamation also maintains a closure in a portion of the western Albemarle Sound to all gill nets with stretched mesh lengths of 5 ½ through 6 ½ inches. (M-5-2018) |
| 2018 | May 4 | This proclamation implements attendance requirements for gill nets with a stretched mesh length less than 4 inches in Management SubUnit B.1. (M-6-2018) |
| 2018 | May 18 | This proclamation closes Management Unit B to gill nets with a stretched mesh length of 4 inches through 6 ½ inches and reduces the maximum stretched mesh length for run-around, strike, drift, drop and trammel gill nets to 5 inches. (M-7-2018) |

Table 8. Observer coverage calculated from previous year's trip ticket data and observer data for anchored large mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Season ¹ | Management Unit ² | Large Mesh | | |
|---------------------|------------------------------|---------------|----------------|-----------------------|
| | | Fishing Trips | Observed Trips | Coverage ³ |
| Fall 2017 | A | 1,936 | 135 | 7.0 |
| | B | 1,496 | 126 | 8.4 |
| | C | 988 | 75 | 7.6 |
| | D1 | 23 | 9 | 39.1 |
| | D2 | 531 | 29 | 5.5 |
| | E | 828 | 103 | 12.4 |
| Spring 2018 | A | 1,201 | 154 | 12.8 |
| | B | 327 | 11 | 3.4 |
| | C | 875 | 59 | 6.7 |
| | D1 | n/a | n/a | n/a |
| | D2 | 38 | 8 | 21.1 |
| | E | 314 | 44 | 14.0 |
| Summer 2018 | A | 623 | 55 | 8.8 |
| | B | n/a | n/a | n/a |
| | C | 672 | 73 | 10.9 |
| | D1 | n/a | n/a | n/a |
| | D2 | 334 | 17 | 5.1 |
| | E | 915 | 115 | 12.6 |
| Total | | 11,101 | 1,013 | 9.1 |

¹ Final trip ticket data for 2017 (Fall 2017) and preliminary trip ticket data for 2018 (Spring and Summer 2018)

² Table 7 contains all the openings and closings for each Management Unit

³ Based on final trips for 2017 (Fall 2017) and estimated trips for 2018 (Spring and Summer 2018) compared to observer large mesh trips

Table 9. Observer coverage calculated from previous year's trip ticket data and observer data for anchored small mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Season ¹ | Management Unit ² | Small Mesh | | |
|---------------------|------------------------------|---------------|----------------|-----------------------|
| | | Fishing Trips | Observed Trips | Coverage ³ |
| Fall 2017 | A | 193 | 3 | 1.6 |
| | B | 810 | 7 | 0.9 |
| | C | 162 | 5 | 3.1 |
| | D1 | 59 | 8 | 13.6 |
| | D2 | 249 | 13 | 5.2 |
| | E | 561 | 10 | 1.8 |
| Spring 2018 | A | 641 | 11 | 1.7 |
| | B | 1,250 | 29 | 2.3 |
| | C | 226 | 5 | 2.2 |
| | D1 | n/a | 5 | n/a |
| | D2 | 20 | 0 | 0.0 |
| | E | 89 | 2 | 2.2 |
| Summer 2018 | A | 366 | 2 | 0.5 |
| | B | 679 | 1 | 0.1 |
| | C | 63 | 0 | 0.0 |
| | D1 | 1 | 0 | n/a |
| | D2 | 34 | 1 | 2.9 |
| | E | 283 | 1 | 0.4 |
| Total | | 5,686 | 103 | 1.8 |

¹ Final trip ticket data for 2017 (Fall 2017) and preliminary trip ticket data for 2018 (Spring and Summer 2018)

² Table 7 contains all the openings and closings for each Management Unit

³ Based on final trips for 2017 (Fall 2017) and estimated trips for 2018 (Spring and Summer 2018) compared to observer large mesh trips

Table 10. Summary of observed sea turtle interactions in anchored large (n = 45) and small (n = 0) mesh gill nets through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Date | Management Unit | Latitude | Longitude | Species | Disposition | Tag | | Curved Carapace (mm) | |
|------------|-----------------|-----------|-----------|---------|-------------|------------------------------------|------------------|----------------------|-------|
| | | | | | | PIT | Inconel | Length | Width |
| 9/5/2017 | D2 | 34.69403 | 76.98666 | green | dead | n/a | n/a | 292 | 265 |
| 9/22/2017 | B | 35.5413 | 75.5002 | green | alive | n/a | n/a | 310 | 260 |
| 9/25/2017 | E | 34.33700 | 77.69572 | green | alive | 3DD.003BB895E5 989.001001952741 | n/a | 285 | 249 |
| 9/28/2017 | B | 34.88698 | 76.40146 | green | dead | n/a | n/a | 277 | 246 |
| 10/3/2017 | B | 35.13806 | 76.00096 | kemps | alive | n/a | n/a | n/a | n/a |
| 10/3/2017 | B | 35.33126 | 75.58521 | green | dead | n/a | n/a | 312 | 265 |
| 10/3/2017 | B | 35.28458 | 75.67623 | green | alive | 3D6.0015B2EFE3 982.000364048355 | MMG032 MMG034 | 385 | 320 |
| 10/3/2017 | B | 35.28458 | 75.67623 | green | alive | 3D6.0015B16319 982.000363946777 | MMG033 MMG036 | 270 | 220 |
| 10/3/2017 | B | 35.28471 | 75.61467 | green | alive | 3D6.001596B477 982.000362198135 | MMG031 MMG038 | 275 | 235 |
| 10/3/2017 | B | 35.32699 | 75.59083 | green | alive | 3D6.0015B6BE76 982.000364297846 | n/a | 310 | 270 |
| 10/5/2017 | B | 35.29480 | 75.62629 | green | alive | 3D6.0015B2F01E 982.000364048414 | MMG035 MMG037 | 325 | 290 |
| 10/5/2017 | E | 34.12317 | 77.86370 | green | alive | n/a | n/a | 228 | n/a |
| 10/6/2017 | B | 34.87991 | 76.39376 | green | alive | 3D6.0015B2F2EF 982.000364049135 | n/a | 259 | 236 |
| 10/6/2017 | B | 35.30213 | 75.58322 | green | alive | 3D6.00159487CB 982.000362055627 | MMG081 MMG087 | 355 | 310 |
| 10/10/2017 | B | 35.29731 | 75.56985 | green | dead | n/a | n/a | 276 | 239 |
| 10/11/2017 | B | 34.86459 | 76.41225 | green | dead | n/a | n/a | 290 | 245 |
| 10/11/2017 | B | 34.86493 | 76.41080 | green | alive | 3D6.0015B2F00B 982.000364048395 | EET868 EET869 | 305 | 245 |
| 10/11/2017 | B | 34.86493 | 76.41080 | green | alive | 3D6.0015B2F139 982.000364048697 | n/a | 285 | 245 |
| 10/11/2017 | B | 35.30755 | 75.60565 | green | alive | 3D6.00159487B3 982.000362055603 | MMG096 MMG099 | 398 | 350 |
| 10/12/2017 | E | 34.670763 | 77.15273 | green | alive | n/a | n/a | n/a | n/a |
| 10/12/2017 | B | 34.89904 | 76.31782 | green | alive | 3D6.0015948B43 982.000362056515 | n/a | 285 | 253 |
| 10/13/2017 | B | 35.06244 | 76.07562 | green | alive | 3D6.00159487E7 982.000362055655 | n/a | 380 | 305 |
| 10/13/2017 | B | 35.06881 | 76.07886 | green | dead | N/A | n/a | 310 | 270 |
| 10/25/2017 | D1 | 34.80302 | 76.60910 | green | alive | 3D6.0015B2F1B8 982.000364048824 | n/a | 355 | 325 |
| 10/25/2017 | A | 35.94238 | 75.6272 | green | dead | N/A | n/a | n/a | n/a |
| 10/26/2017 | B | 35.15327 | 75.90292 | green | alive | 3D6.0015B6BACC 982.000364296908 | n/a | 318 | 271 |
| 10/26/2017 | A | 35.92031 | 75.75736 | kemps | dead | N/A | n/a | 602 | 540 |
| 11/2/2017 | B | 35.29960 | 75.58564 | green | alive | 3D6.001596B7D3 982.000362198995 | n/a | 295 | 282 |
| 11/2/2017 | B | 35.29960 | 75.58564 | green | alive | 3D6.0015B2F0D4 982.000364048596 | UUE043 UUE048 | 370 | 302 |

Table 10. (cont.).

| Date | Management Unit | Latitude | Longitude | Species | Disposition | Tag | | Curved Carapace (mm) | |
|------------|-----------------|----------|-----------|---------|-------------|------------------------------------|------------------|----------------------|-------|
| | | | | | | PIT | Inconel | Length | Width |
| 11/2/2017 | B | 35.18612 | 75.84564 | green | alive | N/A | n/a | n/a | n/a |
| 11/9/2017 | D1 | 34.73576 | 76.44508 | green | alive | 3DD.003BB8920B 989.001001951755 | EET877 EET879 | 348 | 302 |
| 11/9/2017 | D1 | 34.73636 | 76.44485 | green | alive | 3DD.003BB89217 989.001001951767 | EET878 EET880 | 392 | 333 |
| 11/9/2017 | D1 | 34.73636 | 76.44485 | green | alive | 3DD.003BB891F2 989.001001951730 | EET884 EET885 | 328 | 280 |
| 11/9/2017 | D1 | 34.73636 | 76.44485 | green | alive | 3DD.003BB891BB 989.001001951675 | EET882 EET883 | 342 | 290 |
| 11/9/2017 | D1 | 34.73546 | 76.44518 | green | dead | N/A | n/a | 310 | 281 |
| 11/9/2017 | D1 | 34.73515 | 76.44749 | green | dead | 3DD.003BB891C3 989.001001951683 | n/a | 328 | 294 |
| 11/30/2017 | B | 35.64701 | 75.50181 | green | alive | N/A | n/a | 273 | 228 |
| 5/2/2018 | E | 33.97221 | 77.92273 | green | alive | 3D6.0015B16FBA 982.000363950010 | MMG040 MMG045 | 391 | 342 |
| 5/2/2018 | E | 33.97114 | 77.92397 | green | alive | 3D6.0015B17E6E 982.000363953774 | n/a | 279 | 231 |
| 5/15/2018 | B | 34.87711 | 76.40444 | kemps | alive | 985.111000930602 | n/a | 399 | 362 |
| 5/15/2018 | B | 34.87685 | 76.40440 | kemps | dead | N/A | n/a | 329 | 304 |
| 5/15/2018 | B | 34.87605 | 76.40460 | kemps | alive | 985.111000930599 | MMG051 MMG052 | 466 | 421 |
| 5/15/2018 | B | 34.87447 | 76.40569 | green | alive | 985.111000930603 | MMG053 MMG057 | 467 | 376 |
| 7/13/2018 | E | 34.16181 | 77.83865 | kemps | alive | N/A | MMG039 MMG043 | 242 | 245 |
| 7/20/2018 | E | 34.70942 | 77.08304 | kemps | alive | 3DD.003BB89285 989.001001951877 | n/a | 280 | 290 |

Table 11. Summary of reported sea turtle interactions in anchored large and small mesh gill nets through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Date ² | Management Unit | Latitude | Longitude | Species | Disposition | Curved Carapace (mm) | |
|-------------------|-----------------|----------|-----------|----------------------|-------------|----------------------|-------|
| | | | | | | Length | Width |
| 9/8/2017 | E | n/a | n/a | unknown | alive | n/a | n/a |
| 9/28/2017 | E | n/a | n/a | green | alive | n/a | n/a |
| 9/29/2017 | C | n/a | n/a | green | alive | n/a | n/a |
| 10/12/2017 | E | n/a | n/a | unknown | alive | n/a | n/a |
| 10/13/2017 | D1 | n/a | n/a | unknown ¹ | alive | n/a | n/a |
| 10/18/2017 | D1 | n/a | n/a | green | alive | n/a | n/a |
| 10/18/2017 | D1 | n/a | n/a | green | alive | n/a | n/a |
| 10/24/2017 | D1 | n/a | n/a | green | alive | n/a | n/a |

¹ Indicates small mesh gear

² No sea turtle interactions reported for spring and summer 2018

Table 12. Number of gill-net checks made, and citations issued by Marine Patrol for large and small mesh gill nets by season during ITP Year 2018 (September 1, 2017–August 31, 2018).

| Season | # Gill Net Checks | # Citations |
|-------------|-------------------|-------------|
| Fall 2017 | 423 | 50 |
| Spring 2018 | 476 | 19 |
| Summer 2018 | 533 | 16 |
| Total | 1,432 | 85 |

Table 13. Citations written by Marine Patrol for large and small mesh gill nets by season and violation code during ITP Year 2018 (September 1, 2017–August 31, 2018).

| Season | Violation | | |
|--------------|------------|--------|---|
| | Date | Code | Description |
| Fall 2017 | 9/4/2017 | NETG45 | Set or retrieve large mesh gill nets no sooner than one hour before sunset on Monday through Thursday |
| | 9/14/2017 | NETG27 | Gill Net set within 50 yards from shore |
| | 9/15/2017 | NETG44 | Use large mesh gill nets w/out leaving a space of at least 25 yard between separate lengths of net |
| | 9/16/2017 | NETG29 | RCGL gear without proper buoys |
| | 9/20/2017 | NETG27 | Gill Net set within 50 yards from shore |
| | 9/23/2017 | NETG32 | Set gill net w/stretched mesh of 5 inches or greater without proper tie downs |
| | 9/23/2017 | NETG51 | Set gill net in violation of proclamation M-18-2011 |
| | 9/30/2017 | NETG30 | Leave RCGL gill net unattended |
| | 10/9/2017 | NETG07 | Use metal net stakes on gill nets |
| | 10/11/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/21/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/21/2017 | NETG22 | Improperly set gill net |
| | 10/22/2017 | NETG30 | Leave RCGL gill net unattended |
| | 10/23/2017 | NETG10 | Gill net with illegal mesh size |
| | 10/23/2017 | NETG54 | Violate provisions of Proclamation M-30-2011 to wit failed to have 25 yard space between nets |
| | 10/27/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/28/2017 | NETG01 | Leave gill net in coastal waters unattended |
| | 10/28/2017 | NETG02 | Using gill net without buoys or identification |
| | 10/28/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/28/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/31/2017 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 10/31/2017 | NETG22 | Improperly set gill net |
| | 11/3/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/3/2017 | NETG06 | Gill net causing hazard to navigation |
| | 11/3/2017 | NETG30 | Leave RCGL gill net unattended |
| | 11/5/2017 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 11/9/2017 | NETG04 | Leave gill net in waters when could not be legally fished |

Table 13. (cont.).

| Season | Violation | | |
|----------------|------------|---------------------------------------|---|
| | Date | Code | Description |
| Fall 2017 | 11/9/2017 | NETG45 | Set or retrieve large mesh gill nets no sooner than one hour before sunset on Monday through Thursday |
| | 11/9/2017 | NETG46 | Set or retrieve large mesh gill nets later than one hour after sunrise on Tuesday through Friday |
| | 11/10/2017 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 11/12/2017 | NETG02 | Using gill net without buoys or identification |
| | 11/12/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/12/2017 | NETG22 | Improperly set gill net |
| | 11/13/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/13/2017 | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State |
| | 11/13/2017 | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State |
| | 11/14/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/14/2017 | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State |
| | 11/16/2017 | NETG02 | Using gill net without buoys or identification |
| | 11/17/2017 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 11/18/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/22/2017 | NETG01 | Leave gill net in coastal waters unattended |
| | 11/26/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/26/2017 | NETG16 | Use an unattended gill net in a restricted area |
| | 11/26/2017 | NETG29 | RCGL gear without proper buoys |
| | 11/26/2017 | NETG30 | Leave RCGL gill net unattended |
| | 11/29/2017 | NETG22 | Improperly set gill net |
| 11/29/2017 | NETG29 | RCGL gear without proper buoys | |
| 11/29/2017 | NETG30 | Leave RCGL gill net unattended | |
| 11/30/2017 | NETG06 | Gill net causing hazard to navigation | |
| Spring 2018 | 4/1/2018 | NETG22 | Improperly set gill net |
| | 4/6/2018 | NETG22 | Improperly set gill net |
| | 4/6/2018 | NETG22 | Improperly set gill net |
| | 4/12/2018 | NETG22 | Improperly set gill net |

Table 13. (cont.).

| Season | Date | Code | Violation | |
|----------------|----------------|----------|---|---|
| | | | Description | |
| Spring 2018 | 4/12/2018 | NETG22 | Improperly set gill net | |
| | 4/12/2018 | NETG03 | Using gill net with improper buoys or identification | |
| | 4/19/2018 | NETG09 | Gill net set too close to bridge | |
| | 4/22/2018 | NETG01 | Leave gill net in coastal waters unattended | |
| | 4/22/2018 | NETG03 | Using gill net with improper buoys or identification | |
| | 4/22/2018 | NETG03 | Using gill net with improper buoys or identification | |
| | 5/1/2018 | NETG10 | Gill net with illegal mesh size | |
| | 5/1/2018 | NETG22 | Improperly set gill net | |
| | 5/3/2018 | NETG16 | Use an unattended gill net in a restricted area | |
| | 5/6/2018 | NETG29 | RCGL gear without proper buoys | |
| | 5/11/2018 | NETG03 | Using gill net with improper buoys or identification | |
| | 5/16/2018 | NETG03 | Using gill net with improper buoys or identification | |
| | 5/16/2018 | NETG04 | Leave gill net in waters when could not be legally fished | |
| | 5/22/2018 | NETG01 | Leave gill net in coastal waters unattended | |
| | 5/25/2018 | NETG29 | RCGL gear without proper buoys | |
| | Summer 2018 | 6/6/2018 | NETG45 | Set or retrieve large mesh gill nets no sooner than one hour before sunset on Monday through Thursday |
| | | 6/8/2018 | NETG01 | Leave gill net in coastal waters unattended |
| 6/15/2018 | | NETG46 | Set or retrieve large mesh gill nets later than one hour after sunrise on Tuesday through Friday | |
| 6/22/2018 | | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State | |
| 6/23/2018 | | NETG29 | RCGL gear without proper buoys | |
| 7/4/2018 | | NETG03 | Using gill net with improper buoys or identification | |
| 7/20/2018 | | NETG41 | Use more than 2000 yards of large mesh gill net north of Highway 58 Bridge | |
| 7/20/2018 | | NETG03 | Using gill net with improper buoys or identification | |
| 7/20/2018 | | NETG56 | Violate the provisions of Proclamation M-30-2011 to wit set more than 2000 yards of large mesh gill net | |
| 7/20/2018 | | NETG03 | Using gill net with improper buoys or identification | |
| 8/10/2018 | | NETG10 | Gill net with illegal mesh size | |
| 8/12/2018 | | NETG02 | Using gill net without buoys or identification | |
| 8/25/2018 | | NETG03 | Using gill net with improper buoys or identification | |

Table 14. Contacts attempted (n = 1,638) by the observers trying to set up trips by season categorized by contact type (0-14) and by total number, percent for each season, and percent for the entire ITP Year 2018 (September 1, 2017–August 31, 2018).

| | | Categories (%) ¹ | | | | | | | | | | | | | | |
|-------------|--|-----------------------------|-------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| Season | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total |
| Fall 2017 | | 3 | 46 | 7 | 1 | 3 | 0 | 4 | 0 | 12 | 4 | 17 | 3 | 42 | 65 | 207 |
| | | 1.4% | 22.2% | 3.4% | 0.5% | 1.4% | 0.0% | 1.9% | 0.0% | 5.8% | 1.9% | 8.2% | 1.4% | 20.3% | 31.4% | 100.0% |
| | | Categories (%) ¹ | | | | | | | | | | | | | | |
| Spring 2018 | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total |
| | | 4 | 51 | 5 | 3 | 0 | 2 | 6 | 2 | 10 | 0 | 15 | 0 | 30 | 86 | 214 |
| | | 1.9% | 23.8% | 2.3% | 1.4% | 0.0% | 0.9% | 2.8% | 0.9% | 4.7% | 0.0% | 7.0% | 0.0% | 14.0% | 40.2% | 100.0% |
| | | Categories (%) ¹ | | | | | | | | | | | | | | |
| Summer 2018 | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total |
| | | 43 | 243 | 75 | 12 | 15 | 12 | 63 | 6 | 93 | 12 | 52 | 13 | 194 | 384 | 1,217 |
| | | 3.5% | 20.0% | 6.2% | 1.0% | 1.2% | 1.0% | 5.2% | 0.5% | 7.6% | 1.0% | 4.3% | 1.1% | 15.9% | 31.6% | 100.0% |
| | | Categories (%) ¹ | | | | | | | | | | | | | | |
| Total | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Total |
| | | 50 | 340 | 87 | 16 | 18 | 14 | 73 | 8 | 115 | 16 | 84 | 16 | 266 | 535 | 1,638 |
| | | 3.1% | 20.8% | 5.3% | 1.0% | 1.1% | 0.9% | 4.5% | 0.5% | 7.0% | 1.0% | 5.1% | 1.0% | 16.2% | 32.7% | 100.0% |

¹ Contact type categories: 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

Table 15.. Notice of Violations issued by season, date and violation code for the Estuarine Gill Net Permit for ITP Year 2018 (September 1, 2017–August 31, 2018).

| Season ¹ | Date | Code | Description |
|---------------------|------------|---|---|
| Fall 2017 | 9/20/2017 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP30 | Failure to comply with gill net configurations outlined in proclamation |
| | 10/30/2017 | EGNP30 | Failure to comply with gill net configurations outlined in proclamation |
| | | EGNP10 | Set more than legal length of gill net |
| | | EGNP09 | Failure to set or retrieve nets in accordance with time restrictions |
| | 10/30/2017 | EGNP30 | Failure to comply with gill net configurations outlined in proclamation |
| | | EGNP09 | Failure to set or retrieve nets in accordance with time restrictions |
| | 11/1/2017 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP09 | Failure to set or retrieve nets in accordance with time restrictions |
| | 11/6/2017 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP30 | Failure to comply with gill net configurations outlined in proclamation |
| | 11/6/2017 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP30 | Failure to comply with gill net configurations outlined in proclamation |
| | 11/6/2017 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| EGNP30 | | Failure to comply with gill net configurations outlined in proclamation | |
| Spring 2018 | 3/6/2018 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP26 | Observer harassment |
| | 3/7/2018 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP09 | Failure to set or retrieve nets in accordance with time restrictions |
| | 4/10/2018 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP30 | Failure to comply with gill net configurations outlined in proclamation |
| | 4/12/2018 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP10 | Set more than legal length of gill net |
| | 4/12/2018 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | | EGNP10 | Set more than legal length of gill net |
| 4/16/2018 | EGNP30 | Failure to comply with gill net configurations outlined in proclamation | |
| 5/9/2018 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) | |
| 5/11/2018 | EGNP09 | Failure to set or retrieve nets in accordance with time restrictions | |

¹There were no Notice of Violations issued during the summer 2018 season

7 FIGURES

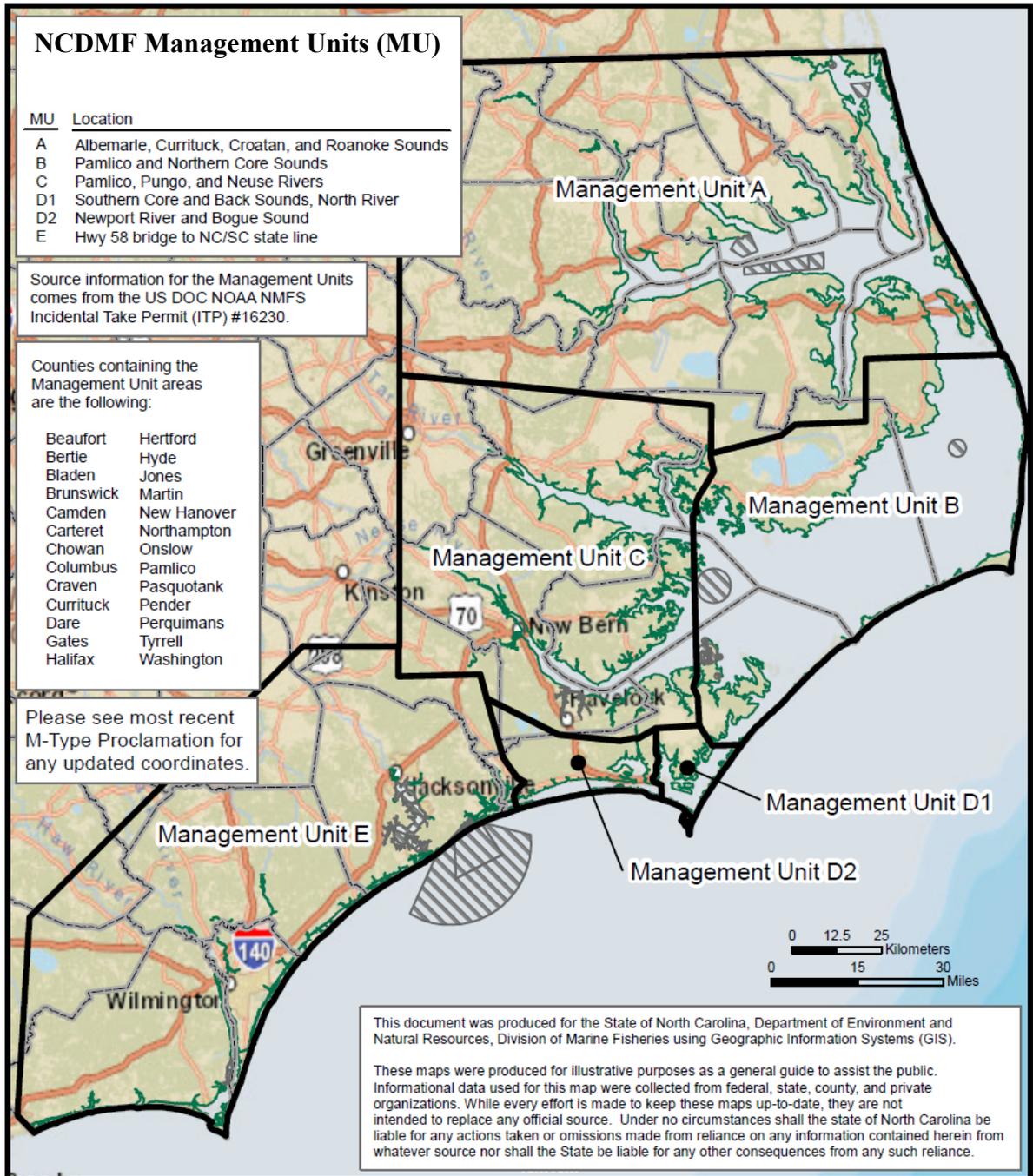


Figure 1. Management Units (A, B, C, D1, D2, and E) as outlined in the Conservation Plan and utilized by the Observer Program for ITP Year 2018 (September 1, 2017–August 31, 2018).

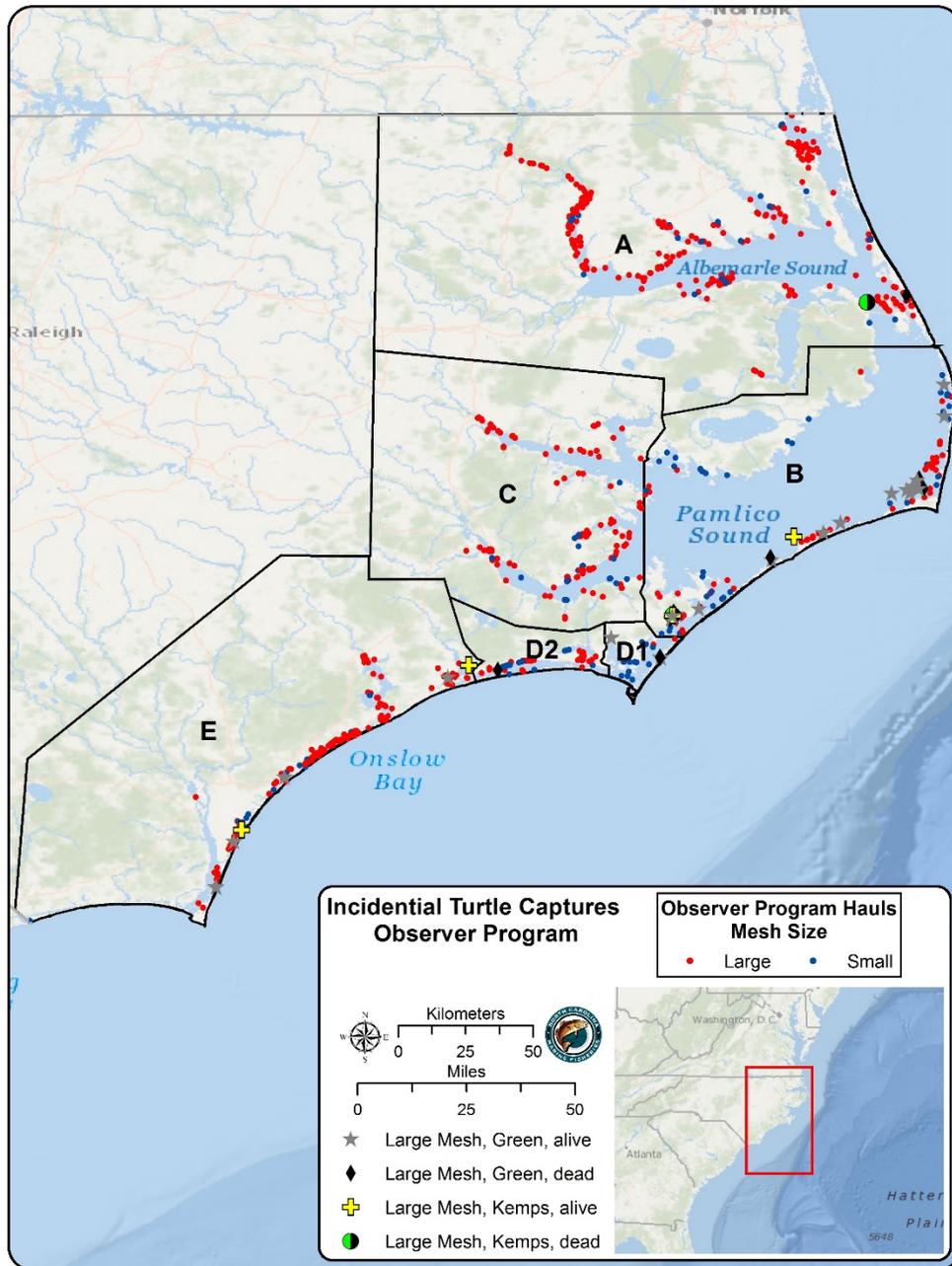


Figure 2. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear throughout all Management Units for ITP Year 2018 (September 1, 2017–August 31, 2018).

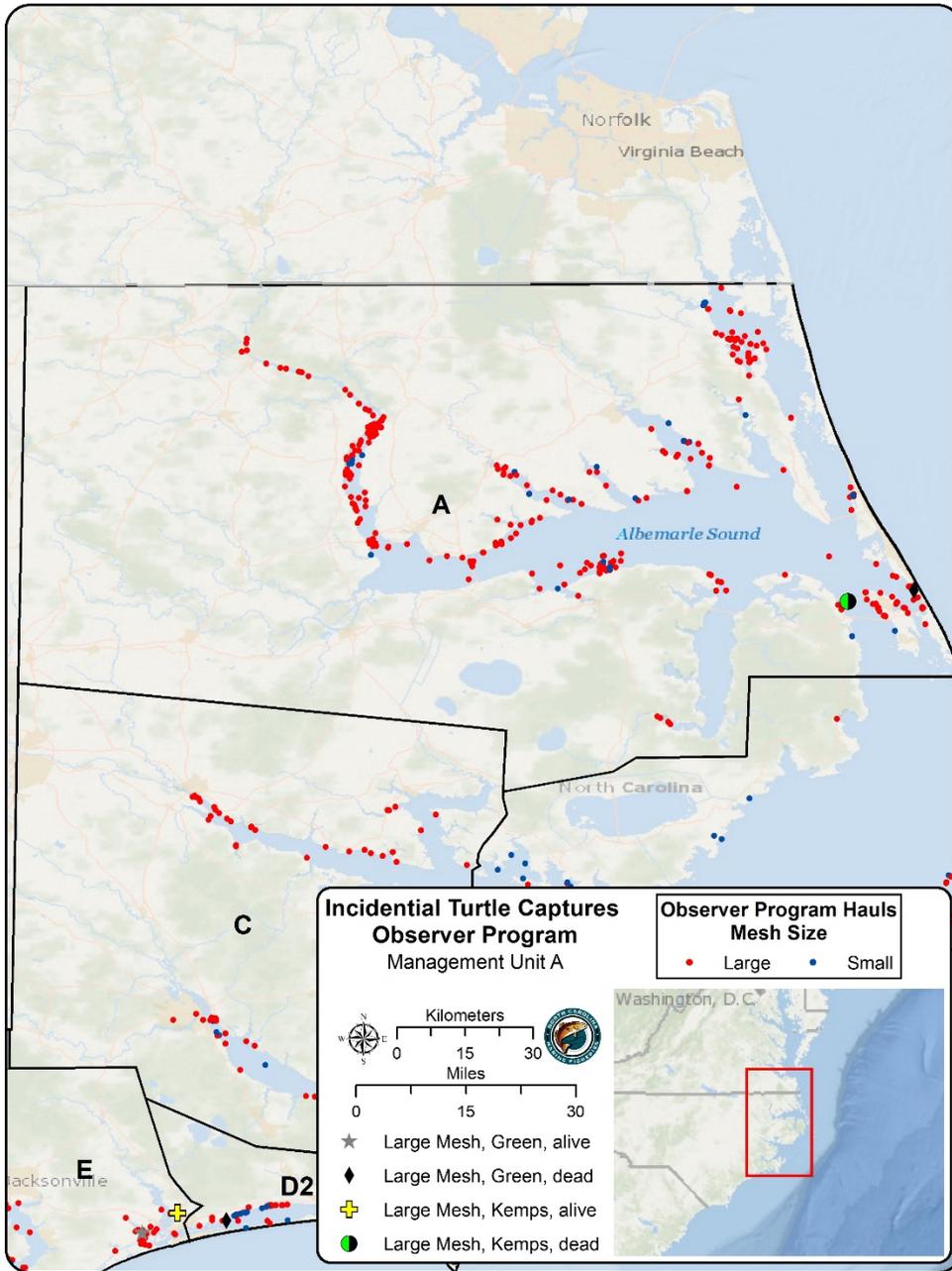


Figure 3. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit A for ITP Year 2018 (September 1, 2017–August 31, 2018).

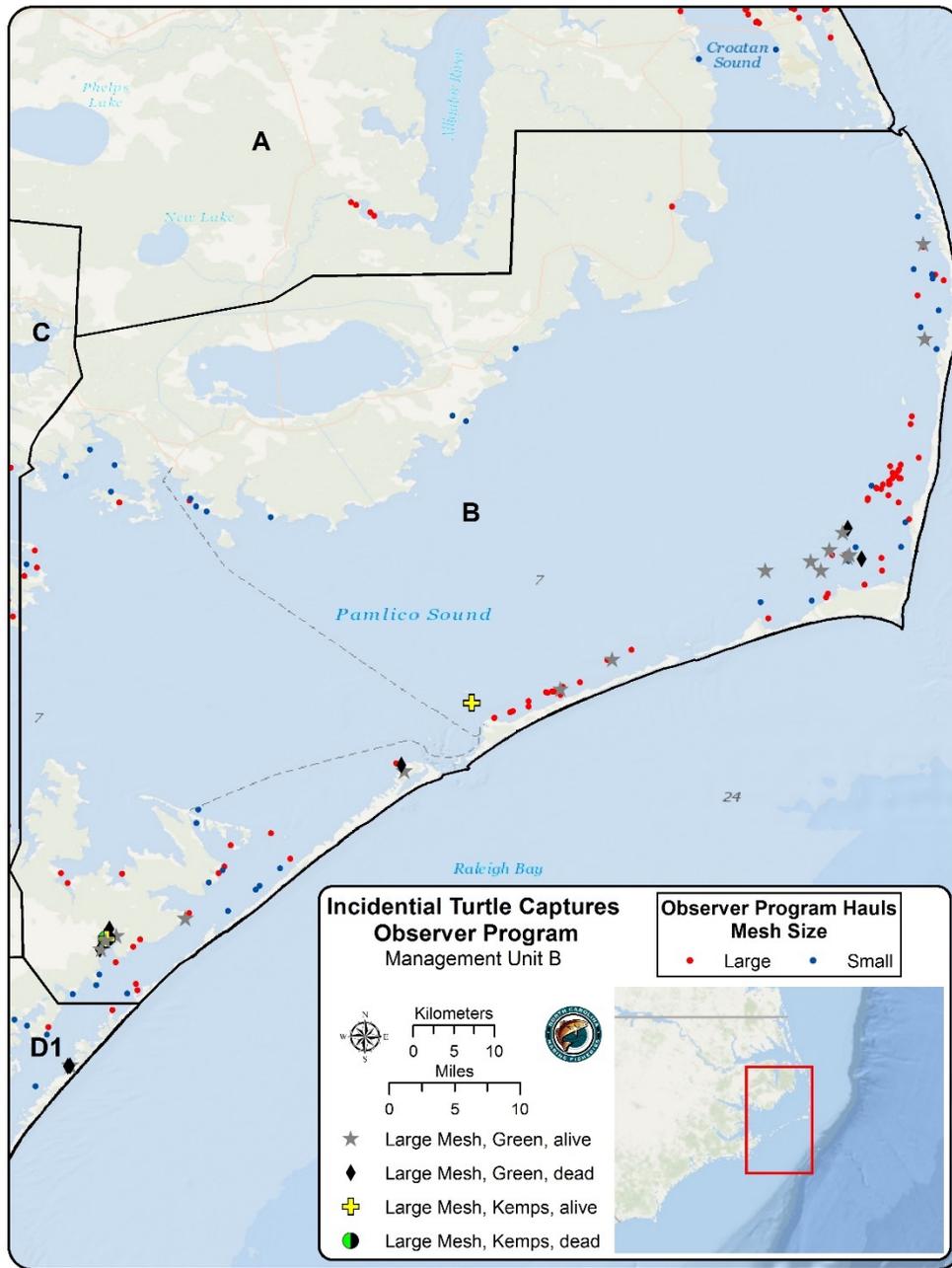


Figure 4. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit B for ITP Year 2018 (September 1, 2017–August 31, 2018).

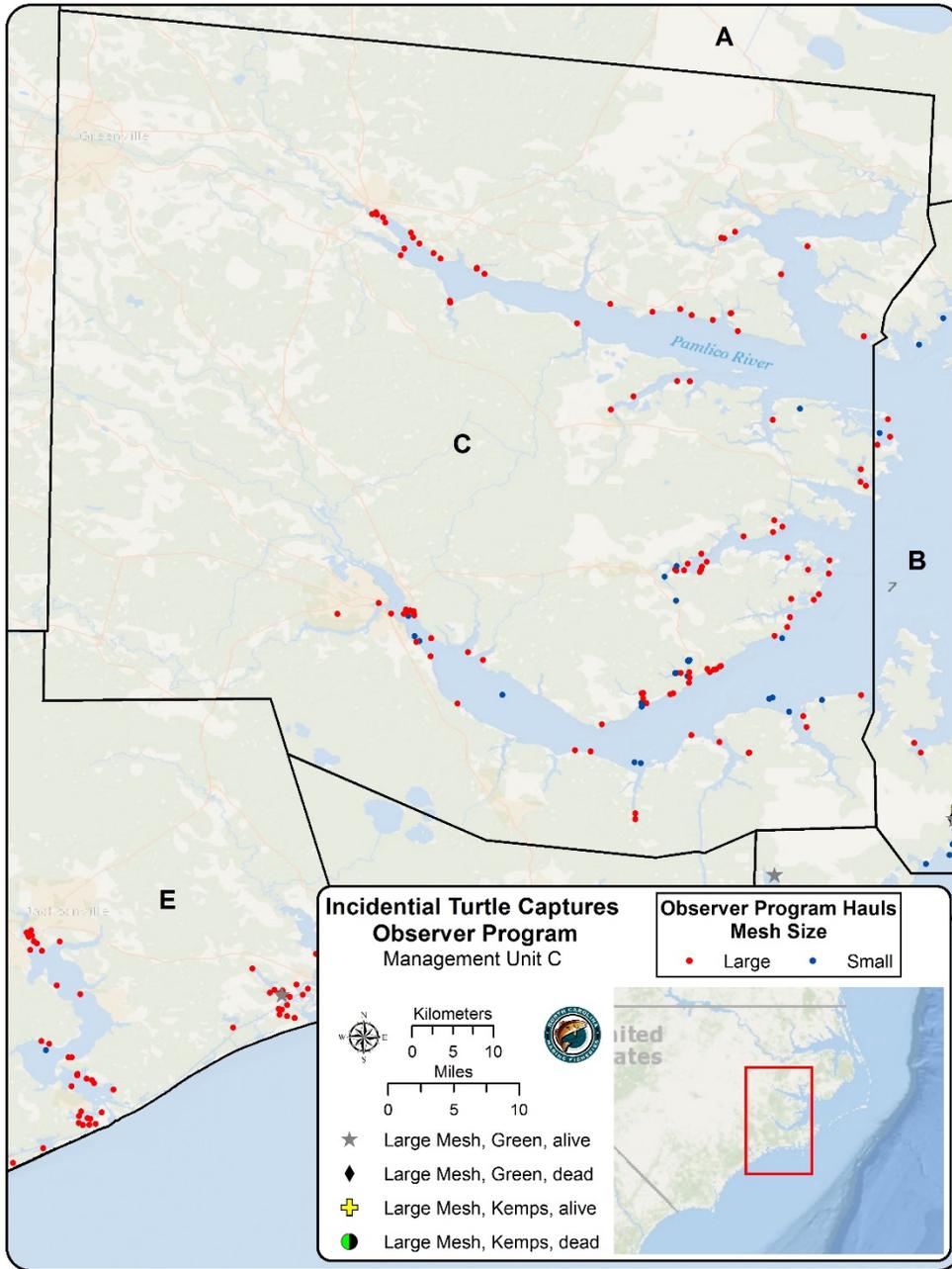


Figure 5. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit C for ITP Year 2018 (September 1, 2017–August 31, 2018).

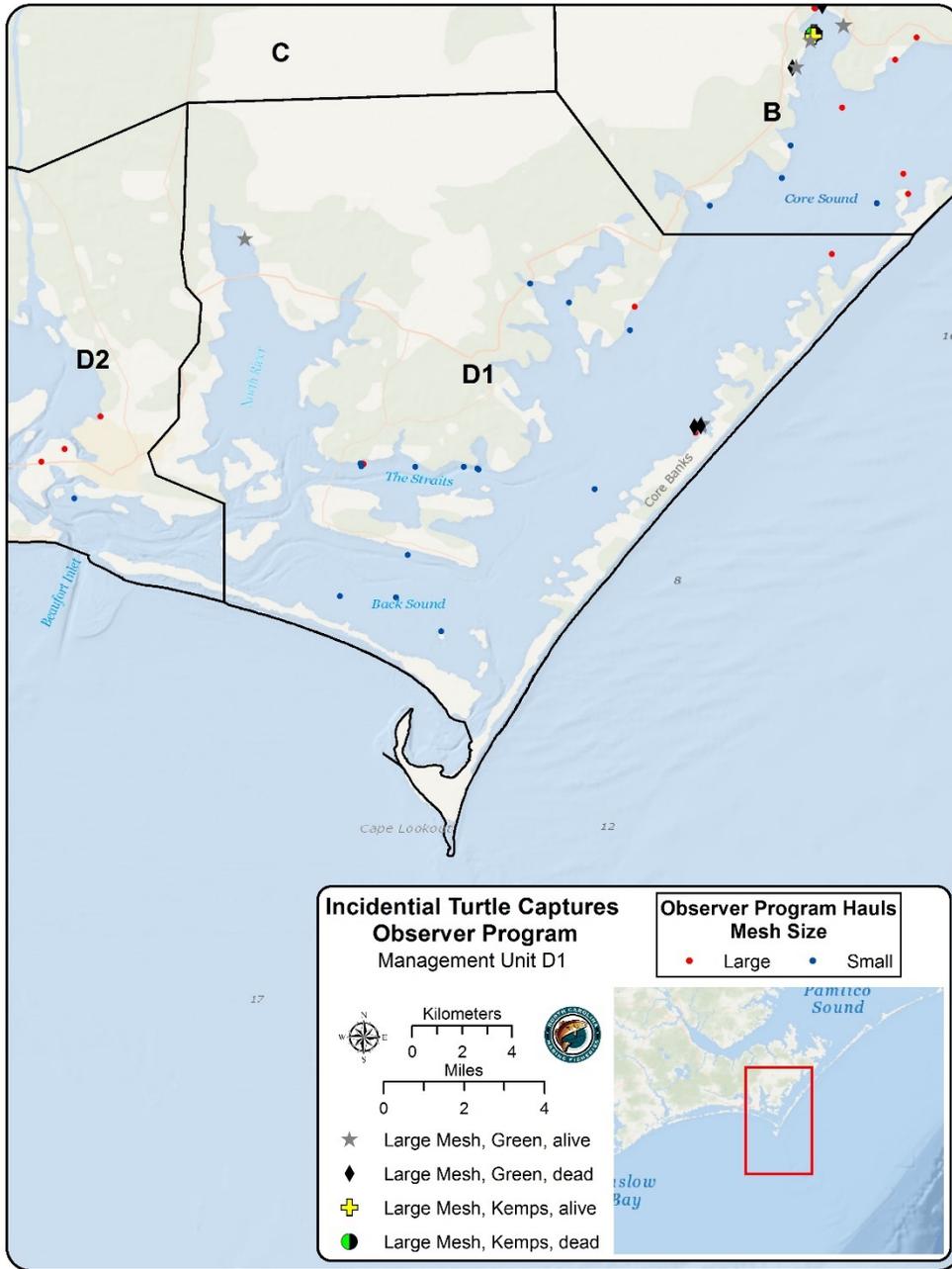


Figure 6. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit D1 for ITP Year 2018 (September 1, 2017–August 31, 2018).

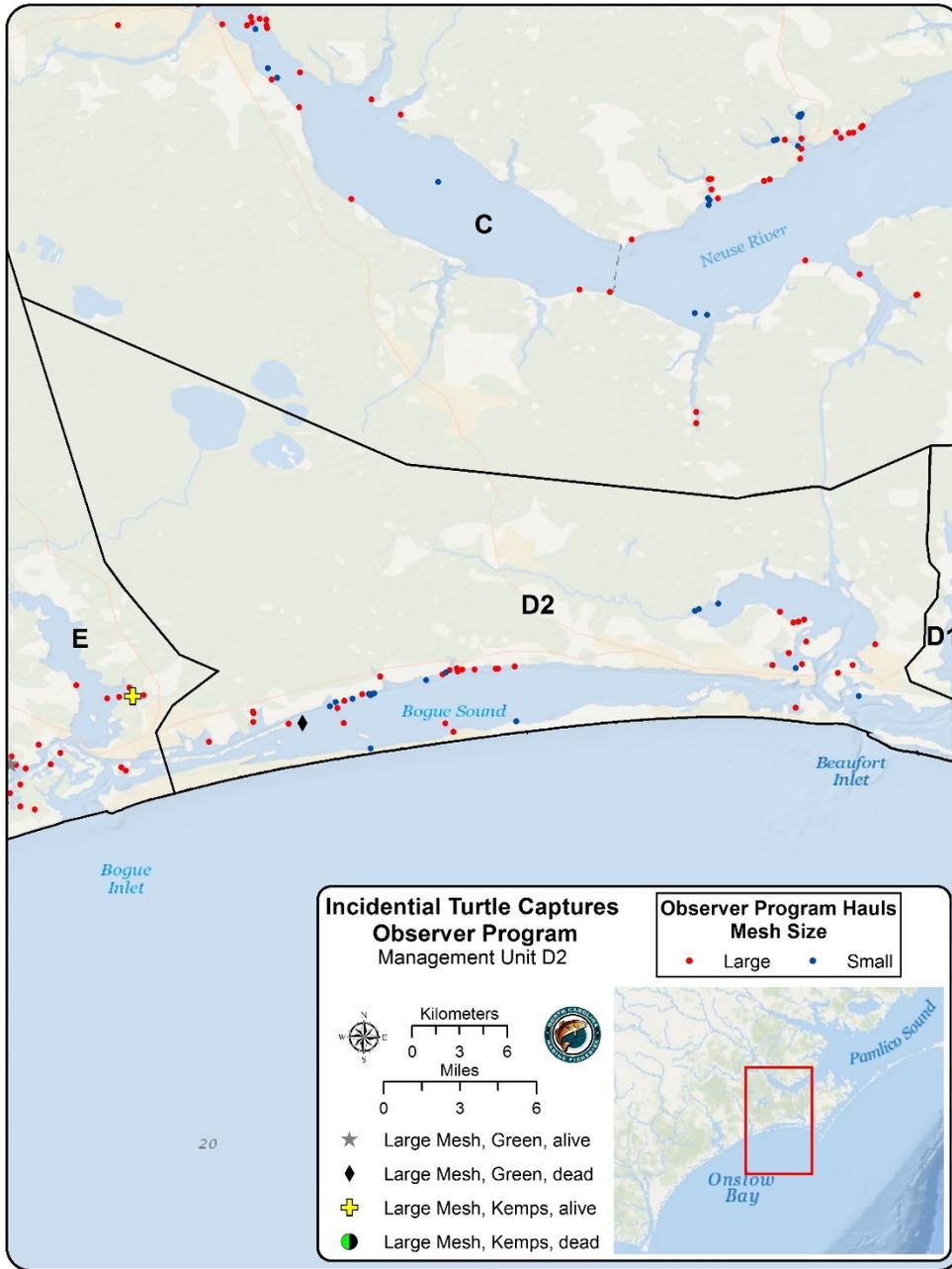


Figure 7. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit D2 for ITP Year 2018 (September 1, 2017–August 31, 2018).

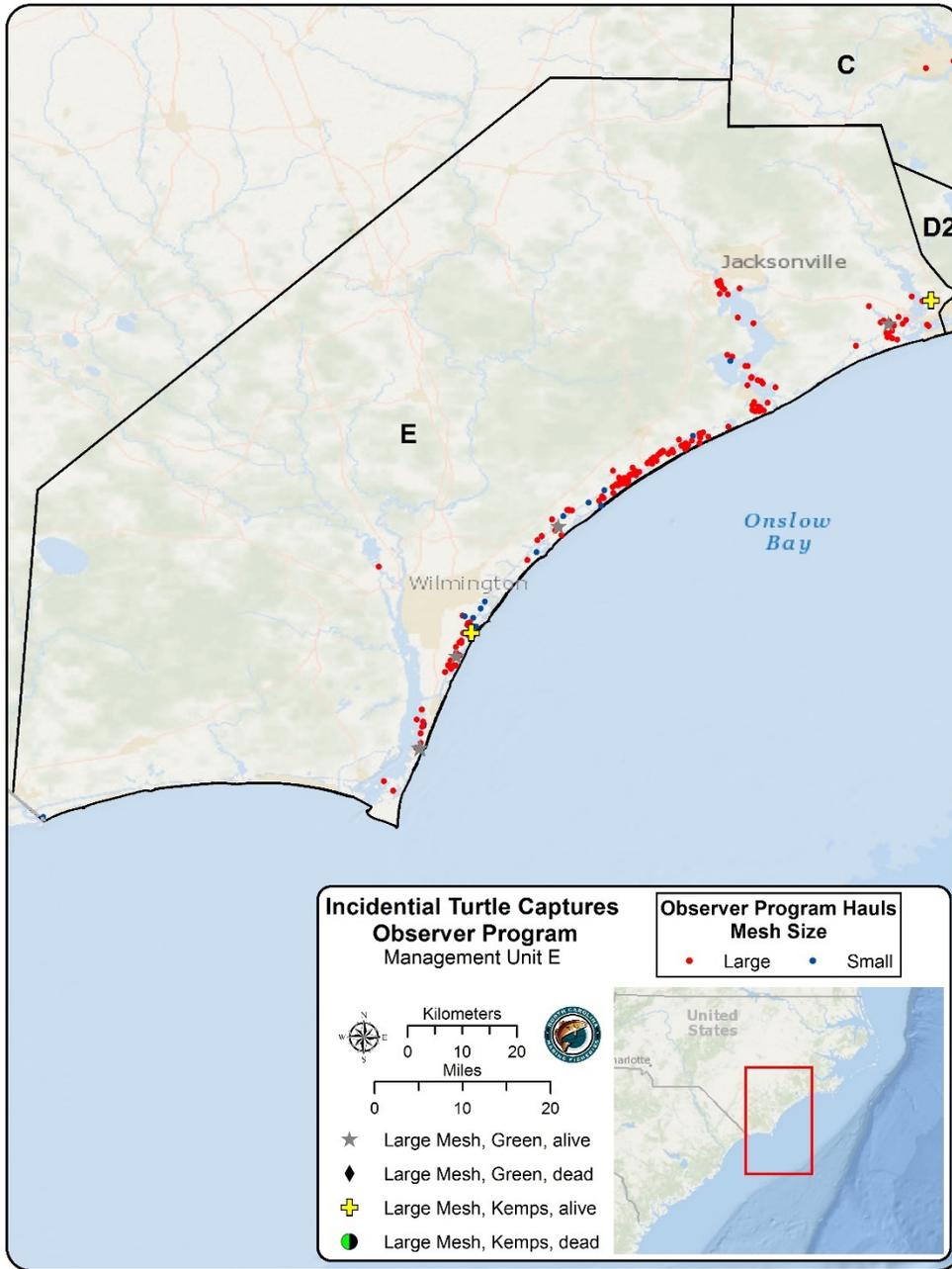


Figure 8. Sea turtle interaction locations by species, disposition, and gear and observer trips by gear in Management Unit E for ITP Year 2018 (September 1, 2017–August 31, 2018).

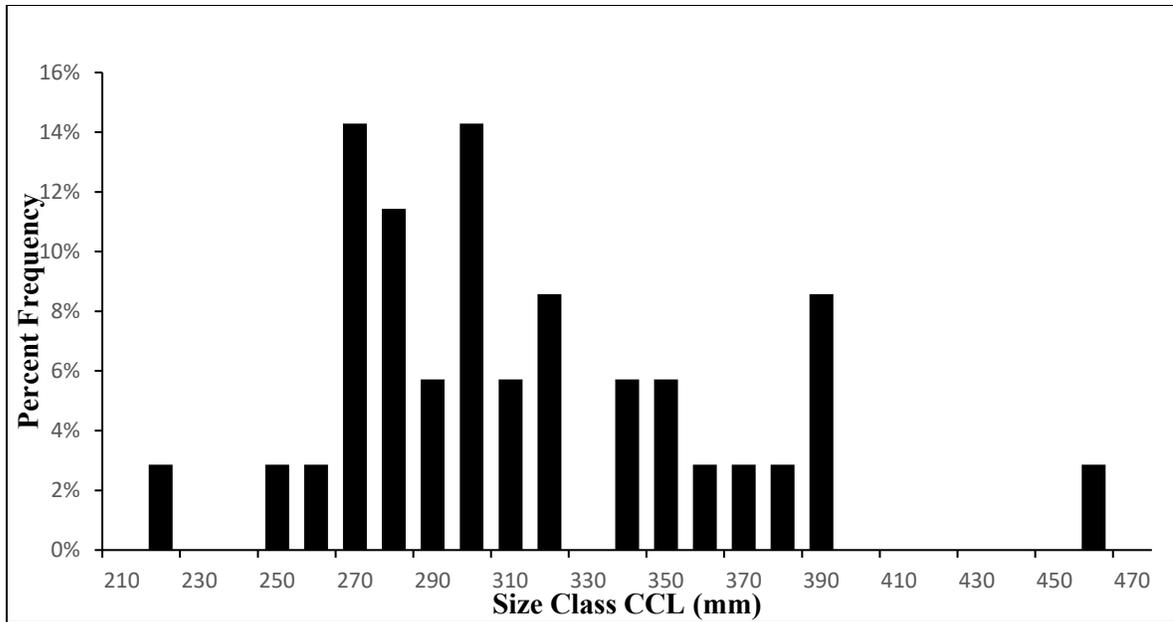


Figure 9. Length-frequency (curved carapace length) from notch to tip of observed incidental captures of green sea turtles where measurements were obtained (n = 35) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018).

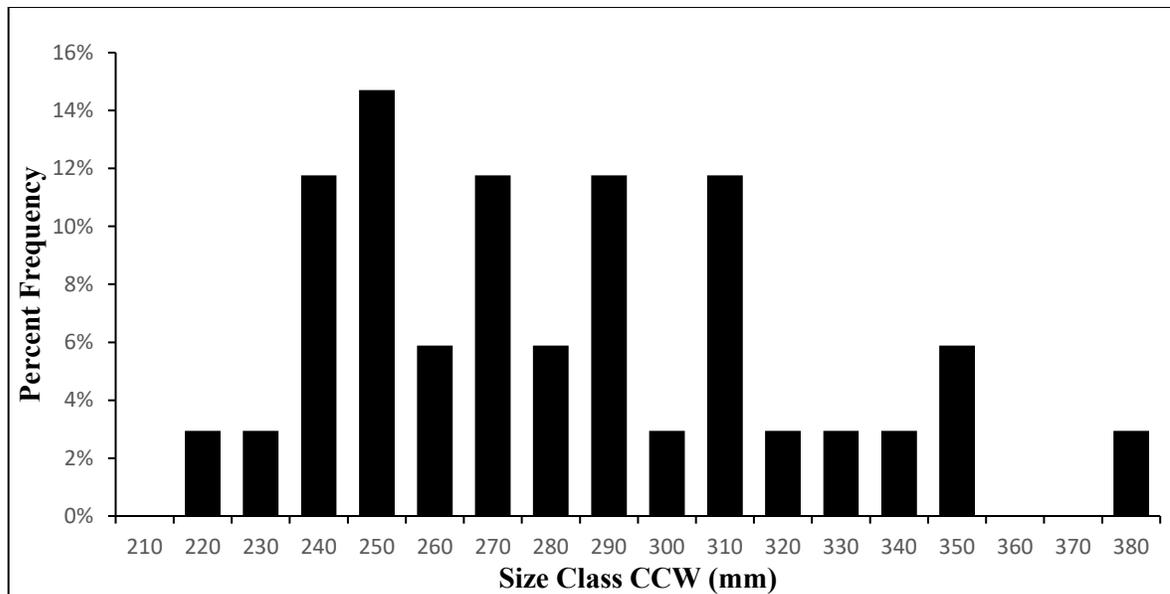


Figure 10. Length-frequency (curved carapace width) of observed incidental captures of green sea turtles where measurements were obtained (n = 34) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018).

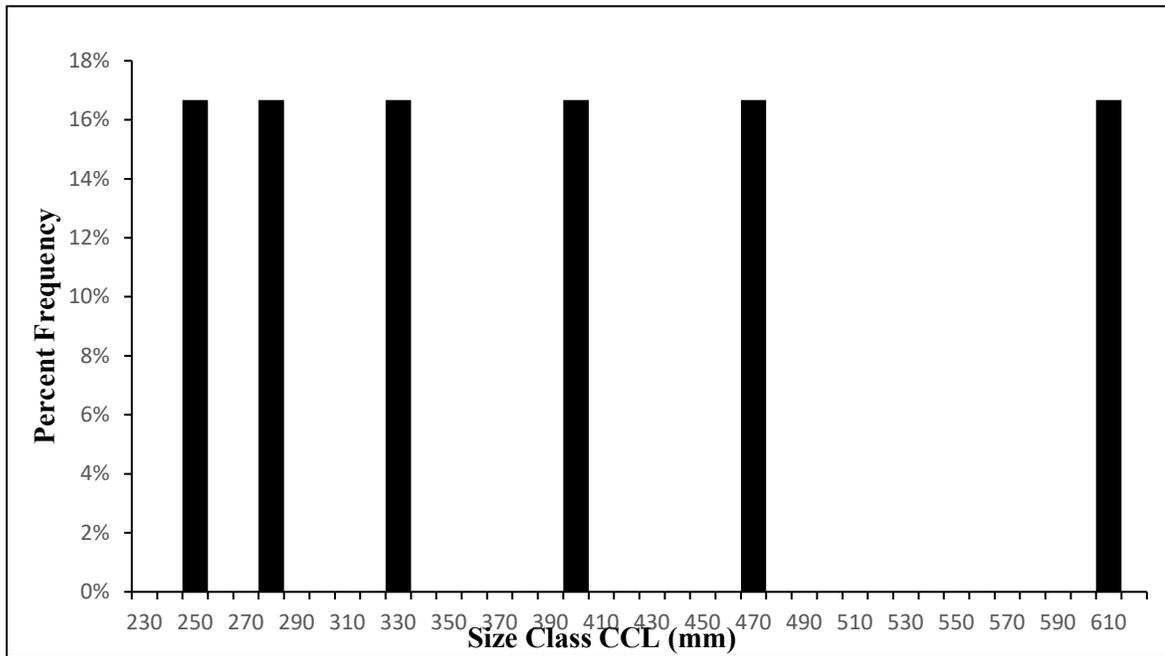


Figure 11. Length-frequency (curved carapace length) from notch to tip of observed incidental captures of Kemp's ridley sea turtles where measurements were obtained (n = 6) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018).

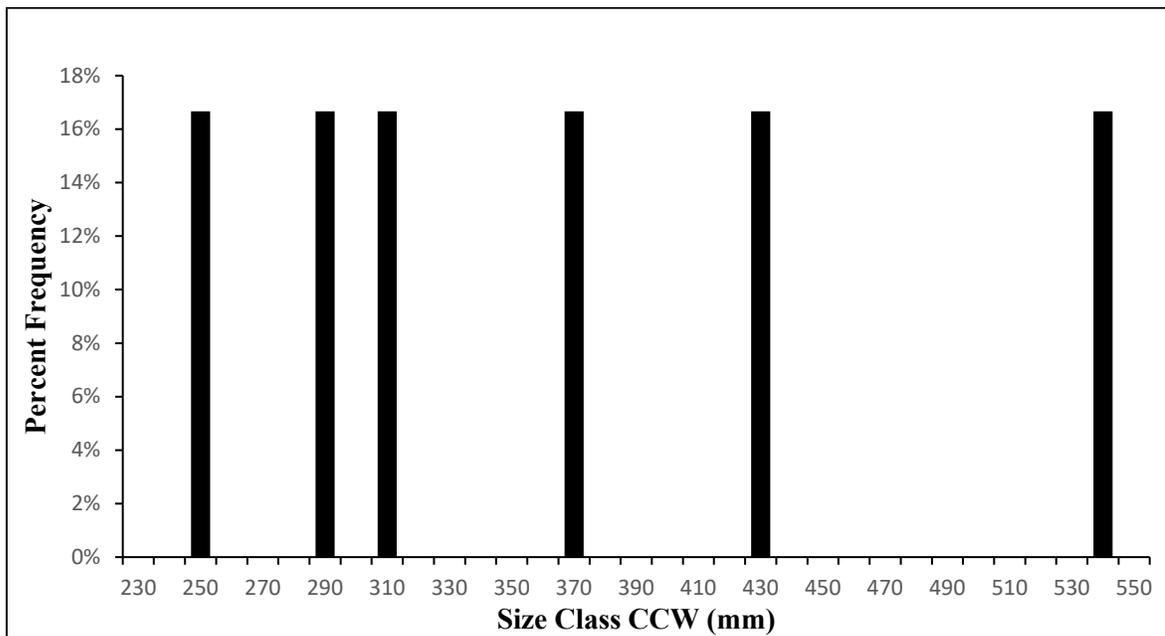


Figure 12. Length-frequency (curved carapace width) from notch to tip of observed incidental captures of Kemp's ridley sea turtles where measurements were obtained (n = 6) collected by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017–August 31, 2018).

8 APPENDIX A



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JAN 4 2017

Braxton C. Davis
Director, North Carolina Division of Marine Fisheries
3441 Arendell Street
P.O. Box 769
Morehead City, North Carolina 28557

Dear Mr. Davis:

On November 21, 2016, the North Carolina Division of Marine Fisheries (NCDMF) requested a minor modification to extend the future annual report deadlines for the Sea Turtle (No. 16230) and Atlantic Sturgeon (No. 18102) Incidental Take Permits from January 31 to the last day in February. You note that this extension would benefit your staff due to a lag time in data being uploaded and verified, the time of year, the deadline for the fall seasonal report, and staff availability.

We appreciate the challenges associated with staff availability and the data accessibility at this time of year, and this delay will not significantly impact our ability to review the annual report. National Marine Fisheries Service (NMFS) therefore concurs with your request for this minor modification. Please sign below to acknowledge that you will comply with the minor modifications specified in this letter and send a copy of the signed letter to Kristy Long on my staff at your earliest convenience.

We note that NCDMF has requested several modifications since the permit began and understand that you are in the process of developing an updated Incidental Take Permit application. We encourage you to incorporate any further anticipated minor modifications into that application process so we can more efficiently analyze these requests.

Please feel free to contact Ron Dean (ron.dean@noaa.gov) or Kristy Long (kristy.long@noaa.gov) with any questions about this minor modification request approval or your pending updated application.

We look forward to continuing to work with you on sea turtle conservation in North Carolina.

Sincerely,

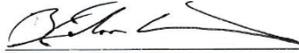
A handwritten signature in cursive script that reads "Donna S. Wieting".

Donna S. Wieting
Director, Office of Protected Resources

Printed on Recycled Paper



I acknowledge the minor modification specified above to Permit No. 16230 issued under Section 10 (a)(1)(B) of the Endangered Species Act to incidentally take threatened and endangered sea turtles in gillnet fisheries operating in inshore waters of North Carolina.



Braxton C. Davis
Director
N.C. Division of Marine Fisheries

1-5-17
Date

9 APPENDIX B



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

Kristy Long
Office of Protected Resources (F/PR)
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Dear Kristy:

The North Carolina Division of Marine Fisheries (NCDMF) Observer Program data have been updated using the finalized 2017 Trip Ticket Program (TTP) data. The Annual Completion Report for the Sea Turtle Incidental Take Permit (ITP) No. 16230 was completed for ITP Year 2017 and submitted in February 2018. Using the finalized 2017 data, Tables 1, 5, 8, and 9 from the Completion Report were updated to reflect the final estimates of observer coverage and sea turtle takes (Tables 1 - 4). In past Annual Completion Reports the data used for the fall season was based on finalized TTP data that had been generated by the NCDMF before drafting the annual report. Due to a clerical error, the wrong information was transcribed to the tables that were supposed to contain finalized fall 2016 TTP data for both large and small mesh anchored gill net gear. Corrections have been made and are reflected in the update below. In addition, some of the observed trip numbers in Tables 1 and 2 changed due to data corrections since the Annual Completion Report was submitted.

Anchored Large Mesh

The Observer Program recorded an overall coverage of 11.1% for the fall 2016 season of the anchored large mesh gill net fishery, meeting minimum coverage requirements (7.0%) in all management units based on finalized 2016 TTP data (Table 1). Using the proper finalized data, anchored large mesh gill net trip numbers decreased in management units A and D1, and increased in management units B, C, D2, and E (Table 1). As stated above, minimum coverage requirements were met in all management units despite the annual report having incorrect data for the fall 2016 anchored large mesh gill net fishery. Coverage increased in management units A (12.1%) and D1 (68.2%) when the proper data was used to populate tables (Table 1). Coverage percentages dropped in management units B (11.3%), C (7.7%), D2 (8.0%), and E (11.1%) when the correct information was applied to data table (Table 1).

The spring 2017 season had a higher number of fishing trips for anchored large mesh gill nets than previously estimated in management units C and D2 (Table 1). Anchored large mesh gill net fishing trip numbers decreased from previous estimates in management units A, D1, and E (Table 1). Management unit B was closed to anchored large mesh gill nets and therefore experienced no change in trips. Observer coverage goals for anchored large mesh gill nets were met in all management units except management unit D1 for the spring 2017 season. No trips



State of North Carolina | Division of Marine Fisheries
3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
252-726-7021

were obtained in management unit D1 during the spring 2017 season due to the management unit being closed for the latter portion of the spring 2017 season and minimal fishing effort (n = 2 fishing trips) while open (Table 1).

The summer 2017 season saw an increase in fishing trips compared with previously estimated trip numbers for anchored large mesh gill nets in management units B, D2, and E (Table 1). Management units A and C experienced a decrease in trips compared to estimates, while management unit D1 was closed and therefore remained constant (management unit D1 is closed annually from May 8 through October 14 as described in the ITP) (Table 1). Observer coverage goals for anchored large mesh gill nets were met in all management units except management unit A for the summer 2017 season.

Anchored Small Mesh

The Observer Program recorded an overall coverage of 4.3% for the fall 2016 season of the anchored small mesh gill net fishery, meeting minimum coverage requirements (1.0%) in all management units except management unit A, based on finalized 2016 TTP data (Table 2). Using the proper finalized data, anchored small mesh gill net trip numbers decreased in management units A, B, D1, and E, while trip numbers increased in management units C and D2 (Table 2). As stated above, minimum coverage requirements were met in all management units except management unit A, despite the annual report having incorrect data for the fall 2016 anchored small mesh gill net fishery. Coverage increased in management units B (2.2%), D1 (22.5%), D2 (7.5%), and E (6.7%) when the proper data was used to populate tables (Table 1). Coverage percentages dropped in management unit C (3.6%) when the correct information was applied to data table (Table 2). Coverage percentage in management unit A remained unchanged (Table 2).

The spring 2017 season showed more fishing trips for anchored small mesh gill nets than previously estimated in management units B, C, and D2 (Table 2). Management units A, D1, and E all had less anchored small mesh gill net trips than originally estimated. Observer coverage goals for anchored small mesh gill nets were met in all management units except for management unit D2 for the spring 2017 season (Table 2).

The summer 2017 season showed more fishing trips for anchored small mesh gill nets than the annual reports estimate in management unit D1 (Table 2). Management units A, B, C, D2, and E all had less anchored small mesh gill net trips than originally estimated (Table 2). Observer coverage goals for anchored small mesh gill nets were met in all management units except management unit D1. While observer coverage goals were not met in management unit D1, they were far exceeded in management units A (4.0%), C (7.7%), and D2 (8.5%), for anchored small mesh gill nets (Table 2).

Sea Turtle Takes

Annual estimated allowable sea turtle takes were recalculated using the finalized 2017 TTP data (Tables 3 and 4). The estimates of sea turtle takes increased for alive and dead green sea turtles and increased for alive Kemp's ridley sea turtles. The anchored large mesh gill net fishery remained below the annual estimated allowable sea turtle takes for all species and dispositions



for ITP Year 2017 (Tables 3 and 4). Confidence intervals for take estimates were not updated due to staffing limitations.

Table 1. Observer coverage calculated from finalized 2017 Trip Ticket data and observer data for anchored large mesh gill nets by season and management unit through the NCDMF Observer Program for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Season | Management Unit | Fishing Trips | Large Mesh | |
|--------------|-----------------|---------------|----------------|-------------|
| | | | Observed Trips | Coverage |
| Fall 2016 | A | 1,446 | 175 | 12.1 |
| | B | 1,156 | 131 | 11.3 |
| | C | 480 | 37 | 7.7 |
| | D1 | 22 | 15 | 68.2 |
| | D2 | 424 | 34 | 8.0 |
| | E | 769 | 85 | 11.1 |
| Spring 2017 | A | 1,549 | 167 | 10.8 |
| | B | n/a | n/a | n/a |
| | C | 1,024 | 92 | 9.0 |
| | D1 | 2 | 0 | 0.0 |
| | D2 | 119 | 11 | 9.2 |
| | E | 259 | 56 | 21.6 |
| Summer 2017 | A | 1,018 | 65 | 6.4 |
| | B | 1,464 | 129 | 8.8 |
| | C | 380 | 28 | 7.4 |
| | D1 | n/a | n/a | n/a |
| | D2 | 255 | 22 | 8.6 |
| | E | 643 | 113 | 17.6 |
| Total | | 11,010 | 1,160 | 10.5 |



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

Table 2. Observer coverage calculated from finalized 2017 Trip Ticket data and observer data for anchored small mesh gill nets by season and management unit through the NCDMF Observer Program for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Season | Management Unit | Fishing Trips | Small Mesh | |
|-------------|-----------------|---------------|----------------|----------|
| | | | Observed Trips | Coverage |
| Fall 2016 | A | 147 | 0 | 0.0 |
| | B | 819 | 18 | 2.2 |
| | C | 222 | 8 | 3.6 |
| | D1 | 40 | 9 | 22.5 |
| | D2 | 241 | 18 | 7.5 |
| Spring 2017 | E | 420 | 28 | 6.7 |
| | A | 572 | 10 | 1.7 |
| | B | 1,517 | 21 | 1.4 |
| | C | 327 | 16 | 4.9 |
| | D1 | 34 | 8 | 23.5 |
| Summer 2017 | D2 | 49 | 0 | 0.0 |
| | E | 141 | 14 | 9.9 |
| | A | 101 | 4 | 4.0 |
| | B | 674 | 10 | 1.5 |
| | C | 130 | 10 | 7.7 |
| | D1 | 14 | 0 | 0.0 |
| | D2 | 47 | 4 | 8.5 |
| | E | 203 | 4 | 2.0 |
| Total | | 5,698 | 182 | 3.2 |



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

Table 3. Authorized and actual annual estimated takes with confidence intervals (95%) using a bootstrap method based on observer data for coverage and sea turtle interaction levels in large mesh (≥ 4 inch stretched mesh) gill nets for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Species | Management Unit | | | | | | | | | | | |
|---------------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|--------|------------|--------|------------|--------|
| | B | | | | D1 | | | | Total | | | |
| | Estimated Takes | | Estimated Takes | | Estimated Takes | | Estimated Takes | | Authorized | | Actual | |
| | Authorized | Actual | Authorized | Actual | Authorized | Actual | Authorized | Actual | Authorized | Actual | Authorized | Actual |
| Green | 225 | 112 | 207 | 42 | 9 | 5 | 1 | 1 | 234 | 117 | 208 | 43 |
| Kemp's ridley | 53 | 26 | 36 | 0 | 15 | 7 | 0 | 0 | 68 | 33 | 36 | 0 |
| Total | 278 | 138 | 243 | 42 | 24 | 12 | 1 | 1 | 302 | 150 | 244 | 43 |

| Species | Management Unit | | | | | | | | | | | |
|---------------|------------------|------------------|------------------|------------------|-----------------|--------|-----------------|--------|------------|--------|------------|--------|
| | D2 | | | | E | | | | Total | | | |
| | Estimated Takes | | Estimated Takes | | Estimated Takes | | Estimated Takes | | Authorized | | Actual | |
| | Authorized | Actual | Authorized | Actual | Authorized | Actual | Authorized | Actual | Authorized | Actual | Authorized | Actual |
| Green | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ | 96 | 48 | 6 | 18 | 96 | 48 | 6 | 18 |
| Kemp's ridley | 6 | 3 | 0 | 0 | 24 | 13 | 16 | 0 | 30 | 16 | 16 | 0 |
| Total | 6 | 3 | 0 | 0 | 120 | 61 | 22 | 18 | 126 | 64 | 22 | 18 |

¹ Insufficient observer data exist to model an estimated annual take level; therefore, for management unit D2, an annual observed take number has been identified for green turtles, and is found in Table 2



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

Table 4. Total annual authorized and actual takes (estimated and observed) by species and condition for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Species | Estimated | | | | | |
|---------------|----------------------|--------|------------------|------------------|------------------|------------------|
| | Observed (live/dead) | | Authorized | | Actual | |
| | Authorized | Actual | Alive | Dead | Alive | Dead |
| Green | 18 | 5 | 330 | 165 | 214 | 61 |
| Hawksbill | 8 | 0 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Kemp's ridley | 12 | 2 | 98 | 49 | 52 | 0 |
| Leatherback | 8 | 0 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Loggerhead | 24 | 1 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Any Species | 8 | 0 | n/a ¹ | n/a ¹ | n/a ¹ | n/a ¹ |
| Total | 78 | 8 | 428 | 214 | 266 | 61 |

¹ Insufficient observer data exist to model an estimated annual take level; therefore, takes are expressed as observed

Sincerely,

John McConnaughey, Conservation Biologist I
 Division of Marine Fisheries, NCDEQ

cc: Chris Batsavage
 Steve Murphey
 Dee Lupton
 Brooke Wheatley



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

10 APPENDIX C

Marine Mammal

INCIDENTAL CAPTURE REPORT

yyyyymmdd hh:mm am/pm

OBSERVER'S NAME (ID): Trent Kennedy/Josh Paylor DATE: 2 0 1 7 | 1 1 | 0 8 TIME: 08 : 00 AM

UNIQUE TRIP ID: HAUL #: 1 AFFILIATION: NCDMF PHONE NUMBER: (252) 808-8088

WATERBODY: Core Sound MANAGEMENT UNIT: D1 COUNTY: Carteret WATER TEMP (°C): 18.0 DEPTH (m): 1.0

SALINITY (PPT): 22 NEARBY LANDMARKS i.e. CHANNEL MARKERS, INLETS: Salters Lump

GEAR: Small NET LENGTH (yds): 100 TOTAL NETS: 7 TOTAL YARDS: 700 SOAK TIME (min): 1220 Mesh (ISM): 3.15

GEAR CODE: 245 MESH DEPTH: 25 TWINE SIZE: 0.52 FLOATS: Yes TIE DOWNS: No LOCATION IN NET: top/middle

LATITUDE (DD.DDDD): 34.82442 LONGITUDE(DD.DDDD): 76.41840 TAG PRESENT? n/a IF YES, TAG #:

TAG INSERTED? n/a IF YES, TAG #: PHOTOS? No SKIN SAMPLE? No

TOTAL # OF MARINE MAMMALS CAUGHT AT THIS INTERACTION LOCATION: 1 PROGRAM # (466/467): 467

| *Marine Mammal # | SPECIES (use codes) | CONDITION (use codes) | **Trauma consistent with gear interaction (yes/no) | DISPOSITION (use codes) | TOTAL LENGTH (cm) | LENGTH ESTIMATE (E) ACTUAL (A) |
|------------------|---------------------|-----------------------|--|-------------------------|-------------------|--------------------------------|
| 1 | BD | 1 | YES | 2 | 152 | E |

EVIDENCE FOR MARINE MAMMAL DEPREDAATION? No IF YES, describe in ADDITIONAL COMMENTS on PAGE 2

COMMENTS FOR LIVE RELEASE (describe in ADDITIONAL COMMENTS on PAGE 2 if needed):

(a) Was any gear left on the animal? IF YES, describe how much/where on the animal's body:

(b) Describe animal's behavior upon release: Describe:

(c) Describe nature of any injuries (i.e., blood in water, location of bleeding, how much bleeding, cuts/lacerations on body and where):

(d) Were there other marine mammals present when animal was released? IF YES, list species:

Table definitions and codes

GEAR CODE: 220 - anchored sink gill net; 245 - anchored float gill net
 PROGRAM #: 466 - onboard observations; 467 - alternative platform observations

*Marine Mammal # - sequential number assigned to each marine mammal at this interaction location in the order they were encountered (1, 2, 3...).
 If more marine mammals are caught than boxes provided, use extra sheet as needed

**Trauma consistent with gear interaction - field should be recorded as blank, yes, or no. In-field determination of whether the trauma to the animal was caused by the gear interaction or was previously inflicted upon the animal prior to becoming entangled in net (i.e., boat strike). If no, please write in comments field the type and condition of the trauma present. Detailed comments will help biologists to determine nature of interaction

| Species | Condition (condition of marine mammal) | Disposition (final disposition of marine mammal) |
|-----------------------|--|--|
| BD-Bottlenose Dolphin | 0 - Alive | 1 - Alive, released |
| UD-Unknown Dolphin*** | 1 - Fresh Dead | 2 - Dead, released |
| HP-Harbor Porpoise | 2 - Moderately Decomposed | 3 - Dead, collected by: _____ |
| S- Seal | 3 - Severely Decomposed | |
| W-Whale | 4 - Dried Carcass | |
| M-Manatee | 5 - Skeleton, bones only | |
| O-Other* | | |

***Provide information above or on page 2 as to color, size, and other descriptives for animal that could not be identified. See PAGE 2 for dolphin diagram and space for additional marine mammal takes and comments.

Marine Mammal INCIDENTAL CAPTURE REPORT

Additional takes in set

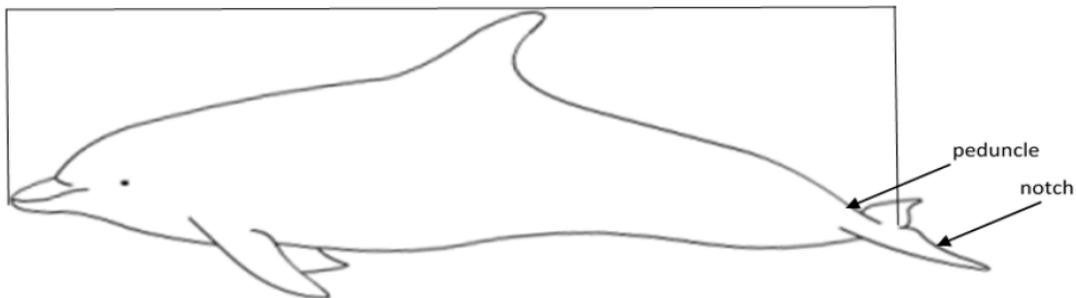
| *Marine Mammal # | SPECIES (use codes) | CONDITION (use codes) | **Trauma consistent with gear interaction (yes/no) | DISPOSITION (use codes) | TOTAL LENGTH (cm) | LENGTH ESTIMATE (E) ACTUAL (A) |
|---|---------------------|-----------------------|--|-------------------------|-------------------|--------------------------------|
| ▼ | ▼ | ▼ | ▼ | ▼ | | ▼ |
| TAG PRESENT? ▼ IF YES, TAG #: _____ TAG INSERTED? ▼ IF YES, TAG #: _____ | | | | | | |
| PHOTOS? ▼ SKIN SAMPLE? ▼ LATITUDE (DD.DDDD): _____ LONGITUDE (DD.DDDD): _____ | | | | | | |

| *Marine Mammal # | SPECIES (use codes) | CONDITION (use codes) | **Trauma consistent with gear interaction (yes/no) | DISPOSITION (use codes) | TOTAL LENGTH (cm) | LENGTH ESTIMATE (E) ACTUAL (A) |
|---|---------------------|-----------------------|--|-------------------------|-------------------|--------------------------------|
| ▼ | ▼ | ▼ | ▼ | ▼ | | ▼ |
| TAG PRESENT? ▼ IF YES, TAG #: _____ TAG INSERTED? ▼ IF YES, TAG #: _____ | | | | | | |
| PHOTOS? ▼ SKIN SAMPLE? ▼ LATITUDE (DD.DDDD): _____ LONGITUDE (DD.DDDD): _____ | | | | | | |

ADDITIONAL COMMENTS (please include any information not included in the above variables (i.e., injuries, wounds, weather conditions, etc.):

Observing a fisherman in Core Sound by Salters Lump, we noticed a large object that we originally thought was a shark, 20 yards deep in the gill net. The net was set 20-30 yards from shore set perpendicularly. As the object came closer to the boat we observed features that made it clear it was a bottlenose dolphin. We were approximately 50 feet away in our own vessel. The fisherman used his net reel to get the animal to the front of the boat where it could plainly be seen that it was a bottlenose dolphin entangled around the head and had also been wrapped multiple times. The animal was fully wrapped in the net a few times (top to bottom). The fisherman took approximately two mins to untangle the dolphin from the net. While the fisherman was untangling the dolphin, we spoke loudly to the fisherman to let us get the animal but he did not hear us. We called our supervisor to seek advice and inform him of the situation. As soon as the dolphin was free it sank out of sight. We finished observing the fisherman then we came back to the location and looked for the dolphin in the shallow water around the area but were unable to recover it.

Figure 1: Total length measured from tip of the rostrum to the notch in the flukes (centimeters)



11 APPENDIX D



NORTH CAROLINA MARINE FISHERIES COMMISSION DEPARTMENT OF ENVIRONMENTAL QUALITY

COMMISSIONERS

| | | |
|--|---|--|
| PAT MCCRORY Governor | MARK GORGES Wrightsville Beach | RICK SMITH Greenville |
| DONALD VAN DER VAART Secretary | CHUCK LAUGHRIDGE Harkers Island | MIKE WICKER Raleigh |
| SAMMY CORBETT Chairman | JANET ROSE Moyock | ALISON WILLIS Harkers Island |
| | JOE SHUTE Morehead City | |

Aug. 25, 2016

Mr. Bob Lorenz
P.O. Box 10512
Wilmington, NC 28404

Dear Bob:

I wanted to let you know at last week's Marine Fisheries Commission meeting I announced the Sea Turtle Advisory Committee was being disbanded. I wanted to contact you directly and let you know I had taken this action and the reason why.

The commission has a multitude of committees, many of which are statutorily mandated, such as the Northern and Southern regional advisory committees and the Finfish, Shellfish/Crustacean and Habitat and Water Quality advisory committees. These committees require a great deal of attention, both in staff time and in resources. In looking for efficiencies in our committee system, I felt our regional and pertinent standing advisory committees could serve as venues to review and provide the needed input on sea turtle issues. So, after much consideration, I decided to disband the Sea Turtle Advisory Committee, because it is not statutorily required. This was a difficult decision, especially since I served on the Sea Turtle Advisory Committee prior to being appointed to the Marine Fisheries Commission.

Later this fall we will be doing our annual solicitation for advisers. If any of you are interested in serving on other committees, please let me know and I will make every effort to place you on one of these committees as openings become available.

In closing, please know how much I appreciate your dedication and service to the state. I encourage you to please stay involved in fisheries issues and I hope to see you or hear from you in the future.

Sincerely,

Sammy Corbett

Sammy Corbett, Chairman
N.C. Marine Fisheries Commission

cc: Chris Batsavage, Division of Marine Fisheries



Annual Atlantic Sturgeon Interaction Monitoring of the 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. 18102

John McConnaughey, Jacob Boyd and Lara Klibansky

North Carolina Department of Environmental Quality
North Carolina Division of Marine Fisheries
Protected Resources Section
3441 Arendell Street
Morehead City, NC 28557

February 2019

TABLE OF CONTENTS

| | |
|---------------------------------|-----|
| Table of Contents | ii |
| List of Tables | iii |
| List of Figures | iv |
| Introduction..... | 5 |
| Methods..... | 6 |
| Observer Activity | 6 |
| Seasons | 9 |
| Authorized Takes | 9 |
| Compliance..... | 10 |
| Results..... | 10 |
| Observer activity | 10 |
| Fall 2017 | 10 |
| Winter 2017-2018..... | 11 |
| Spring 2018..... | 12 |
| Summer 2018..... | 13 |
| Authorized Takes | 14 |
| Compliance..... | 15 |
| Marine Mammals | 15 |
| Discussion | 16 |
| Management history | 16 |
| Observer Activity | 18 |
| Compliance..... | 19 |
| Estuarine Gill Net Permit | 20 |
| Literature Cited | 21 |
| Tables | 25 |
| Figures..... | 40 |
| Appendix A..... | 48 |
| Appendix B..... | 49 |
| Appendix C..... | 57 |
| Appendix D..... | 59 |
| Appendix E | 61 |

LIST OF TABLES

| | |
|--|----|
| Table 1. Authorized and actual annual estimated incidental takes per fishing year (for a total of 10 years; the life of the permit) with confidence intervals (95%) using a bootstrap method based on observer data for coverage and Atlantic sturgeon interaction levels in North Carolina’s anchored large mesh (>5.0 ISM) inshore gill net fishery for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 25 |
| Table 2. Authorized and actual annual estimated incidental takes per fishing year (for a total of 10 years; the life of the permit) with confidence intervals (95%) using a bootstrap method based on observer data for coverage and Atlantic sturgeon interaction levels in North Carolina’s anchored small mesh (<5.0 ISM) inshore gill net fishery for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 26 |
| Table 3. Categories and descriptions of fisherman responses for the Observer Program's contact logs used for analysis. | 27 |
| Table 4. Regulations for Management Units by date and regulation change for anchored large and small mesh gill nets for ITP Year 2018 (September 1, 2017 - August 31, 2018). 28 | |
| Table 5. Observer coverage calculated from previous year's trip ticket data and observer data for anchored large mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 30 |
| Table 6. Observer coverage calculated from previous year's trip ticket data and observer data for anchored small mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 31 |
| Table 7. Summary of observed Atlantic sturgeon interactions in anchored large through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 32 |
| Table 8. Summary of reported Atlantic sturgeon interactions in anchored large mesh gill nets through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 33 |
| Table 9. Number of gill-net checks made and citations issued by Marine Patrol for large and small mesh gill nets by season during ITP Year 2018 (September 1, 2017 - August 31, 2018). | 33 |
| Table 10. Citations written by Marine Patrol for large and small mesh gill nets by season and violation code during ITP Year 2018 (September 1, 2017 - August 31, 2018). | 34 |
| Table 11. Contacts attempted (n = 2,000) by the observers trying to set up trips by season categorized by contact type (0-14) and by total number, percent for each season, and percent for the entire ITP Year 2018 for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 37 |
| Table 12. Notice of Violations issued by season, date and violation code for the Estuarine Gill Net Permit for ITP Year 2018 (September 1, 2017 - August 31, 2018). | 38 |

Table 12. Notice of Violations issued by season, date and violation code for the Estuarine Gill Net Permit for ITP Year 2018 (September 1, 2017 - August 31, 2018). 39

LIST OF FIGURES

Figure 1. Management Units (A1, A2, A3, B, C, D, and E) as outlined in the Conservation Plan and utilized by the Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018). 40

Figure 2. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear throughout all Management Units for ITP Year 2018 (September 1, 2017 - August 31, 2018)..... 41

Figure 3. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit A for ITP Year 2018 (September 1, 2017 - August 31, 2018)...... 42

Figure 4. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit B for ITP Year 2018 (September 1, 2017 - August 31, 2018)...... 43

Figure 5. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit C for ITP Year 2018 (September 1, 2017 - August 31, 2018)...... 44

Figure 6. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit D for ITP Year 2018 (September 1, 2017 - August 31, 2018)...... 45

Figure 7. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit E for ITP Year 2018 (September 1, 2017 - August 31, 2018)...... 46

Figure 8. Length-frequency (total length) of observed incidental captures of Atlantic sturgeon where measurements were obtained (n = 22) by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017 - August 31, 2018). 47

Figure 9. Length-frequency (fork length) of observed incidental captures of Atlantic sturgeon where measurements were obtained (n = 12) by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017 - August 31, 2018). 47

INTRODUCTION

The North Carolina Division of Marine Fisheries (NCDMF) applied for an Incidental Take Permit (ITP) under Section 10(a)(1)(B) of the Endangered Species Act (ESA) of 1973 (Public Law 93-205, ESA) on April 5, 2012 for Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) interactions with the anchored gill-net fisheries in North Carolina's internal coastal (estuarine) waters. This request was prompted by notification from the National Marine Fisheries Service (NMFS) in February 2012 indicating the intent to list the Carolina Distinct Population Segment (DPS) of Atlantic sturgeon as endangered under the ESA. The NCDMF requested an ITP to implement a proposed conservation plan that ensured only a reasonable level of authorized Atlantic sturgeon incidental takes will occur, while allowing North Carolina's estuarine gill-net fisheries to operate. The NCDMF requested the NMFS to authorize such takes that are incidental to normal fishing activity with increased public outreach by the NCDMF to help fishermen avoid, minimize, and mitigate incidental takes of Atlantic sturgeon.

Feedback on the ITP application was received from the NMFS on May 29, 2012 via a teleconference with the NCDMF and the NMFS staff. After further review, on July 20, 2012 the NMFS requested the NCDMF to submit a revised permit application and Conservation Plan that addressed issues that were provided. In response to requested changes from the NMFS, the NCDMF made extensive revisions and resubmitted the application on December 20, 2012. Upon further review the NMFS provided the NCDMF with a list of questions they had regarding the application. On February 4, 2013, the NMFS and the NCDMF went over questions regarding the ITP application and Conservation Plan. A revised ITP application was resubmitted to the NMFS on June 28, 2013 encompassing all comments and concerns raised by the NMFS. On July 9, 2013, the NMFS published a notice of receipt of the NCDMF application (File No. 18102) in the Federal Register (78 FR 41034). The comment period ended August 8, 2013. After further deliberation with the NMFS another revision of the Atlantic Sturgeon ITP was resubmitted on January 2, 2014.

The NCDMF received the Atlantic Sturgeon ITP (No. 18102) on July 22, 2014. The Atlantic Sturgeon ITP defined an ITP Year as beginning on September 1 and running through August 31 of the following year. This ITP authorized the implementation of adaptive management measures to protect endangered Atlantic sturgeon and other ESA listed species, while allowing anchored gill-net fisheries to be prosecuted in the estuarine waters of North Carolina. The ITP's Conservation Plan specifies further measures, which the NMFS determined will minimize, monitor, and mitigate the impacts of incidental takes of ESA-listed Atlantic sturgeon from the Gulf of Maine, New York Bight, Chesapeake, Carolina, and South Atlantic DPSs, associated with the otherwise lawful anchored gill-net fisheries operating in estuarine North Carolina waters. Anchored gill nets are a passive gear deployed with an anchor, stake, or boat at one or both ends of the net shots or operation. Anchored gill nets do not include the following types of gill nets: run-around, strike, drop or drift gill nets.

On November 21, 2016, the NCDMF requested a minor modification to extend the future annual report deadlines for the Atlantic Sturgeon and Sea Turtle (No. 16230) ITPs from January 31 to the last day in February. This extension was to benefit staff due to a lag time in data being uploaded and verified, the time of year, the deadline for the fall seasonal report, and staff availability. On January 4, 2017, the NMFS sent a letter to the NCDMF concurring with NCDMF's request for the minor modification encouraging staff to incorporate any further anticipated minor modifications into the application process for an updated ITP (Appendix A).

The NCDMF Observer Program data were updated using the finalized 2017 Trip Ticket Program (TTP) data in May 2018 (Appendix B). The Annual Completion Report for the Atlantic Sturgeon ITP was completed for ITP Year 2017 and submitted in February 2018. Using the finalized 2017 data, Tables 1, 2, 5, and 6 from the Completion Report were updated to reflect the final estimates of observer coverage and Atlantic sturgeon takes. The fall 2016 season was based on finalized 2017 TTP data and coverage goals were met for both anchored large and small mesh gill nets using fall 2016 finalized data (Appendix B).

On July 13, 2017, the NCDMF requested a minor modification to the Atlantic Sturgeon ITP to modify the allocation of allowed Atlantic sturgeon takes in Management Units A and C as annual takes rather than seasonal takes. Discussions with NMFS staff noted the number of allowed seasonal takes is very low in some cases, and the seasonal takes have been reached on a few occasions (resulting in seasonal closures). Further discussions with NMFS staff concluded that a minor modification would be feasible. However, there was a concern noted on the issue of warmer water temperatures (20°C – 30°C) being correlated with more mortalities. The NCDMF addressed this concern describing how by using adaptive management, the NCDMF has more flexibility in managing the fishery with annual allocated takes to ensure the allowed takes are not exceeded for any Management Unit during the ITP Year. Lower fishing effort in the summer season (compared to the fall season) due to increasing water temperatures and fish availability should not create an issue for Atlantic sturgeon mortalities going over the allowed mortality levels for takes. The NCDMF further explained that by actively monitoring the fisheries and take levels daily, it better ensures take levels (including limiting mortality levels) are not exceeded. On July 19, 2017, the NMFS sent a letter to the NCDMF concurring with NCDMF's request for the minor modification encouraging staff to incorporate any further anticipated minor modifications into the application process for an updated ITP (Appendix C).

METHODS

Observer Activity

The conservation plan includes managing inshore gill-net fisheries by dividing estuarine waters into seven Management Units (A1, A2, A3, B, C, D, and E; Figure 1). Trip Ticket Program data along with Observer Program data from previous years are used when estimating the number of

trips needed for the current year in each Management Unit and season. Also, real time TTP data are used for areas where effort may be increasing. Each year effort can potentially shift from one Management Unit to another making it important for the NCDMF to not base the observer effort solely on previous years' TTP data, but also on current effort changes. To account for fluctuations in TTP data caused by Management Unit closings, a five-year average was used for estimating anchored large mesh gill-net fishing trips and a five-year average was used for estimating anchored small mesh gill-net fishing trips for ITP Year 2018. This method of estimating trips proves to more accurately reflect the current fishing effort. Once TTP data are finalized in May of 2019, the final observer coverage will be recalculated, and the finalized estimates of observer coverage will be provided to the NMFS.

Observer coverage was calculated for each season in each Management Unit by estimating fishing trips using an average of the previous five years' TTP data (2012/2013-2016/2017) for anchored large mesh gill nets and the average of the previous four or five years' (2013-2016/2017) TTP data for anchored small mesh gill nets, while taking reduced season dates in each Management Unit into account by calculating the proportion of actual to possible fishing days. This calculated estimated fishing effort was compared to the observer trips completed throughout the ITP Year. The average, normalized effort was used when estimating fishing trips to account for the fluctuation of fishing effort throughout the years due to closures and other regulations put in place throughout the time series.

The onboard Observer Program, where observers ride onboard fishermen's vessels, is the preferred method of obtaining observer data and is used most frequently. Protected species interactions, gear parameters, as well as detailed gill-net catch, bycatch, and discard information for all species caught are recorded. The alternative platform Observer Program requires two observers in a state-owned vessel to monitor commercial fishermen as they fish their gill nets. The alternative platform observers document protected species interactions and provide catch and discard estimates for other species that are observed. The amount of biological data that are collected on alternative platform observer trips is notably less than onboard observer trips. Therefore, onboard observer trips are highly preferred due to the amount of biological data collected which are used when making management decisions, in stock assessments, in the development of fishery management plans, and for identifying bycatch (finfish, protected species) problem areas. For alternative platform trips, observers and Marine Patrol Officers follow similar protocols using NCDMF vessels to observe the fishing trip. Each observer attempts to obtain a minimum of three to four trips per working week when fishing activity is occurring. Observers are assigned a Management Unit to work weekly and the number of observers assigned to a Management Unit depends upon the season and fishing effort. Fishing effort is estimated from the previous 4-5 years' TTP data by week, month, and Management Unit to determine where and how much observer coverage is needed each week and for each Management Unit by month/season. Reports from observers and other staff are used to

determine if effort is fluctuating between Management Units. Trends from the previous years' TTP data are also analyzed to determine if fishing effort is shifting from one Management Unit to another. Fishermen holding an Estuarine Gill Net Permit (EGNP) in North Carolina are pooled by Management Unit and further split into lists by geographic area within units. The contact information for these fishermen is then given to the observers assigned to that area and the observers contact the fishermen to set up trips from the list of names given. Preliminary TTP information is also used to refine the list to represent individuals who are actively participating in fishing activities. Observers also visit fish houses and dealers where they hand out business cards with their contact information and brochures explaining the Observer Program, giving the fishermen another outlet to allow observers on their vessels. Additionally, the Observer Program uses a website (<http://portal.ncdenr.org/web/mf/observers-program>) to provide outreach to fishermen to facilitate obtaining trips.

Alternative platform trips are used for areas that may be hard to get onboard trips (i.e., fishermen in remote locations that leave from their residence by boat) or when the fisherman's vessel is too small to safely accommodate an onboard observer. Alternative platform trips are also used in areas where fishing effort may increase quickly, where Atlantic sturgeon abundance is high, and when observers are unable to set-up onboard trips due to fisherman non-compliance. Marine Patrol also conducts alternative platform trips weekly in all Management Units based on the same methodology as the Observer Program. Coordination of onboard, alternative platform, and Marine Patrol alternative platform trips is done regularly to maximize efficiency and to achieve the maximum amount of observer coverage possible for each Management Unit. Changes in effort, Atlantic sturgeon abundance (i.e., observed and reported interactions), and other protected species interactions are monitored on a daily, weekly, and monthly basis to ensure proper observer coverage is being maintained. The ITP requires a minimum of 7% observer coverage with a goal of 10% of the total anchored large mesh gill-net (≥ 5 inches stretched mesh-ISM) fishing trips and 1% coverage with a goal of 2% of the total anchored small mesh gill-net (< 5 ISM) fishing trips per Management Unit for the spring, summer, fall, and winter seasons.

Observers are trained to identify, measure, evaluate condition, and tag Atlantic sturgeon by the NCDMF. Date, time, tag numbers, location (latitude and longitude, when possible), condition (i.e., no apparent harm, injury including a description of the nature of the injury, or mortality), species, total length (TL mm), and fork length (FL mm) are recorded for each Atlantic sturgeon observed. Photographs and environmental parameters (i.e., salinity, water temperature) are also collected when feasible. Dead Atlantic sturgeon are retained by the observer when possible. Observers also collect data on location, gear parameters, catch, and bycatch for each haul depending on the observed trip type (onboard/alternative platform). The catch is sampled throughout each onboard trip including species, quantities, weights, lengths, and disposition (alive/dead). Data are coded on the NCDMF data sheets and uploaded to the NCDMF Biological Database for analysis. All observers are debriefed within 24 hours of each trip to

obtain data on catch, set locations, gear parameters, and Atlantic sturgeon interactions to provide estimates of Atlantic sturgeon bycatch.

The total bycatch of Atlantic sturgeon for each Management Unit was estimated using the stratified ratio method via SAS (SAS 2004). The bycatch rate (Atlantic sturgeon caught per fishing trip) estimated from observer data was multiplied by the total fishing trips. To estimate confidence intervals (95%), the bootstrap method was used to sample estimates. Strata consisted of five Management Units (A, B, C, D, and E) where Management Unit A1-A3 (A) were combined for analysis (Figure 1). Estimates were calculated by date of capture, Management Unit, and disposition. Estimates were analyzed each week to implement necessary management measures if authorized take thresholds were approached.

$$\text{Estimated Interactions} = \left(\frac{\text{\# of Atlantic sturgeon interactions observed}}{\text{total gill-net trips observed}} \right) \text{total gill-net trips}$$

Seasons

The Observer Program’s activities are reported on a monthly and annual basis. Seasons are defined as spring (March – May), summer (June – August), fall (September – November), and winter (December – February). Monthly progress reports include information such as take estimates, cumulative totals, number of observed trips, and observed takes with all associated. Annual reports include actual and estimated takes including mortality and the level of uncertainty of the estimates (i.e., 95% confidence intervals) by Management Unit, size composition along with all other interaction information, one or more maps illustrating the geographic distribution of all observed anchored large and small mesh gill-net hauls and the locations of all interactions, and a description of the mitigation activities, adaptive management actions, and enforcement activities conducted during the ITP year.

Authorized Takes

Authorized levels of annual incidental takes are specified in Tables 1 and 2. The amount of incidental takes is expressed as either estimated or observed takes depending on the amount of data available for modeling predicted takes. Management Unit A has estimated allowable takes per season for both anchored large and small mesh gill nets due to having robust data sets for the area. All other Management Units (i.e., B, C, D, E) have observed allowable takes which are actual takes and not estimated due to the lack of data for modeling estimated takes. Extrapolated Atlantic sturgeon takes were computed by dividing observed interactions by observer coverage. Nonparametric confidence intervals (95%) were calculated using standard bootstrapping techniques (Efron and Tibshirani 1993) using the ‘boot’ package in R (Canty and Ripley 2015; Davison and Hinkley 1997; R Core Team 2015). Bootstrap replicates were generated by sampling observer trips with replacement 5,000 times within strata (mesh/season/Management Unit; Tables 1 and 2). Takes must be incidental to otherwise lawful activities associated with the

anchored large and small mesh gill-net fisheries, and as conditioned herein. The permit covers incidental takes from the date of issuance through July 17, 2024. The NCDMF uses preliminary data to monitor the total number of live and dead takes per Unit and season to determine if the NCDMF is approaching or has reached the allowable Atlantic sturgeon takes. However, there is no “real time” method to determine the actual DPS taken. The genetic sampling required by the ITP will provide the actual take numbers per DPS, but this will not be determined until after genetic samples are processed and if funding allows. Once TTP data are finalized in May of 2019, the final authorized estimated Atlantic sturgeon takes will be recalculated and the finalized estimates will be provided to the NMFS.

Compliance

The NCDMF observers and Marine Patrol conduct weekly fish house visits, boat patrols, fisherman spot checks, gear checks, aerial surveys, and continual outreach to the industry attempting to ensure industry compliance and to determine anchored large and small mesh gill-net fishing effort throughout the state.

The Observer Program has various ways to contact fishermen to schedule trips. The most common method is by phone due to limited program resources, fishermen leaving from their residence, and efficiency. The Observer Program has a contact log which is filled out for every phone call or contact that is made when attempting to obtain a trip. Each contact was put into a specific category and other information was gathered (Table 3). The contact log was analyzed by month and category to determine what percentage of phone calls resulted in observer trips.

RESULTS

Observer activity

Fall 2017

The fall 2017 season for anchored large and small mesh gill nets in North Carolina is September 2017 through November 2017 for ITP Year 2018 (September 1, 2017 – August 31, 2018) as defined in ITP No. 16230. Portions of Management Unit A (eastern Albemarle Sound) closed to anchored large and small mesh gill nets via proclamation M-18-2017 on October 29, 2017 while maintaining the closure of all anchored gill nets in the eastern portions of the Management Unit (eastern/southern Albemarle Sound and Croatan and Roanoke sounds) to avoid interactions with sea turtles (Table 4; Boyd 2017b). Specific sections of Management Unit B (subunits CGNRA, SGNRA1-3) closed to anchored large mesh gill nets for the new ITP Year 2018 to avoid sea turtle interactions via proclamation M-13-2017 on September 1, 2017. These areas of Management Unit B reopened to anchored large mesh gill nets for the remainder of the ITP Year 2018 via proclamation M-14-2017 on September 25, 2017. Management Unit C opened to anchored large and small mesh gill nets for the new ITP Year 2018 on September 1, 2017 via

proclamation M-13-2017. Management Unit D (D1) opened to anchored large mesh gill nets for the new ITP Year 2018 via proclamation M-17-2017 on October 16, 2017. On November 9, 2017 proclamation M-19-2017 closed a portion of Management Unit D (D1) to anchored large mesh gill nets due to reaching allowable sea turtle take thresholds.

The Observer Program achieved an estimated 8.2% overall anchored large mesh gill-net coverage for the fall 2017 season meeting the minimum requirement (n = 7.0%). Coverage requirements were also met in all Management Units except Management Unit D based on finalized data (Table 5; Figures 2 - 7; Boyd 2017b). This is due to the partial closure of D early in the ITP year.

The Observer Program achieved an estimated 2.3% overall anchored small mesh gill-net coverage for the fall 2017 season meeting the minimum requirement (1.0%). Coverage requirements were also met in all Management Units except Management Unit B (0.9%) based on finalized data (Table 6; Figures 2 - 7; Boyd 2017b).

There were 12 observed Atlantic sturgeon interactions from anchored large mesh gill nets for the fall 2017 season (Table 7; Figures 2 – 7; Boyd 2017b). Of the 12 interactions, 75% were alive. All interactions in the fall season occurred in Management Unit A. There were zero fisherman self-reported Atlantic sturgeon interactions during this period.

Winter 2017-2018

The winter 2017-2018 season for anchored large and small mesh gill nets in North Carolina is December 2017 through February 2018 for ITP Year 2018 (September 1, 2017 – August 31, 2018) as defined in ITP No. 18102. December 1, 2017, proclamation M-20-2017 closed the Albemarle Sound proper to the use of gill nets with a stretch mesh length of 5½ inches through 6½ inches. It also allowed the use of unattended anchored small mesh gill net (legal gill net of smaller than 4 inches) and required both large and small mesh anchored gill nets must be set to fish the bottom of the water column and not exceed a vertical height of 48 inches. Effective January 1, 2018 it was unlawful to fish gill nets with a stretch mesh length other than ¾ inches, or from 5½ inches through 6 ½ inches in Management Unit A except for specially described areas. This action was brought about by proclamation M-24-2017, which also maintained large mesh closures and vertical height restrictions for all anchored gill nets (Table 4). Proclamation M-1-2018 implemented gear exemptions for portions of the internal coastal waters south of Management Unit A to allow fishermen to set gill nets for the shad fishery. It also opened remaining portions of Management Unit B to the use of gill nets with a stretch mesh of 4 inches through 6½ inches in accordance with the Sea Turtle Incidental Take Permit (Table 4).

The flounder commercial harvest season in internal coastal waters closed on December 1, 2017 via proclamation FF-47-2017 as per Amendment 1 to the Southern Flounder Fishery Management Plan (Table 4).

The Observer Program achieved an estimated 10.1% overall anchored large mesh gill-net coverage for the winter 2017-2018 season meeting the minimum requirement (7.0%). The coverage requirement was also met in all Management Units except for Management Units B and E based on preliminary data. Observer coverage for Management Units B and E was 0.0% for the winter 2017-2018 season due to very low effort in both areas (Table 5; Figures 2 – 7).

The Observer Program achieved an estimated 3.9% overall anchored small mesh gill-net coverage for the winter 2017-2018 season meeting the minimum requirement (1.0%). Coverage was also met in each Management Unit based on preliminary data (Table 6; Figures 2 - 7).

There were 2 observed Atlantic sturgeon interactions from anchored large mesh gill nets and zero from anchored small mesh gill nets during the winter 2017-2018 season. Both Atlantic sturgeon interactions were alive with one observed in Management Unit A and one in Management Unit C during this period (Table 7; Figures 2 - 7). There were zero fisherman reported Atlantic sturgeon interaction from anchored large or small mesh gill nets during this period.

Spring 2018

The spring 2018 season for anchored large and small mesh gill nets in North Carolina is March 2018 through May 2018 for ITP Year 2018 (September 1, 2017 – August 31, 2018) as defined in ITP No. 16230. Management Unit A opened to the use of anchored large mesh gill nets with gill net configurations for harvesting American shad by removing vertical height restrictions for up to 1,000 yards of gill net with stretched mesh lengths of 5 ¼ through 6 ½ inches via proclamation M-2-2018 on March 3, 2018. In accordance with the Sea Turtle and Atlantic Sturgeon ITPs, Proclamation M-2-2018 also implemented additional gill net restrictions for Management Subunit A-South of US-64-BYP/US-64 (Table 4; McConnaughey 2018b). Gill net configurations for harvesting American shad were removed in Management Unit A following the end of the shad season via proclamation M-3-2018 on March 25, 2018. Proclamation M-3-2018 also upheld additional gill net restrictions that maintained congruity with Sea Turtle and Atlantic Sturgeon ITPs (Table 4; McConnaughey 2018b). Small mesh gill net attendance requirements and additional gill net restrictions were implemented for Management Unit A, in accordance with the Sea Turtle ITP on May 3, 2018 via proclamation M-5-2018. This proclamation also maintained the closure for portions of western Albemarle Sound to all gill nets with a stretched mesh of 5 ½ through 6 ½ inches (Table 4; McConnaughey 2018b).

On May 4, 2018 proclamation M-6-2018 initiated attendance requirements for gill nets with a stretched mesh length less than 4 inches for Management Subunit B.1 (Table 4; McConnaughey 2018b). Management Unit B was closed by proclamation M-7-2018 to gill nets with a stretched mesh of 4 inches through 6 ½ inches on May 18, 2018 due to approaching allowable take limits of Kemp's ridley sea turtles. M-7-2018 also reduced the maximum stretched mesh length for run-around, strike, drift, drop, and trammel gill nets to 5 inches (Table 4; McConnaughey 2018b).

Proclamation M-4-2018 implemented tie-down and distance from shore restrictions for gill nets with a stretched mesh length of five inches or greater in western Pamlico Sound and rivers on May 1, 2018 (Table 4; McConnaughey 2018b).

A portion of Management Unit D (D1) remained closed to anchored large mesh gill nets for the entire Spring 2018 season due to exceeding allowable take limits of sea turtles in the Fall 2017 season.

The Observer Program achieved an estimated coverage of 10.0% overall for anchored large mesh gill-net during the spring 2018 season, based on preliminary data, meeting the minimum requirement (7.0%). Coverage requirements were met in all Management Units except B (3.4%) and C (6.7%).

The Observer Program achieved an estimated 2.3% overall anchored small mesh gill-net coverage for the spring 2018 season meeting the minimum requirement (1.0%) based on preliminary data (Table 6; Figures 2 – 7; McConnaughey 2018b).

There were 13 observed Atlantic sturgeon interactions from anchored large mesh gill nets and zero from anchored small mesh gill nets for the spring 2018 season. Twelve of the Atlantic sturgeon captured were released alive, and one was dead during this period (Table 7; Figures 2 – 7). There was one fisherman self-reported Atlantic sturgeon interaction during this period (Table 8; McConnaughey 2018b).

Summer 2018

The 2018 summer season for anchored large and small mesh gill nets in North Carolina is June 2018 through August 2018 for ITP Year 2018 (September 1, 2017 – August 31, 2018) as defined in ITP No. 16230. There were no proclamations issued for anchored large or small mesh gill nets during the 2018 summer season (Table 4; McConnaughey 2018c). Management Unit B remained closed to anchored large mesh gill nets for the entire summer season due to approaching allowable take limits for Kemp's ridley sea turtles in May 2018 (Table 4; McConnaughey 2018c). Part of Management Unit D (D1) is closed from early May until mid-October annually, in accordance with the sea turtle ITP.

The Observer Program achieved an estimated 10.2% overall anchored large mesh gill-net coverage for the summer season meeting the minimum requirement (7.0%). Coverage requirements were met in all Management Units based on preliminary data (Table 5; Figures 2 – 7; McConnaughey 2018c). Management unit B and the portion of Management Unit D known as D1 were closed to anchored large mesh gill net for the entire 2018 summer season.

The Observer Program achieved an estimated 0.4% overall anchored small mesh gill-net coverage for the 2018 summer season. Coverage requirements were not met in any Management Unit except Management Unit D based on preliminary data (Table 6; Figures 2 – 7; McConnaughey 2018c). Observer coverage in Management Unit D was 2.9% (Table 6; Figures 2 – 7; McConnaughey 2018c). Significant program staff changes, limited fishing effort, net attendance regulations, marginal weather conditions and issues with observers procuring trips are causes for the lack of coverage during the 2018 summer season.

There were zero observed Atlantic sturgeon interaction from anchored large and small mesh gill nets for the 2018 summer season (Table 7; McConnaughey). There were no reported Atlantic sturgeon interactions during this period (Table 8; McConnaughey 2018c).

Authorized Takes

There was a total of 27 observed Atlantic sturgeon interactions in anchored large mesh gill nets and zero in anchored small mesh gill nets for ITP Year 2018 (Table 7; Figures 2 – 7; Boyd 2017b, McConnaughey 2018b, 2018c). Of the 27 interactions, 85.2% were alive. Observed interactions primarily occurred in Management Unit A (96.3%), with one interaction occurring in Management Unit C (3.7%; Table 7; Figures 2 - 7). The one reported Atlantic sturgeon interactions for ITP Year 2018 was fisherman self-reported and was in Management Unit A (Table 8; Boyd 2017b, McConnaughey 2018b, 2018c).

The length distributions of Atlantic sturgeon (n = 22) were as follows, TL (n = 22) of 441 mm to 1,050 mm and a FL (n = 12) of 375 mm to 903 mm (Table 7; Figures 8 and 9; Boyd 2017b, McConnaughey 2018b, 2018c).

Based on preliminary data the cumulative total estimated and observed takes for anchored large and small mesh gill nets did not reach the threshold of allowed takes for any Management Unit for ITP Year 2018 (Table 1 and 2; Boyd 2017b, McConnaughey 2018b, 2018c).

Of the authorized estimated allowable sturgeon takes in the anchored large mesh gill nets 38.8% of the alive sturgeon category and 17.2% of the dead sturgeon category were utilized for Management Unit A for the year. Of the authorized estimated allowable sturgeon takes in anchored small mesh gill nets 1.6% of the alive sturgeon category and 0% of the dead sturgeon category were utilized in Management Unit A. (Boyd 2017b, McConnaughey 2018b, 2018c).

In addition, authorized observed takes also occurred in anchored large mesh gill nets in Management Units C and E, with the percent of authorized observed takes used being 30.8% (alive only) for C and 12.5% (alive only) for E, respectively. Authorized observed takes also occurred in anchored small mesh gill nets in Management Units B and E, with the percent of authorized estimated takes used being 5.9% (alive only) for B and 12.5% (alive only) for E, respectively (Boyd 2017b, McConnaughey 2018b, 2018c).

Compliance

Marine Patrol made 423 gill-net checks during the fall 2017 season resulting in 50 citations issued (Tables 9 and 10; Boyd 2017b, McConnaughey 2018b, 2018c). Marine Patrol made 264 gill-net checks during the winter 2017-2018 season resulting in three citations issued (Tables 9 and 10). Marine Patrol made 476 gill-net checks for the spring 2018 season resulting in 19 citations issued (Tables 9 and 10; Boyd 2017b, McConnaughey 2018b, 2018c). Marine Patrol made 533 gill-net checks for the 2018 summer season with 16 citations being issued (Tables 9 and 10; Boyd 2017b, McConnaughey 2018b, 2018c)

For ITP Year 2018, phone calls (n = 2,000) were made with 59.95% (n = 1,199) being categorized as 1, 8, 11, 12, 13, and 14 which inclusively represents not being able to get in touch with fishermen or fishermen refusing trips (Table 11; Boyd 2017b). In the fall 2017 season (n = 207), phone calls were made with 62.8% (n = 130) being categorized as 1, 8, 11, 12, 13, and 14. In the winter 2017-2018 season (n = 362), phone calls were made with 66.3% (n = 240) being categorized as 1, 8, 11, 12, 13, and 14. In the spring 2018 season (n = 214), phone calls were made with 64.0% (n = 137) being categorized as 1, 8, 11, 12, 13, and 14. In the 2018 summer season (n = 1217), phone calls were made with 56.9% (n = 692) being categorized as 1, 8, 11, 12, 13, and 14 (Table 11; Boyd 2017b).

Notice of Violations (NOV) were issued when fishermen were found to be out of compliance with the EGNP. Seven NOVs were issued during the fall 2017 season, one NOV was issued during the winter 2017-2018 season, eight NOVs were issued during the spring 2018 season, and zero NOVs were issued during the 2018 summer season (Table 12; Boyd 2017b, McConnaughey 2018b, 2018c).

Marine Mammals

There was one observed take of a dead bottlenose dolphin in Management Unit D1 that occurred in the fall 2017 season during ITP Year 2018. The marine mammal interaction occurred in small mesh gill net. When the animal was untangled from the gill-net, it quickly sank out of sight, which prevented the observers from collecting biological data (Appendix D).

DISCUSSION

Management history

Initial reviews of the Atlantic sturgeon status began in 1977, when the Research Management Division of the NMFS sponsored the preparation of a report on the biology and status of Atlantic sturgeon (Murawski and Pacheco 1977). In 1980 at the request of the NMFS, another document was prepared by Hoff (1980) to assist in making future Atlantic sturgeon fisheries decisions and to determine what action was required, if any, to conserve the species under the ESA. In 1988, the NMFS requested information regarding the status of Atlantic sturgeon. The NMFS added Atlantic sturgeon to its candidate species list published in the Federal Register (FR) in 1997 (62 FR 37560, 14 July 1997, NMFS 1997a). Prior to the federal listing, North Carolina had taken steps to protect Atlantic sturgeon. The NCDMF implemented a statewide moratorium on the possession of Atlantic sturgeon in 1991 (15A NCAC 03M.0508).

In April 2004, the NMFS published a subsequent notice announcing that the NMFS “candidate species list” was being changed to the “Species of Concern (SOC) list” to better reflect the ESA definition of candidate species while maintaining a separate list of species potentially at risk (69 FR 19975 -15 April 2004, NMFS 2004a; ASSRT 2007).

On June 2, 1997, a petition dated May 29, 1997 was received by the NMFS from the Biodiversity Legal Foundation. The petitioner requested that the NMFS list Atlantic sturgeon, where it continues to exist in the United States, as threatened or endangered and designate critical habitat. The NMFS reviewed the request and determined that the petition presented substantial information indicating that the petitioned action may be warranted and announced the initiation of a status review (62 FR 54018, 12 October 1997, NMFS 1997b; ASSRT 2007).

The NMFS and United States Fish and Wildlife Service (USFWS) completed their status review in 1998 and concluded at that time Atlantic sturgeon were not threatened or endangered based on any of the five factors (NMFS and USFWS 1998). Concurrently, the Atlantic States Marine Fisheries Commission (ASMFC) completed Amendment 1 to the 1990 Atlantic Sturgeon FMP in 1998 that imposed a 20–40-year moratorium on all Atlantic sturgeon fisheries until the Atlantic Coast spawning stocks could be restored to a level where 20 subsequent year-classes of adult females were protected (ASMFC 1998). The NMFS followed this action by closing the Exclusive Economic Zone (EEZ) to Atlantic sturgeon harvest in 1999. In 2003, a workshop on the “Status and Management of Atlantic Sturgeon” was held to discuss the current status of Atlantic sturgeon along the Atlantic Coast and determine what obstacles, if any, were impeding the recovery of Atlantic sturgeon (Kahnle et al. 2005; ASSRT 2007).

Based on the information gathered from the 2003 workshop on Atlantic sturgeon, the NMFS decided that a second review of Atlantic sturgeon status was needed to determine if listing as threatened or endangered under the ESA was warranted. The 2007 analysis from the Atlantic

Sturgeon Status Review Team (ASSRT) determined that at least three (New York Bight, Chesapeake Bay, and Carolina) of the five DPSs should be considered threatened under the ESA, as it was determined that they had a moderately high risk of becoming threatened in the foreseeable future (next 20 years). The ASSRT determined that the remaining two DPSs (Gulf of Maine, South Atlantic) had a moderate risk of becoming extinct, though there were insufficient data to allow for a full assessment of these subpopulations; thus, a listing recommendation was not provided (ASSRT 2007).

On October 6, 2009, the NMFS received a petition from the Natural Resources Defense Council to list Atlantic sturgeon throughout its range as endangered under the ESA. As an alternative, the petitioner requested that the species be listed as the five DPSs described in the 2007 Atlantic sturgeon status review (ASSRT 2007), with the Gulf of Maine and South Atlantic DPSs listed as threatened and the remaining three DPSs listed as endangered. The petitioner also requested that critical habitat be designated for Atlantic sturgeon under the ESA. The NMFS published a Notice of 90-Day Finding on January 6, 2010 (75 FR 838, 6 January 2010, NMFS 2010) stating that the petition presented substantial scientific or commercial information indicating that the petitioned actions may be warranted. The NMFS considered the information provided in the status review report, the petition, other new information available since completion of the status review report, and information submitted in response to the Federal Register announcement of the 90-day finding (75 FR 838, 6 January 2010, NMFS 2010). On October 6, 2010, the NMFS published a proposed rule to list the Carolina DPS of Atlantic sturgeon as endangered under the ESA (75 FR 61871, 6 January 2010, NMFS 2010). On February 6, 2012, the NMFS issued a final determination to list the Carolina DPS of Atlantic sturgeon as an endangered species under the ESA (77 FR 5914, 6 February 2012, NMFS 2012).

Prior to the listing of Atlantic sturgeon, NCDMF has addressed protected species issues in the coastal waters of North Carolina since the 1970s. The NCDMF applied for and received four ITPs for the Pamlico Sound Gill Net Restricted Area (PSGNRA) from 2000 to 2005 to address sea turtle takes in the anchored large and small mesh gill-net fisheries for the Pamlico Sound portion of the state during the fall months (Gearhart 2001, 2002, 2003; Price 2004, 2005, 2006, 2007, 2008, 2009, 2010; Murphey 2011; Boyd 2012, 2013). The NCDMF applied for and received a 10-year ITP addressing sea turtle takes in the anchored large and small mesh gill-net fisheries statewide on September 11, 2013. This ITP authorized the implementation of adaptive management measures to protect threatened and endangered sea turtles and other ESA listed species, while allowing the anchored gill-net fisheries prosecuted by license holders to occur in the estuarine waters of North Carolina. The Sea Turtle ITP No. 16230 defined an ITP Year as beginning on September 1 and running through August 31 of the following year.

Implementation of management actions such as gear restrictions, fishing seasons, soak times, area closures, mesh size restrictions, FMPs, and ITPs (Sea Turtle ITP No. 16230) for other

species have likely had a positive effect on reducing takes and minimizing the mortality associated with the incidental bycatch of Atlantic sturgeon. The North Carolina management system has shown the ability to effectively manage fisheries throughout the state and reduce incidental bycatch of finfish and protected species. Anchored gill-net restrictions implemented by the proclamations for the Sea Turtle ITP include: a range of 4 ISM to, and including, 6 ½ ISM for anchored large mesh gill nets; soak times limited to overnight soaks an hour before sunset to an hour after sunrise, Monday evenings through Friday mornings; anchored large mesh gill nets were restricted to a height of no more than 15 meshes, constructed with a lead core or leaded bottom line and without corks or floats other than needed for identification; a maximum of 2,000 yards of anchored large mesh gill nets allowed to be used per vessel; and maximum individual net (shot) length of 100 yards with a 25-yard break between shots. Fishermen in the southern portion of the state were allowed to set anchored large mesh gill nets an extra day (Sunday evenings through Friday mornings) and use floats on nets, but were restricted to the use of a maximum of 1,000 yards of anchored large mesh gill net per fishing operation.

The Annual Completion Report for ITP Year 2014 was submitted January 30, 2015 (Boyd 2015). During review of the 2014 Atlantic Sturgeon ITP Annual Completion Report, the NMFS requested modifications to certain tables and figures in the annual report. These modifications were addressed in the Annual Completion report for ITP Year 2015 (September 1, 2014 – August 31, 2015) which was submitted January 30, 2016 and included: maps for each Management Unit to include number of gill-net hauls and sea turtle interactions and tables which have all of the estimated/observed takes exactly as portrayed in the permit with 95% confidence intervals included (Boyd 2016a).

At the August 2016 NCMFC meeting, Chairman Sammy Corbett announced that he was disbanding the Sea Turtle Advisory Committee (STAC) because it is not statutorily required and the NCMFC committee system already has a multitude of committees which are statutorily mandated. Chairman Corbett sent a letter explaining his decision to the committee members on August 25, 2016 (Appendix E).

Observer Activity

There was turnover within the Observer Program with positions being filled as quickly as possible to maintain coverage. The Observer Program proportionally placed observers in areas with higher fishing effort. There were multiple closures of various Management Units throughout the state during ITP Year 2018 (Table 3). When a Management Unit closes for a portion of time, observer efforts are shifted to open Management Units. The contact log, which includes different categories to place each contact that was made to a fisherman, is beneficial for analyzing the type of contact that was being made and to see the number of observer trips that were obtained through the calling system.

During the 2017 fall season overall observer coverage goals were met. Observer coverage for anchored large mesh gill net in Management Unit D were 6.9% (Boyd 2017b). Observer coverage for anchored small mesh gill net was 0.9% in Management Unit B. In recent years, attendance requirements were lifted during the month of November. Fishing practices for attended gill nets can be very different than other fishing practices, with fishing activity occurring throughout the night creating safety hazards for observers. Furthermore, fishing effort tends to be lower when attendance is required (Boyd 2017b). Management Unit D1 closed to anchored large mesh gill net for the remainder of the 2018 ITP year due to exceeding allowable take limits on November 9, 2017

During the 2017-2018 winter season overall coverage requirements were met. No trips were observed in Management Units B and E during this season because of a lack of fishing effort (B = 23 trips, E = 25 trips) and difficulty in obtaining trips.

During the 2018 spring season overall coverage requirements were met. Management Units B and C were underrepresented in the anchored large mesh gill net observations with 3.4% and 6.7% coverage, respectively. Observer coverage in the anchored small mesh gill-nets in Management Unit D2 was 0.0% due to minimal fishing effort (n = 20 fishing trips; McConnaughey 2018b). Management Unit B was closed during the latter part of the spring season and did not reopen until the Fall 2018

During the 2018 summer season Management Units B and part of D were closed to anchored large mesh gill-net for the duration of the 2018 summer season. No anchored small mesh gill-net trips were obtained in Management Unit C and part of Unit D due to minimal fishing activity for the 2018 summer season (McConnaughey 2018c).

Compliance

Although ITP Year 2018 is the fifth year for the statewide ITP, fishermen in many portions of the state are not as familiar with the Observer Program and requirements of the ITP as desired, so more time is needed to educate the industry. Alternative platform trips were employed in all Management Units more frequently throughout ITP Year 2018 to maintain observer coverage due to compliance issues with fishermen (i.e., not answering phone calls, not calling back). The required minimum 7% observer coverage for anchored large mesh gill nets is very difficult to achieve when observers must rely on alternative platform trips, as it requires two observers to obtain a trip. The NCDMF has discussed the situation with industry leaders in attempts to improve awareness and increase compliance. However, fisherman non-compliance continues to be a hurdle for ensuring the requirements for both ITPs are met.

There was only one fisherman self-reported Atlantic sturgeon takes during the entire 2018 ITP year (Table 7; Boyd 2017b, McConnaughey 2018b, 2018c). NCDMF has discussed this

situation with numerous industry leads and has provided outreach to fishermen explaining the requirement in the ITP of self-reporting and further details on the subject to try and increase self-reporting throughout the industry as a whole with limited success.

Estuarine Gill Net Permit

Per the ITP the NCDMF established an EGNP to register all fishermen participating in the anchored large and small mesh gill-net fisheries via proclamation M-24-2014 on September 1, 2014. The ITP's Implementing Agreement states that the NCDMF has two years to implement the EGNP to serve as a certificate of inclusion for fishermen. However, due to the compliance issues the NCDMF was facing during ITP Year 2014, the EGNP was developed and became effective September 1, 2014 (one year from ITP issuance; Boyd 2015). The multifaceted EGNP was enacted to attempt to allow the NCDMF to closely monitor compliance. The EGNP is also used as a tool to improve fishermen compliance by including Specific Permit Conditions requiring fishermen to allow the NCDMF observers aboard their vessels to monitor catches. Failure to comply with this permit provision can result in a permit suspension. There were 2,676 EGNPs issued for Fiscal Year 2018 (July 1, 2017 – June 30, 2018).

LITERATURE CITED

- ASMFC. 1998. Amendment 1 to the Interstate Fishery Management Plan for Atlantic sturgeon. July 1998. Atlantic States Marine Fisheries Commission, Washington D.C. Fishery Management Report No. 31. 42 pp.
- Atlantic Sturgeon Status Review Team (ASSRT). 2007. Status review of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). Report to the National Marine Fisheries Service, Northeast Regional Office. February 23, 2007. 174 pp.
- Boyd, J.B. 2012. North Carolina Division of Marine Fisheries Pamlico Sound Gill Net Restricted Area Report for 2011 Section 10 ITP # 1528 (September 19 – November 30, 2011). North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries Completion Report for Incidental Take Permit # 1528. 4pp.
- Boyd, J.B. 2013. North Carolina Division of Marine Fisheries Pamlico Sound Gill Net Restricted Area Report for 2012 Section 10 ITP # 1528 (September 19 – November 30, 2011). North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries Completion Report for Incidental Take Permit # 1528. 4pp.
- Boyd, J.B. 2015. North Carolina Division of Marine Fisheries Incidental Take Permit Annual Report for ITP Year 2014 Section 10 ITP # 18102 (September 1, 2013 – August 31, 2014). North Carolina Division of Marine Fisheries Annual Report for Incidental Take Permit # 16230. 21pp.
- Boyd, J.B. 2016a. North Carolina Division of Marine Fisheries Incidental Take Permit Annual Report for ITP Year 2015 Section 10 ITP # 18102 (September 1, 2014 – August 31, 2015). North Carolina Division of Marine Fisheries Annual Report for Incidental Take Permit # 16230. 39pp.
- Boyd, J.B. 2017a. North Carolina Division of Marine Fisheries Incidental Take Permit Annual Report for ITP Year 2016 Section 10 ITP # 18102 (September 1, 2015 – August 31, 2016). North Carolina Division of Marine Fisheries Annual Report for Incidental Take Permit # 18102. 64pp.
- Boyd, J.B. 2017b. North Carolina Division of Marine Fisheries Incidental Take Permit Seasonal Report for Fall 2017 Section 10 ITP # 16230 (September 1, 2017–November 30, 2017). North Carolina Division of Marine Fisheries Seasonal Report for Incidental Take Permit # 16230. 21 p.
- Canty, A. and B. Ripley. 2015. boot: Bootstrap R (S-Plus) Functions. R package version 1.3-17.
- Davison, A.C., and D.V. Hinkley. 1997. Bootstrap Methods and Their Applications. Cambridge University Press, Cambridge. ISBN 0-521-57391-2.

- Efron, B., and R.J. Tibshirani. 1993. An introduction to the bootstrap. Chapman and Hall, New York. 436 pp.
- ESA 1973. Endangered Species Act, 1973.
- Hoff, J.G. 1980. Review of the present status of the stocks of the Atlantic sturgeon *Acipenser oxyrinchus*, Mitchill. Prepared for the National Marine Fisheries Service, Northeast Region, Gloucester, Massachusetts.
- Gearhart J. 2001. Sea turtle bycatch monitoring of the 2000 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1259. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 26pp.
- Gearhart J. 2002. Sea turtle bycatch monitoring of the 2001 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1348. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 44pp.
- Gearhart J. 2003. Sea turtle bycatch monitoring of the 2002 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1398. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 39pp.
- Kahnle, A.W. R.W. Laney, and B.J. Spear. 2005. Proceedings of the workshop on status and management of Atlantic sturgeon. 3-4 November 2003, Raleigh, NC. ASMFC Special Report No. 84, Washington, D.C.
- McConnaughey, J.K. 2018b. North Carolina Division of Marine Fisheries Incidental Take Permit Seasonal Report for Spring 2018 Section 10 ITP # 16230 (March 1 – May 31, 2018). North Carolina Division of Marine Fisheries Seasonal Report for Incidental Take Permit # 16230. 17pp.
- McConnaughey, J.K. 2018c. North Carolina Division of Marine Fisheries Incidental Take Permit Seasonal Report for Summer 2018 Section 10 ITP # 16230 (June 1 – August 31, 2018). North Carolina Division of Marine Fisheries Seasonal Report for Incidental Take Permit # 16230. 10pp.
- Murawski, S.A., and A.L. Pacheco. 1977. Biological and fisheries data on Atlantic sturgeon, *Acipenser oxyrinchus* (Mitchill). National Marine Fisheries Service Technical Series Report 10:1–69.
- Murphey, T. 2011. Sea turtle bycatch monitoring of the 2010 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 4pp.

- NMFS (National Marine Fisheries Service). 1997a. Notice of Modification of List of Candidate Species. Federal Register 97:18326 (14 July 1997):37560–37563.
- NMFS (National Marine Fisheries Service). 1997b. 90-Day Finding for a Petition to List the Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the United States as Endangered or Threatened. Federal Register 62:201 (17 October 1997):54018–54020.
- NMFS (National Marine Fisheries Service). 2004a. Endangered and Threatened Species; Establishment of Species of Concern List, Addition of Species to Species of Concern List, description of Factors for Identifying Species of Concern, and Revision of Candidate Species List Under the Endangered Species Act. Federal Register 69:73 (15 April 2004):19975–19979.
- NMFS (National Marine Fisheries Service). 2010. Endangered and Threatened Wildlife; Notice of 90-Day Finding on a Petition to List Atlantic Sturgeon as Threatened or Endangered under the Endangered Species Act (ESA). Federal Register 75:3 (6 January 2010): 838–841.
- NMFS (National Marine Fisheries Service). 2012. Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*). Federal Register 77:24 (6 February 2012):5914–5982.
- NMFS and USFWS (National Marine Fisheries Service and United States Fish and Wildlife Service). 1998. Status review of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service and United States Fish and Wildlife Service. 126 pp.
- Price B. 2004. Sea turtle bycatch monitoring of the 2003 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion Report for ITP 1398. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 26pp.
- Price B. 2005. Sea turtle bycatch monitoring of the 2004 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1398. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 33 pp.
- Price B. 2006. Sea turtle bycatch monitoring of the 2005 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 31 pp.
- Price, B. 2007. Sea turtle bycatch monitoring of the 2006 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North

- Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 21 pp.
- Price B. 2008. Sea turtle bycatch monitoring of the 2007 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 25 pp.
- Price, B. 2009. Sea turtle bycatch monitoring of the 2008 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment.
- Price, B. 2010. Sea turtle bycatch monitoring of the 2009 fall flounder gill-net fishery of southeastern Pamlico Sound, North Carolina. Completion report for ITP 1528. North Carolina Department of Environment and Natural Resources. North Carolina Division of Marine Fisheries. 27pp.
- R Core Team. 2015. R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.
- SAS 2004. Institute. SAS version 9.1 Cary, NC.

TABLES

Table 1. Authorized and actual annual estimated incidental takes per fishing year (for a total of 10 years; the life of the permit) with confidence intervals (95%) using a bootstrap method based on observer data for coverage and Atlantic sturgeon interaction levels in North Carolina’s anchored large mesh (≥ 5.0 ISM) inshore gill net fishery for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Management Unit | Season | Total Interactions | | | |
|-----------------|--------|------------------------|-----------|-----------------------------|----------------|
| | | Authorized (Mortality) | | Actual All DPS ² | |
| | | Carolina DPS | Other DPS | Alive | Dead |
| A | Annual | 1604(65) | 535(21) | 449.7 [101.6, 1103] | 72.9[0, 185.9] |
| B | Annual | 24(6) ¹ | 9(0) | 0 | 0 |
| C | Annual | 11(5) ¹ | 4(0) | 1 | 0 |
| D | Annual | 8 (2) ¹ | n/a | 0 | 0 |
| E | Annual | 8 (2) ¹ | n/a | 0 | 0 |

¹ Total interaction number represents actual observed and not estimated based on observer coverage. Mortality estimates could not be completed for Management Units B-E due to low take; thus, if observed interactions were ≤ 5 mortality was one; if observed interactions were >5 mortality was two.

² Fin clip samples have been sent to the lab for genetic analysis

Table 2. Authorized and actual annual estimated incidental takes per fishing year (for a total of 10 years; the life of the permit) with confidence intervals (95%) using a bootstrap method based on observer data for coverage and Atlantic sturgeon interaction levels in North Carolina’s anchored small mesh (<5.0 ISM) inshore gill net fishery for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Management Unit | Season | Total Interactions | | | |
|-----------------|--------|------------------------|-----------|-----------------------------|------|
| | | Authorized (Mortality) | | Actual All DPS ² | |
| | | Carolina DPS | Other DPS | Alive | Dead |
| A | Annual | 569(45) | 114(10) | 0 | 0 |
| B | Annual | 14(5) ¹ | 3(0) | 0 | 0 |
| C | Annual | 8(4) ¹ | n/a | 0 | 0 |
| D | Annual | 8 (2) ¹ | n/a | 0 | 0 |
| E | Annual | 8 (2) ¹ | n/a | 0 | 0 |
| Total | | 607 (58) | 117 (10) | 0 | 0 |

¹ Total interaction number represents actual observed and not estimated based on observer coverage. Mortality estimates could not be completed for Management Units B-E due to low take; thus, if observed interactions were ≤ 5 mortality was one; if observed interactions were >5 mortality was two.

² Fin clip samples have been sent to the lab for genetic analysis

Table 3. Categories and descriptions of fisherman responses for the Observer Program's contact logs used for analysis.

| Categories | Category description |
|------------|---------------------------------------|
| 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 |

Table 4. Regulations for Management Units by date and regulation change for anchored large and small mesh gill nets for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Year | Date(s) | Regulation change |
|------|--------------|--|
| 2017 | September 1 | Portions of Management Unit B (subunits CGNRA, SGNRA1-3) closed to large mesh gill nets and Management Unit C opened to large and small mesh gill nets for the new ITP Year 2018. Subunits SGNRA1-3 and CGNRA will remain closed until sea turtle abundance decreases to minimize interactions with sea turtles (M-13-2017). |
| 2017 | September 25 | This proclamation opens portions of Management Unit B (Subunits SGNRA1 - SGNRA3 and CGNRA) to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches for the new ITP year (September 1, 2017 – August 31, 2018) in accordance with the Sea Turtle ITP. (M-14-2017) |
| 2017 | October 16 | This proclamation opens Management Unit D1 to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches in accordance with the Sea Turtle ITP. (M-17-2017) |
| 2017 | October 29 | Closes further portions of eastern Albemarle Sound and maintains closures for the Croatan and Roanoke Sounds (except as described in Section IV.). This action is being taken in order to minimize interactions with threatened and/or endangered sea turtles. (M-18-2017) |
| 2017 | November 9 | This proclamation closes Management Unit D1 (See map) to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches (except as described in Section III.) in accordance with the Sea Turtle Incidental Take Permit. (M-19-2017) |
| 2017 | December 1 | This proclamation implements the December closed commercial season provision identified in the N.C. Southern Flounder Fishery Management Plan Amendment 1. (FF-47-2017) |
| 2017 | December 1 | In Management Unit A, it closes the Albemarle Sound proper to the use of gill nets with a stretched mesh length of 5 ½ inches through 6 ½ inches, and allows the use of unattended, anchored small mesh gill nets (legal gill nets with a stretched mesh of 4 inches and smaller). Both anchored small mesh gill nets and gill nets with a stretched mesh length of 5 ½ inches through 6 ½ inches must be set to fish the bottom of the water column and not to exceed a vertical height of 48 inches. (M-20-2017) |
| 2018 | January 1 | In Management Unit A, it makes it unlawful to use gill nets with a stretched mesh length <i>other than 3 ¼ inches, or from 5 ½ inches through 6 ½ inches</i> , EXCEPT IN THE AREAS DESCRIBED IN SECTION IV. It also maintains large mesh gill net closures and vertical height restrictions for all anchored gill net sets. (M-24-2017) |

Table 4. (cont.).

| | | |
|------|-------------|---|
| 2018 | February 15 | This proclamation implements gear exemptions for portions of the Internal Coastal Waters south of Management Unit A to allow fishermen to set gill nets for the shad fishery (See Section III.). It also opens the remaining portions of Management Unit B to the use of gill nets with a stretched mesh length of 4 inches through 6 ½ inches (except as described in Section III.) in accordance with the Sea Turtle Incidental Take Permit. (M-1-2018) |
| 2018 | March 3 | Opens all of Management Unit A to the use of gill nets and allows gill net configurations for harvesting American shad by removing vertical height restrictions for up to 1,000 yards of gill net with stretched mesh lengths of 5 ¼ through 6 ½ inches. This proclamation also implements additional gill net restrictions for Management Subunit A-South of US-64-BYP/US-64, in accordance with the Sea Turtle and Atlantic Sturgeon ITPs. (M-2-2018) |
| 2018 | March 25 | Removes the use of gill nets configured for harvesting American shad by implementing vertical height restrictions for all gill nets. This proclamation also closes a portion of the western Albemarle Sound to all gill nets with stretched mesh lengths of 5 ½ through 6 ½ inches and maintains additional gill net restrictions in accordance with the Sea Turtle and Atlantic Sturgeon ITPs. (M-3-2018) |
| 2018 | May 1 | Implements tie-down (vertical net height restrictions) and distance from shore restrictions for gill nets with a stretched mesh length five inches or greater in the western Pamlico Sound and rivers. (M-4-2018) |
| 2018 | May 3 | Implements small mesh gill net attendance requirements in Management Unit A and implements additional gill net restrictions in accordance with the Sea Turtle ITP. This proclamation also maintains a closure in a portion of the western Albemarle Sound to all gill nets with stretched mesh lengths of 5 ½ through 6 ½ inches. (M-5-2018) |
| 2018 | May 4 | This proclamation implements attendance requirements for gill nets with a stretched mesh length less than 4 inches in Management Subunit B.1. (M-6-2018) |
| 2018 | May 18 | This proclamation closes Management Unit B to gill nets with a stretched mesh length of 4 inches through 6 ½ inches and reduces the maximum stretched mesh length for run-around, strike, drift, drop and trammel gill nets to 5 inches. (M-7-2018) |

Table 5. Observer coverage calculated from previous year's trip ticket data and observer data for anchored large mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Season ¹ | Management Unit ² | Large Mesh | | |
|---------------------|------------------------------|---------------|----------------|-----------------------|
| | | Fishing Trips | Observed Trips | Coverage ³ |
| Fall 2017 | A | 1,936 | 135 | 7.0 |
| | B | 1,496 | 126 | 8.4 |
| | C | 988 | 75 | 7.6 |
| | D | 554 | 38 | 6.9 |
| | E | 828 | 103 | 12.4 |
| Winter 2017-2018 | A | 576 | 50 | 8.7 |
| | B | 23 | 0 | 0.0 |
| | C | 40 | 17 | 42.5 |
| | D | 8 | 1 | 12.5 |
| | E | 25 | 0 | 0.0 |
| Spring 2018 | A | 1,201 | 154 | 12.8 |
| | B | 327 | 11 | 3.4 |
| | C | 875 | 59 | 6.7 |
| | D | 38 | 8 | 21.1 |
| | E | 314 | 44 | 14.0 |
| Summer 2018 | A | 623 | 55 | 8.8 |
| | B | n/a | n/a | n/a |
| | C | 672 | 73 | 10.9 |
| | D | 334 | 17 | 5.1 |
| | E | 915 | 115 | 12.6 |
| Total | | 11,773 | 1,081 | 9.2 |

¹ Final trip ticket data for 2017 (September - December) and preliminary trip ticket data for 2018 (January - August)

² Table 3 contains all openings and closings for each Management Unit

³ Based on final trips for 2017 (September - December) and estimated trips for 2018 (January - August) compared to observer large mesh trips

Table 6. Observer coverage calculated from previous year's trip ticket data and observer data for anchored small mesh gill nets by season and Management Unit through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Season ¹ | Management Unit ² | Small Mesh | | |
|---------------------|------------------------------|---------------|----------------|-----------------------|
| | | Fishing Trips | Observed Trips | Coverage ³ |
| Fall 2017 | A | 193 | 3 | 1.6 |
| | B | 810 | 7 | 0.9 |
| | C | 162 | 5 | 3.1 |
| | D | 308 | 21 | 6.8 |
| | E | 561 | 10 | 1.8 |
| Winter 2017-2018 | A | 573 | 16 | 2.8 |
| | B | 528 | 6 | 1.1 |
| | C | 214 | 18 | 8.4 |
| | D | 32 | 8 | 25.0 |
| | E | 88 | 8 | 9.1 |
| Spring 2018 | A | 641 | 11 | 1.7 |
| | B | 1,250 | 29 | 2.3 |
| | C | 226 | 5 | 2.2 |
| | D | 20 | 5 | 25.0 |
| | E | 89 | 2 | 2.2 |
| Summer 2018 | A | 366 | 2 | 0.5 |
| | B | 679 | 1 | 0.1 |
| | C | 63 | 0 | 0.0 |
| | D | 35 | 1 | 2.9 |
| | E | 283 | 1 | 0.4 |
| Total | | 7,121 | 159 | 2.2 |

¹ Final trip ticket data for 2017 (September - December) and preliminary trip ticket data for 2018 (January - August)

² Table 3 contains all openings and closings for each Management Unit

³ Based on final trips for 2017 (September - December) and estimated trips for 2018 (January - August) compared to observer small mesh trips

Table 7. Summary of observed Atlantic sturgeon interactions in anchored large through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Date | Management Unit | Latitude | Longitude | Species | Disposition | Pit Tag Identifier (Decimal) | Length | |
|------------|-----------------|----------|-----------|----------|-------------|------------------------------|--------|------|
| | | | | | | | Total | Fork |
| 9/10/2017 | A | 36.08183 | 76.37243 | Atlantic | Alive | 982.000362195825 | 710 | 603 |
| 9/10/2017 | A | 36.08237 | 76.36972 | Atlantic | Alive | 982.000362187320 | 441 | 375 |
| 9/10/2017 | A | 36.08274 | 76.36224 | Atlantic | Alive | 982.000362191478 | 804 | 703 |
| 9/23/2017 | A | 36.11908 | 76.16743 | Atlantic | Alive | N/A | 787 | N/A |
| 9/29/2017 | A | 35.99076 | 76.27226 | Atlantic | Alive | N/A | 813 | N/A |
| 10/22/2017 | A | 36.19835 | 76.74716 | Atlantic | Dead | 982.000362190715 | 1050 | 903 |
| 10/27/2017 | A | 36.01011 | 76.2411 | Atlantic | Alive | N/A | 711 | N/A |
| 10/31/2017 | A | 36.03568 | 75.82003 | Atlantic | Dead | 982.000362191829 | N/A | N/A |
| 10/31/2017 | A | 36.03568 | 75.82003 | Atlantic | Dead | 982.000362187737 | N/A | N/A |
| 10/31/2017 | A | 36.04263 | 75.82717 | Atlantic | Alive | 982.000362056540 | N/A | N/A |
| 10/31/2017 | A | 36.04263 | 75.82717 | Atlantic | Alive | N/A | N/A | N/A |
| 10/31/2017 | A | 36.045 | 75.82972 | Atlantic | Alive | 982.000362319762 | N/A | N/A |
| 2/19/2018 | A | 36.20281 | 76.74667 | Atlantic | Alive | 982.000362195308 | 601 | 581 |
| 2/22/2018 | C | 35.09091 | 77.02741 | Atlantic | Alive | 989.001001952732 | 792 | 733 |
| 3/6/2018 | A | 35.99025 | 76.50052 | Atlantic | Alive | 989.001001951758 | 730 | N/A |
| 3/6/2018 | A | 35.99368 | 76.50218 | Atlantic | Alive | 989.001001951700 | 603 | N/A |
| 3/6/2018 | A | 35.99572 | 76.50236 | Atlantic | Alive | 989.001001951765 | 585 | N/A |
| 3/6/2018 | A | 35.99572 | 76.50236 | Atlantic | Alive | 989.001001952805 | 671 | N/A |
| 3/6/2018 | A | 35.99572 | 76.50236 | Atlantic | Alive | 982.000362056162 | 671 | N/A |
| 3/6/2018 | A | 35.99653 | 76.50337 | Atlantic | Alive | N/A | 775 | N/A |
| 3/6/2018 | A | 35.95866 | 76.63356 | Atlantic | Alive | 982.000362319175 | 860 | 780 |
| 3/6/2018 | A | 35.97644 | 76.64725 | Atlantic | Alive | 982.000362187773 | 596 | 513 |
| 3/6/2018 | A | 35.99653 | 76.50337 | Atlantic | Dead | N/A | 775 | N/A |
| 3/12/2018 | A | 36.02619 | 76.64206 | Atlantic | Alive | 982.000362319405 | 540 | 515 |
| 4/3/2018 | A | 36.20910 | 76.73937 | Atlantic | Alive | 982.000362191488 | 736 | 663 |
| 4/15/2018 | A | 36.08045 | 76.08045 | Atlantic | Alive | 982.000362054937 | 633 | 563 |
| 5/17/2018 | A | 36.49927 | 76.03447 | Atlantic | Alive | 982.000362054965 | 656 | 555 |

Table 8. Summary of reported Atlantic sturgeon interactions in anchored large mesh gill nets through the NCDMF Observer Program for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Date | Management Unit | Latitude | Longitude | Species | Disposition | Length | |
|-----------|-----------------|----------|-----------|----------|-------------|--------|------|
| | | | | | | Total | Fork |
| 4/15/2018 | A | n/a | n/a | Atlantic | alive | n/a | n/a |

Table 9. Number of gill-net checks made and citations issued by Marine Patrol for large and small mesh gill nets by season during ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Season | # Gill Net Checks | # Citations |
|------------------|-------------------|-------------|
| Fall 2017 | 423 | 50 |
| Winter 2017-2018 | 264 | 3 |
| Spring 2018 | 476 | 19 |
| Summer 2018 | 533 | 16 |
| Total | 1,696 | 88 |

Table 10. Citations written by Marine Patrol for large and small mesh gill nets by season and violation code during ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Season | Violation | | |
|--------------|------------|---|---|
| | Date | Code | Description |
| Fall 2017 | 9/4/2017 | NETG45 | Set or retrieve large mesh gill nets no sooner than one hour before sunset on Monday through Thursday |
| | 9/14/2017 | NETG27 | Gill Net set within 50 yards from shore |
| | 9/15/2017 | NETG44 | Use large mesh gill nets w/out leaving a space of at least 25 yard between separate lengths of net |
| | 9/16/2017 | NETG29 | RCGL gear without proper buoys |
| | 9/20/2017 | NETG27 | Gill Net set within 50 yards from shore |
| | 9/23/2017 | NETG32 | Set gill net w/stretched mesh of 5 inches or greater without proper tie downs |
| | 9/23/2017 | NETG51 | Set gill net in violation of proclamation M-18-2011 |
| | 9/30/2017 | NETG30 | Leave RCGL gill net unattended |
| | 10/9/2017 | NETG07 | Use metal net stakes on gill nets |
| | 10/11/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/21/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/21/2017 | NETG22 | Improperly set gill net |
| | 10/22/2017 | NETG30 | Leave RCGL gill net unattended |
| | 10/23/2017 | NETG10 | Gill net with illegal mesh size |
| | 10/23/2017 | NETG54 | Violate provisions of Proclamation M-30-2011 to wit failed to have 25 yard space between nets |
| | 10/27/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/28/2017 | NETG01 | Leave gill net in coastal waters unattended |
| | 10/28/2017 | NETG02 | Using gill net without buoys or identification |
| | 10/28/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/28/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 10/31/2017 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 10/31/2017 | NETG22 | Improperly set gill net |
| | 11/3/2017 | NETG03 | Using gill net with improper buoys or identification |
| 11/3/2017 | NETG06 | Gill net causing hazard to navigation | |
| 11/3/2017 | NETG30 | Leave RCGL gill net unattended | |
| 11/5/2017 | NETG04 | Leave gill net in waters when could not be legally fished | |
| 11/9/2017 | NETG04 | Leave gill net in waters when could not be legally fished | |

Table 10. (cont.).

| Season | Violation | | |
|------------------|------------|--------|---|
| | Date | Code | Description |
| Fall 2017 | 11/9/2017 | NETG45 | Set or retrieve large mesh gill nets no sooner than one hour before sunset on Monday through Thursday |
| | 11/9/2017 | NETG46 | Set or retrieve large mesh gill nets later than one hour after sunrise on Tuesday through Friday |
| | 11/10/2017 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 11/12/2017 | NETG02 | Using gill net without buoys or identification |
| | 11/12/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/12/2017 | NETG22 | Improperly set gill net |
| | 11/13/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/13/2017 | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State |
| | 11/13/2017 | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State |
| | 11/14/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/14/2017 | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State |
| | 11/16/2017 | NETG02 | Using gill net without buoys or identification |
| | 11/17/2017 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 11/18/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/22/2017 | NETG01 | Leave gill net in coastal waters unattended |
| | 11/26/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 11/26/2017 | NETG16 | Use an unattended gill net in a restricted area |
| | 11/26/2017 | NETG29 | RCGL gear without proper buoys |
| | 11/26/2017 | NETG30 | Leave RCGL gill net unattended |
| | 11/29/2017 | NETG22 | Improperly set gill net |
| | 11/29/2017 | NETG29 | RCGL gear without proper buoys |
| | 11/29/2017 | NETG30 | Leave RCGL gill net unattended |
| | 11/30/2017 | NETG06 | Gill net causing hazard to navigation |
| Winter 2017-2018 | 12/27/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 2/9/2018 | NETG03 | Using gill net with improper buoys or identification |
| Spring 2018 | 2/21/2017 | NETG03 | Using gill net with improper buoys or identification |
| | 4/1/2018 | NETG22 | Improperly set gill net |
| | 4/6/2018 | NETG22 | Improperly set gill net |
| | 4/6/2018 | NETG22 | Improperly set gill net |
| | 4/12/2018 | NETG22 | Improperly set gill net |

Table 10. (cont.).

| Season | Violation | | |
|----------------|-----------|--------|---|
| | Date | Code | Description |
| Spring 2018 | 4/12/2018 | NETG22 | Improperly set gill net |
| | 4/12/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 4/19/2018 | NETG09 | Gill net set too close to bridge |
| | 4/22/2018 | NETG01 | Leave gill net in coastal waters unattended |
| | 4/22/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 4/22/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 5/1/2018 | NETG10 | Gill net with illegal mesh size |
| | 5/1/2018 | NETG22 | Improperly set gill net |
| | 5/3/2018 | NETG16 | Use an unattended gill net in a restricted area |
| | 5/6/2018 | NETG29 | RCGL gear without proper buoys |
| | 5/11/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 5/16/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 5/16/2018 | NETG04 | Leave gill net in waters when could not be legally fished |
| | 5/22/2018 | NETG01 | Leave gill net in coastal waters unattended |
| | 5/25/2018 | NETG29 | RCGL gear without proper buoys |
| Summer 2018 | 6/6/2018 | NETG45 | Set or retrieve large mesh gill nets no sooner than one hour before sunset on Monday through Thursday |
| | 6/8/2018 | NETG01 | Leave gill net in coastal waters unattended |
| | 6/15/2018 | NETG46 | Set or retrieve large mesh gill nets later than one hour after sunrise on Tuesday through Friday |
| | 6/22/2018 | NETG34 | Use unattended gill net w/mesh less than 5" in commercial operation from May 1 through November 30 in coastal waters of the State |
| | 6/23/2018 | NETG29 | RCGL gear without proper buoys |
| | 7/4/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 7/20/2018 | NETG41 | Use more than 2000 yards of large mesh gill net north of Highway 58 Bridge |
| | 7/20/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 7/20/2018 | NETG56 | Violate the provisions of Proclamation M-30-2011 to wit set more than 2000 yards of large mesh gill net |
| | 7/20/2018 | NETG03 | Using gill net with improper buoys or identification |
| | 8/10/2018 | NETG10 | Gill net with illegal mesh size |
| | 8/12/2018 | NETG02 | Using gill net without buoys or identification |
| | 8/25/2018 | NETG03 | Using gill net with improper buoys or identification |

Table 11. Contacts attempted (n = 2,000) by the observers trying to set up trips by season categorized by contact type (0-14) and by total number, percent for each season, and percent for the entire ITP Year 2018 for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Season | Categories (%) ¹ | | | | | | | | | | | | | | Total |
|------------------|-----------------------------|-------|------|------|------|------|------|------|------|------|------|------|-------|-------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| Fall 2017 | 3 | 46 | 7 | 1 | 3 | 0 | 4 | 0 | 12 | 4 | 17 | 3 | 42 | 65 | 207 |
| | 1.4% | 22.2% | 3.4% | 0.5% | 1.4% | 0.0% | 1.9% | 0.0% | 5.8% | 1.9% | 8.2% | 1.4% | 20.3% | 31.4% | 100.0% |
| Winter 2017-2018 | Categories (%) ¹ | | | | | | | | | | | | | | Total |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| Winter 2017-2018 | 5 | 70 | 10 | 3 | 1 | 4 | 11 | 1 | 21 | 2 | 24 | 10 | 59 | 141 | 362 |
| | 1.4% | 19.3% | 2.8% | 0.8% | 0.3% | 1.1% | 3.0% | 0.3% | 5.8% | 0.6% | 6.6% | 2.8% | 16.3% | 39.0% | 100.0% |
| Spring 2018 | Categories (%) ¹ | | | | | | | | | | | | | | Total |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| Spring 2018 | 4 | 51 | 5 | 3 | 0 | 2 | 6 | 2 | 10 | 0 | 15 | 0 | 30 | 86 | 214 |
| | 1.9% | 23.8% | 2.3% | 1.4% | 0.0% | 0.9% | 2.8% | 0.9% | 4.7% | 0.0% | 7.0% | 0.0% | 14.0% | 40.2% | 100.0% |
| Summer 2018 | Categories (%) ¹ | | | | | | | | | | | | | | Total |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| Summer 2018 | 43 | 243 | 75 | 12 | 15 | 12 | 63 | 6 | 93 | 12 | 52 | 13 | 194 | 384 | 1,217 |
| | 3.5% | 20.0% | 6.2% | 1.0% | 1.2% | 1.0% | 5.2% | 0.5% | 7.6% | 1.0% | 4.3% | 1.1% | 15.9% | 31.6% | 100.0% |
| Total | Categories (%) ¹ | | | | | | | | | | | | | | Total |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| Total | 55 | 410 | 97 | 19 | 19 | 18 | 84 | 9 | 136 | 18 | 108 | 26 | 325 | 676 | 2,000 |
| | 2.8% | 20.5% | 4.9% | 1.0% | 1.0% | 0.9% | 4.2% | 0.5% | 6.8% | 0.9% | 5.4% | 1.3% | 16.3% | 33.8% | 100.0% |

¹ Contact type categories: 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

Table 12. Notice of Violations issued by season, date and violation code for the Estuarine Gill Net Permit for ITP Year 2018 (September 1, 2017 - August 31, 2018).

| Season ¹ | Date | Code | Description |
|---------------------|------------|----------------------------|---|
| Fall 2017 | 9/20/2017 | EGNP99 EGNP30 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Failure to comply with gill net configurations outlined in proclamation |
| | 10/30/2017 | EGNP30 EGNP10 EGNP09 | Failure to comply with gill net configurations outlined in proclamation Set more than legal length of gill net Failure to set or retrieve nets in accordance with time restrictions |
| | 10/30/2017 | EGNP30 EGNP09 | Failure to comply with gill net configurations outlined in proclamation Failure to set or retrieve nets in accordance with time restrictions |
| | 11/1/2017 | EGNP99 EGNP09 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Failure to set or retrieve nets in accordance with time restrictions |
| | 11/6/2017 | EGNP99 EGNP30 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Failure to comply with gill net configurations outlined in proclamation |
| | 11/6/2017 | EGNP99 EGNP30 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Failure to comply with gill net configurations outlined in proclamation |
| | 11/6/2017 | EGNP99 EGNP30 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Failure to comply with gill net configurations outlined in proclamation |
| Spring 2018 | 3/6/2018 | EGNP99 EGNP26 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Observer harassment |
| | 3/7/2018 | EGNP99 EGNP09 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Failure to set or retrieve nets in accordance with time restrictions |

Table 12. (cont.).

| | | | |
|-------------|-----------|------------------|---|
| Spring 2018 | 4/10/2018 | EGNP99 EGNP30 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Failure to comply with gill net configurations outlined in proclamation |
| | 4/12/2018 | EGNP99 EGNP10 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Set more than legal length of gill net |
| | 4/12/2018 | EGNP99 EGNP10 | Failure to comply with statute(s), rule(s), and/or proclamation(s) Set more than legal length of gill net |
| | 4/16/2018 | EGNP30 | Failure to comply with gill net configurations outlined in proclamation |
| | 5/9/2018 | EGNP99 | Failure to comply with statute(s), rule(s), and/or proclamation(s) |
| | 5/11/2018 | EGNP09 | Failure to set or retrieve nets in accordance with time restrictions |

¹There were no Notice of Violations issued during the 2018 summer season

FIGURES

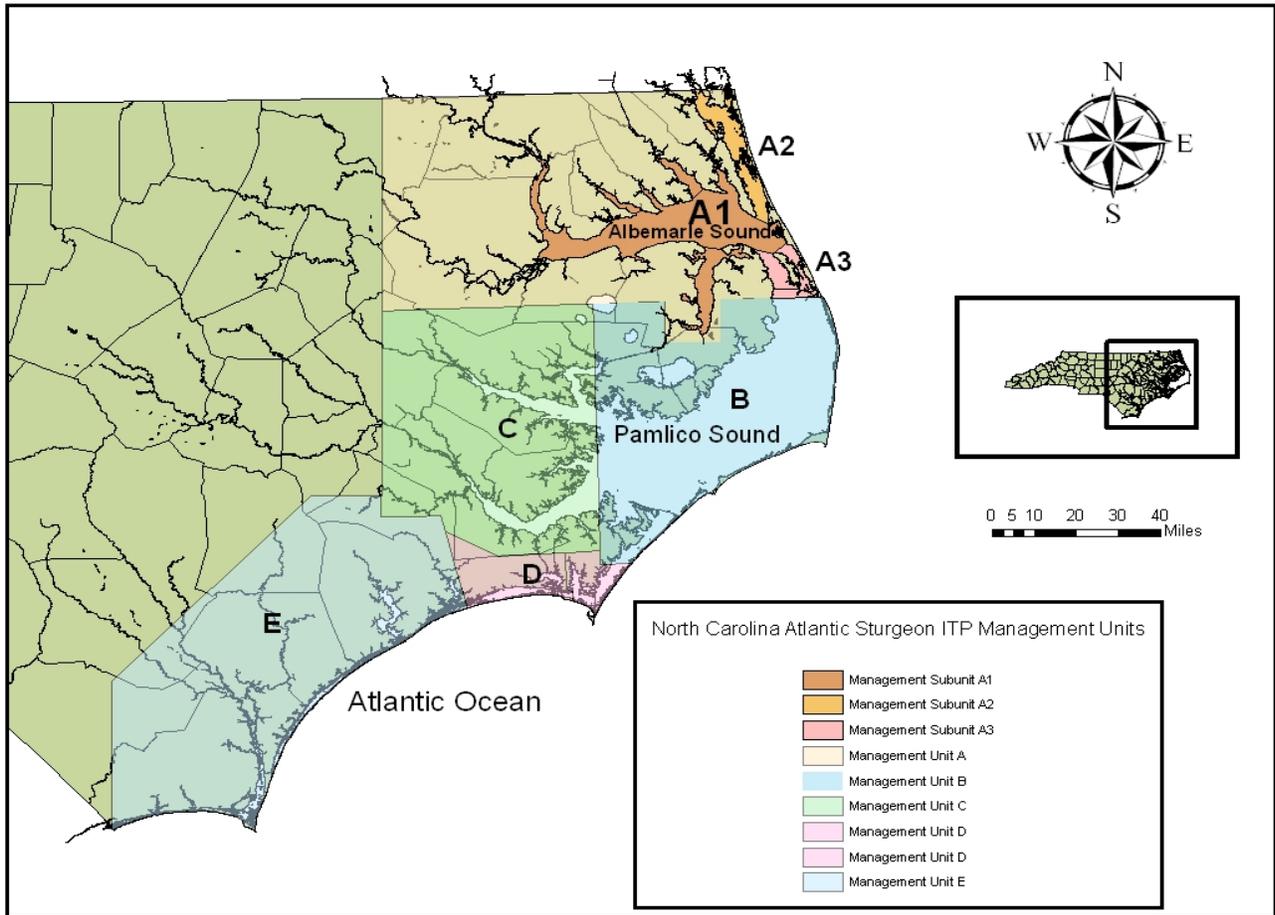


Figure 1. Management Units (A1, A2, A3, B, C, D, and E) as outlined in the Conservation Plan and utilized by the Observer Program for ITP Year 2018 (September 1, 2017 – August 31, 2018).

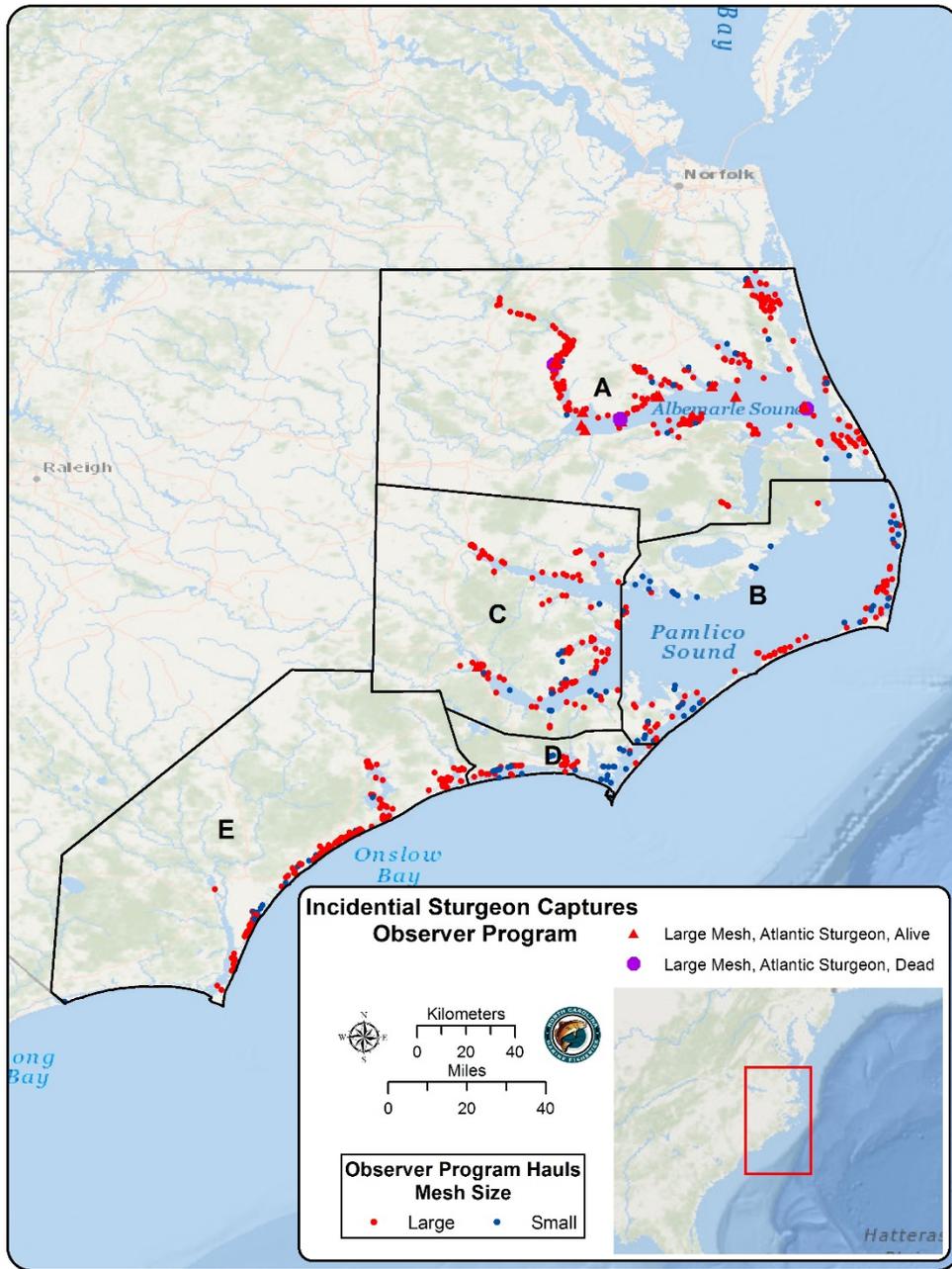


Figure 2. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear throughout all Management Units for ITP Year 2018 (September 1, 2017 – August 31, 2018).

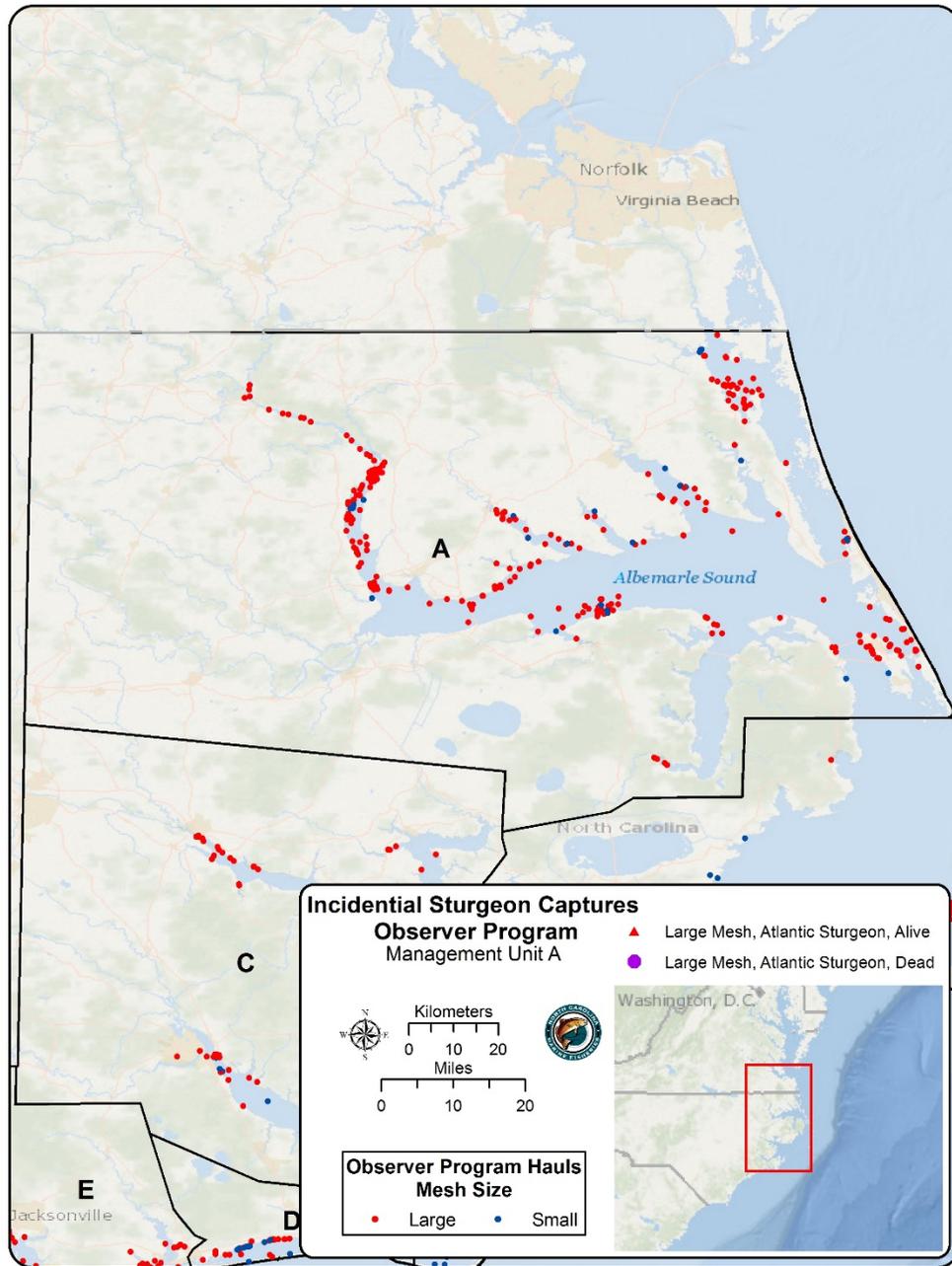


Figure 3. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit A for ITP Year 2018 (September 1, 2017 – August 31, 2018).

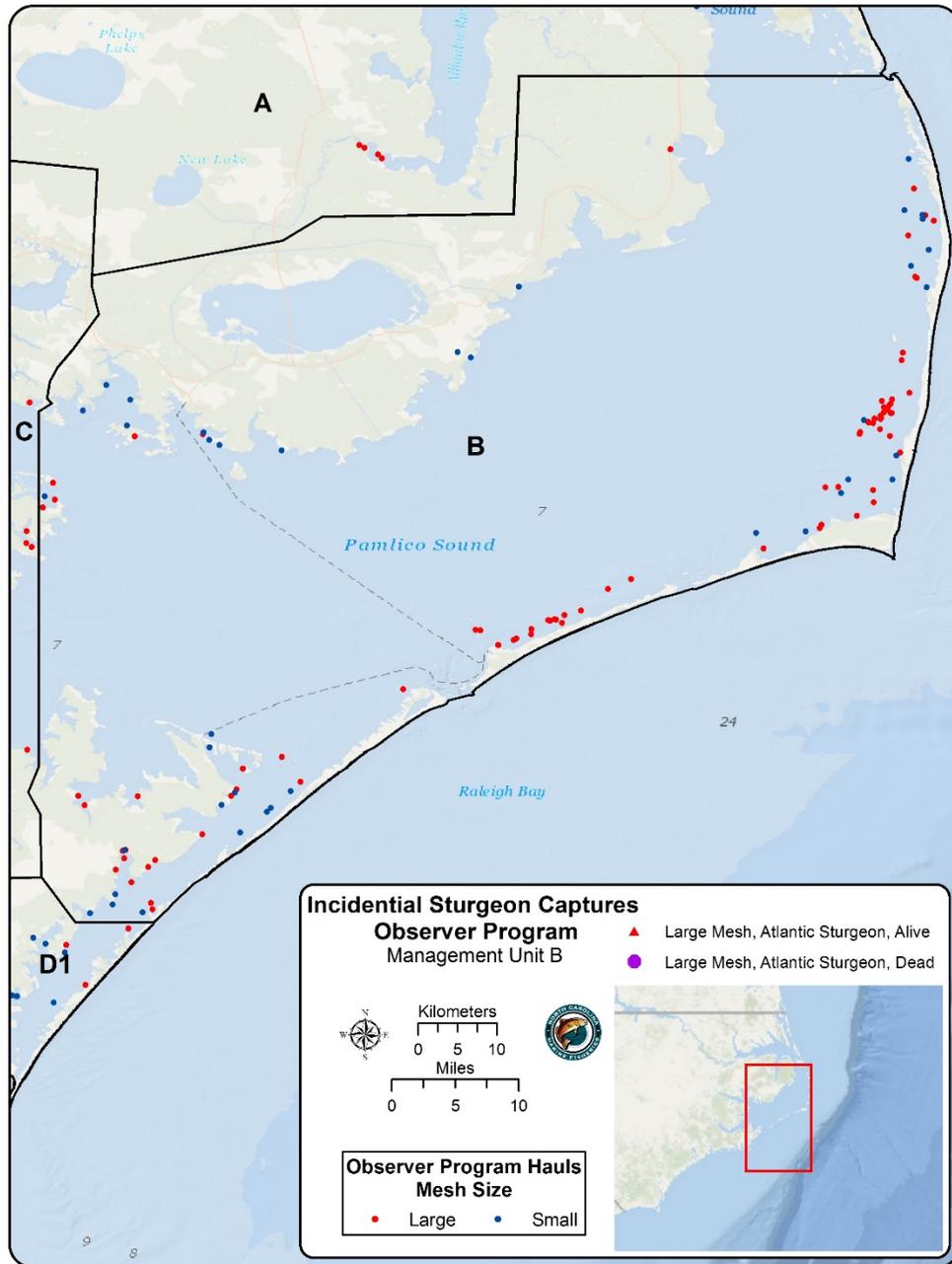


Figure 4. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit B for ITP Year 2018 (September 1, 2017 – August 31, 2018).

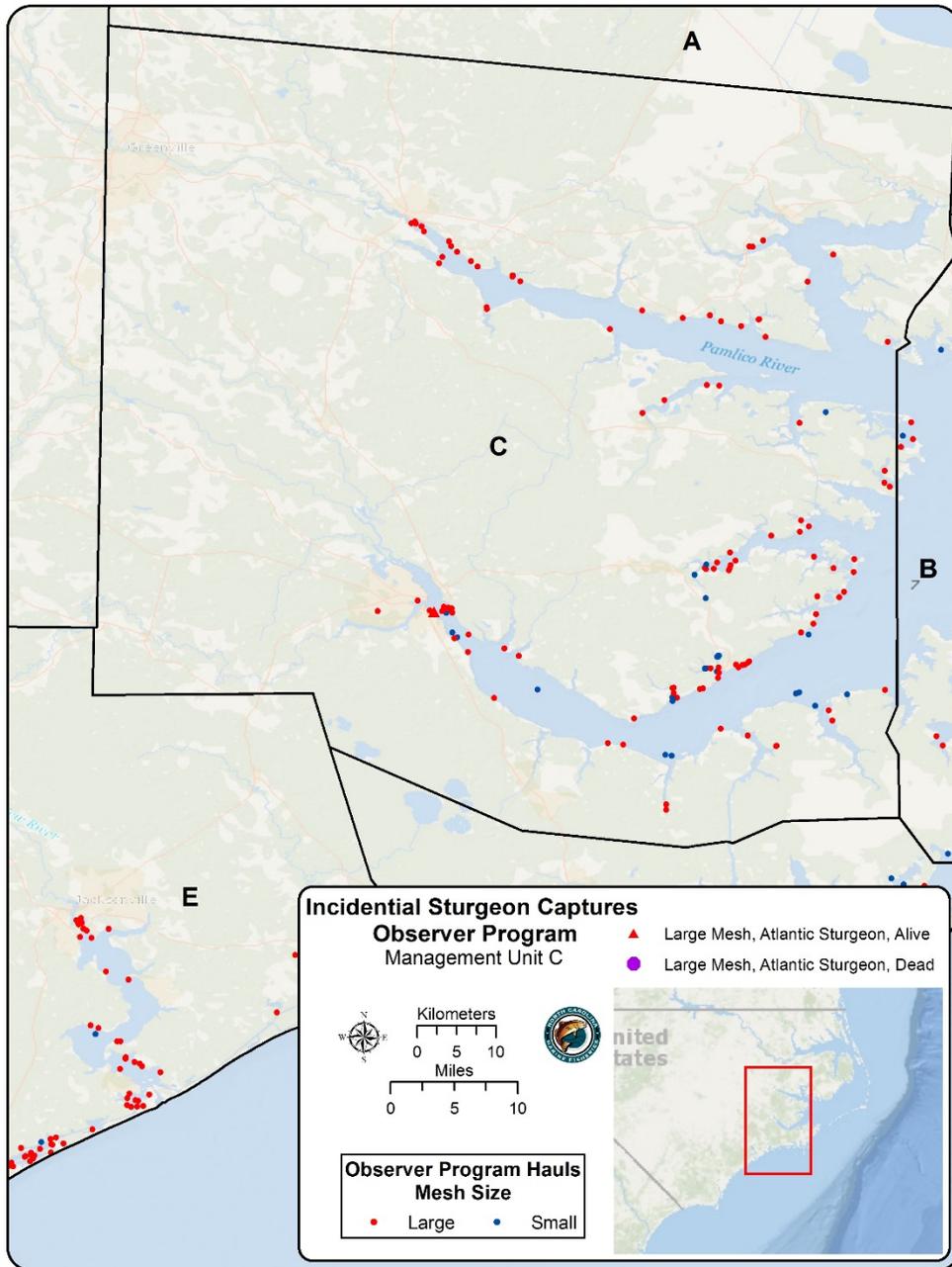


Figure 5. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit C for ITP Year 2018 (September 1, 2017 – August 31, 2018).

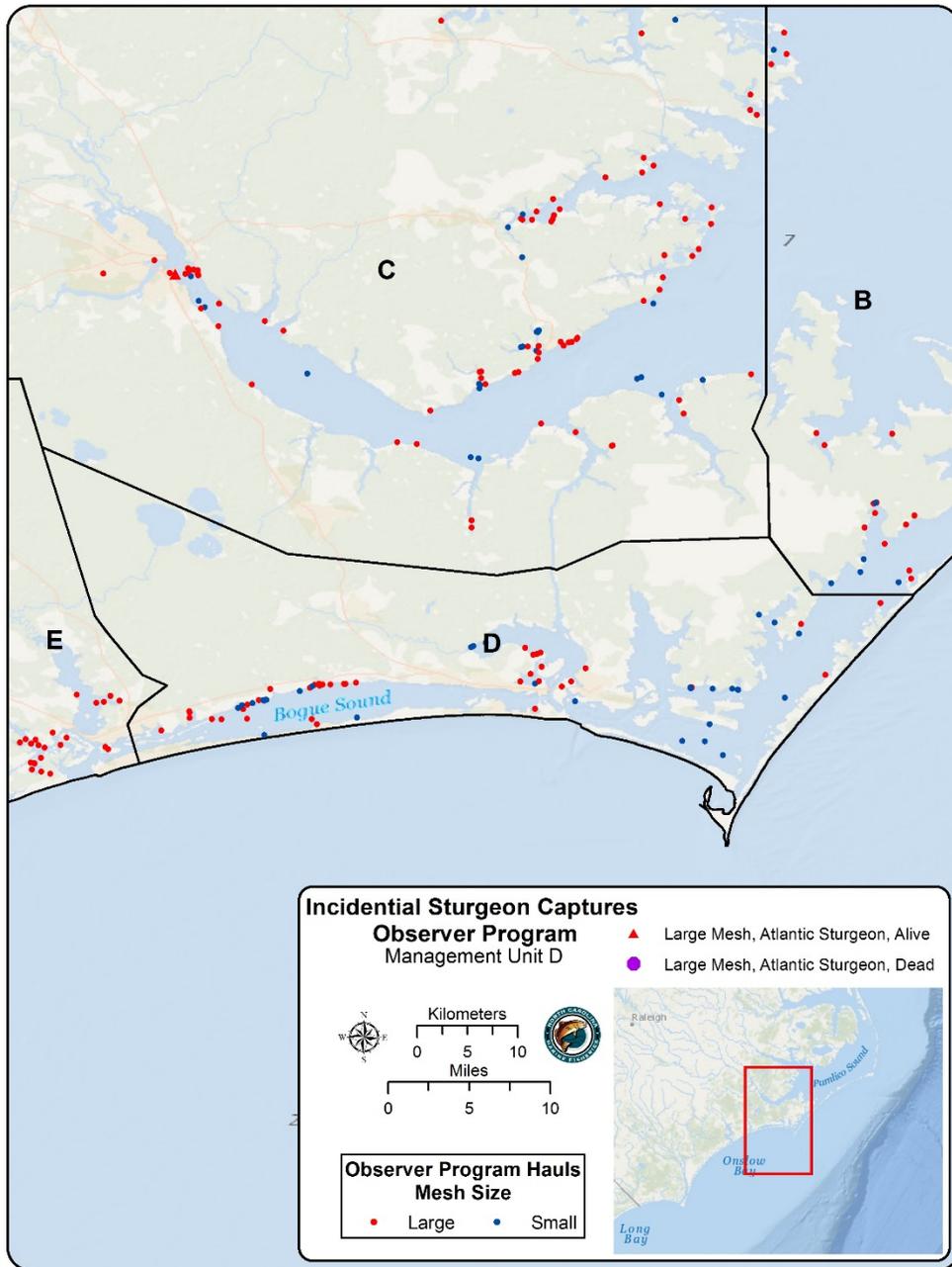


Figure 6. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit D for ITP Year 2018 (September 1, 2017 – August 31, 2018).

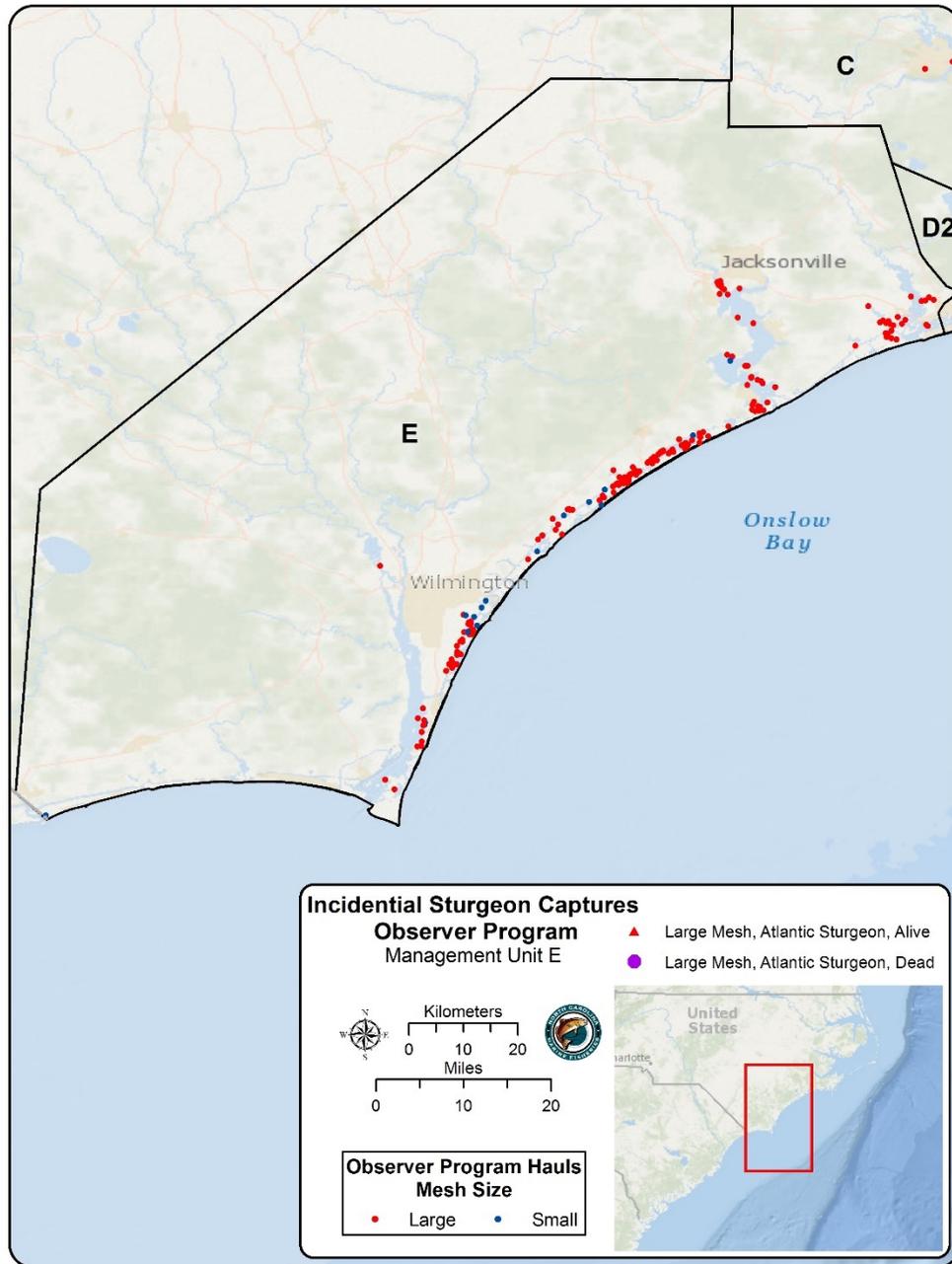


Figure 7. Atlantic sturgeon interaction locations by species, disposition, and gear and observer trips (hauls) by gear in Management Unit E for ITP Year 2018 (September 1, 2017 – August 31, 2018).

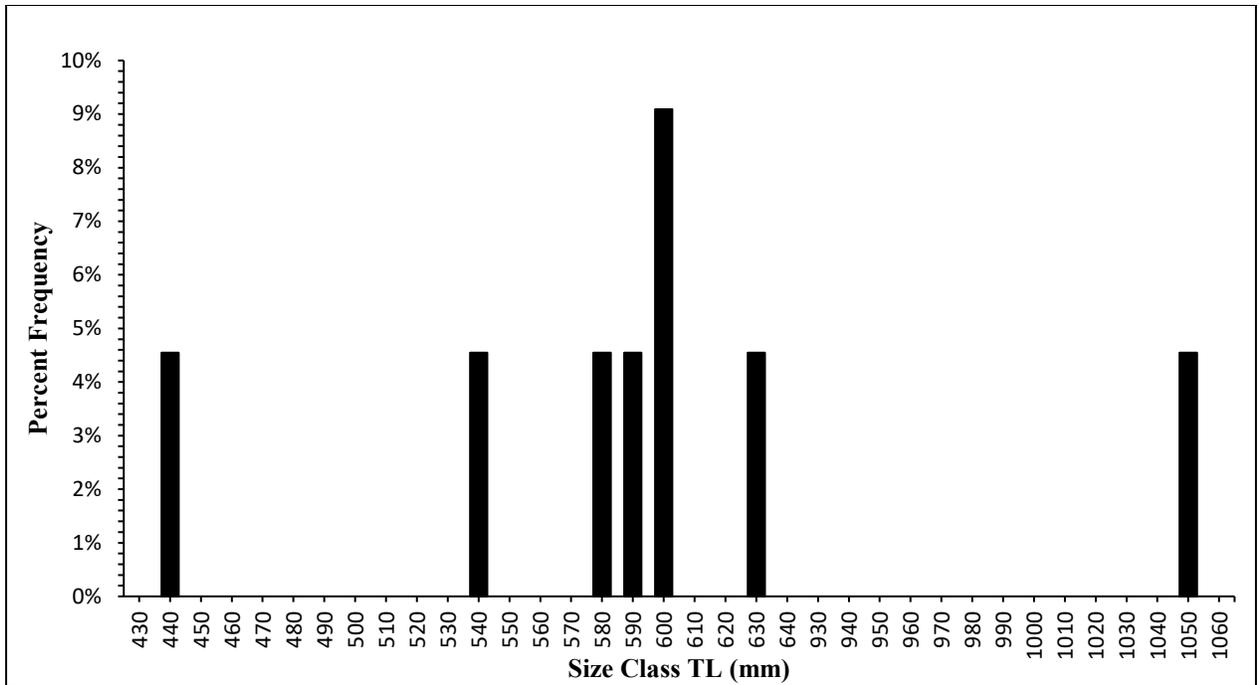


Figure 8. Length-frequency (total length) of observed incidental captures of Atlantic sturgeon where measurements were obtained (n = 22) by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017 – August 31, 2018).

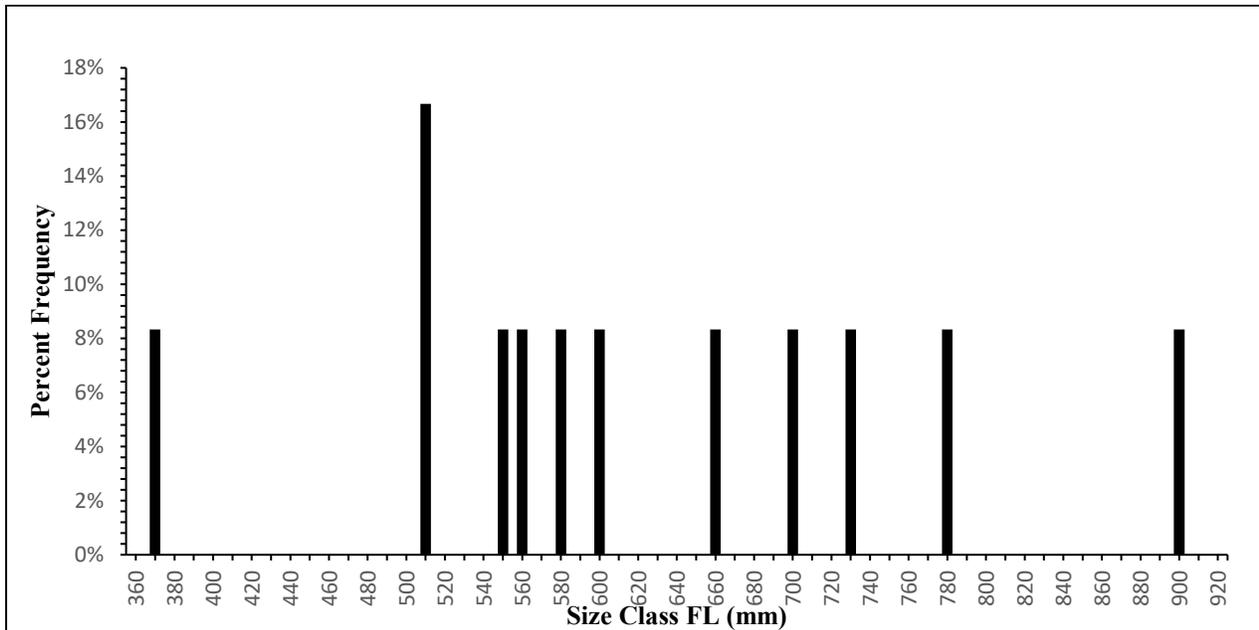


Figure 9. Length-frequency (fork length) of observed incidental captures of Atlantic sturgeon where measurements were obtained (n = 12) by the Observer Program from onboard and alternative platform observations for ITP Year 2018 (September 1, 2017 – August 31, 2018).

APPENDIX A



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JAN 4 2017

Braxton C. Davis
Director, North Carolina Division of Marine Fisheries
3441 Arendell Street
P.O. Box 769
Morehead City, North Carolina 28557

Dear Mr. Davis:

On November 21, 2016, the North Carolina Division of Marine Fisheries (NCDMF) requested a minor modification to extend the future annual report deadlines for the Sea Turtle (No. 16230) and Atlantic Sturgeon (No. 18102) Incidental Take Permits from January 31 to the last day in February. You note that this extension would benefit your staff due to a lag time in data being uploaded and verified, the time of year, the deadline for the fall seasonal report, and staff availability.

We appreciate the challenges associated with staff availability and the data accessibility at this time of year, and this delay will not significantly impact our ability to review the annual report. National Marine Fisheries Service (NMFS) therefore concurs with your request for this minor modification. Please sign below to acknowledge that you will comply with the minor modifications specified in this letter and send a copy of the signed letter to Kristy Long on my staff at your earliest convenience.

We note that NCDMF has requested several modifications since the permit began and understand that you are in the process of developing an updated Incidental Take Permit application. We encourage you to incorporate any further anticipated minor modifications into that application process so we can more efficiently analyze these requests.

Please feel free to contact Ron Dean (ron.dean@noaa.gov) or Kristy Long (kristy.long@noaa.gov) with any questions about this minor modification request approval or your pending updated application.

We look forward to continuing to work with you on sea turtle conservation in North Carolina.

Sincerely,

Donna S. Wieting
Director, Office of Protected Resources

Printed on Recycled Paper



I acknowledge the minor modification specified above to Permit No. 16230 issued under Section 10 (a)(1)(B) of the Endangered Species Act to incidentally take threatened and endangered sea turtles in gillnet fisheries operating in inshore waters of North Carolina.

Braxton C. Davis
Director
N.C. Division of Marine Fisheries

1-5-17

Date

APPENDIX B



ROY COOPER

Governor

MICHAEL S. REGAN

Secretary

STEPHEN W. MURPHEY

Director

Angela Somma
Office of Protected Resources (F/PR)
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Dear Angela:

The North Carolina Division of Marine Fisheries (NCDMF) Observer Program data have been updated using the finalized 2017 Trip Ticket Program (TTP) data. The Annual Completion Report for the Atlantic Sturgeon Incidental Take Permit (ITP) No. 18102 was completed for ITP Year 2017 and submitted in February 2018. Using the finalized 2017 data, Tables 1, 2, 5, and 6 from the Completion Report were updated to reflect the final estimates of observer coverage and Atlantic sturgeon takes (Tables 1 - 4). In past Annual Completion Reports the data used for the fall season was based on finalized TTP data that had been generated by the NCDMF before drafting the annual report. Due to a clerical error, the wrong information was transcribed to the tables that were supposed to contain finalized fall 2016 TTP data for both large and small mesh anchored gill net gear. Corrections have been made and are reflected in the update below. In addition, some of the observed trip numbers in Tables 1 and 2 changed due to data corrections since the Annual Completion Report was submitted.

Anchored Large Mesh

The Observer Program recorded an overall coverage of 11.1% for the fall 2016 season of the anchored large mesh gill net fishery, meeting minimum coverage requirements (7.0%) in all management units based on finalized 2016 TTP data (Table 1). Using the proper finalized data, anchored large mesh gill net trip numbers decreased in management unit A and increased in management units B, C, D, and E. As stated above, minimum coverage requirements were met in all management units despite the annual report having incorrect data for the fall 2016 anchored large mesh gill net fishery. During the fall 2016 season, Management unit A coverage increased from 7.8% to 12.1%. Coverage percentages dropped in management units B (11.3%), C (7.7%), D (11.0%), and E (11.1%) when the correct information was applied to the table.

The finalized TTP data for the winter 2016 – 2017 season showed fewer anchored large mesh gill nets fishing trips than previously estimated in management units A, B, C, and E. Management unit D had an increase in anchored large mesh gill net fishing trips over what had been estimated for the annual report (Table 1). Observer coverage goals for anchored large mesh gill nets were met in management units A, C, D, and E for the winter 2016 – 2017 season. Management unit B was closed to anchored large mesh gill net gear for the winter 2016 – 2017 season.



State of North Carolina | Division of Marine Fisheries
3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
252-726-7021

Finalized TTP data for spring 2017 had fewer anchored large mesh gill net fishing trips occurring in management units A and E than previously estimated (Table 1). The same data showed an increase in anchored large mesh gill net fishing trips in management units C and D compared to estimated trips for the annual report (Table 1). Management unit B was closed to anchored large mesh gill net gear for the spring 2017 season. Observer coverage goals for anchored large mesh gill nets were met in all open management units for the spring 2017 season (Table 1).

The summer 2017 season had more fishing trips for anchored large mesh gill nets than previously estimated in management units B, D, and E (Table 1). Management units A and C had fewer anchored large mesh gill net fishing trips occurring than estimated for the annual report (Table 1). Observer coverage goals for anchored large mesh gill nets were met in all management units except management unit A for the summer 2017 season (Table 1). Portions of management unit D (management unit D1) are closed annually from May 8 through October 14 as described in the ITP. While observer coverage goals were not met in management unit A, they were exceeded in management units B (8.8%), C (7.4%), D (8.6%), and E (17.6%) for anchored large mesh gill nets (Table 1).

Anchored Small Mesh

The Observer Program recorded an overall coverage of 4.3% for the fall 2016 season of the anchored small mesh gill net fishery, meeting minimum coverage requirements (1.0%) in all management units except management unit A, based on finalized 2016 TTP data (Table 2). Using the proper finalized data, anchored small mesh gill net trip numbers increased in management unit C and decreased in management units A, B, D, and E (Table 2). As stated above, minimum coverage requirements were met in all management units except management unit A despite the annual report having incorrect data for the fall 2016 anchored small mesh gill net fishery. Coverage percentage increased for management units B (2.2%), D (9.6%), and E (6.7%) and decreased to 3.6% in management unit C (Table 2). Coverage percentage was unchanged in management Unit A.

The winter 2016 – 2017 season had more fishing trips than previously estimated for anchored small mesh gill nets in management units B, C, and E, and less fishing trips for management units A and D than previously estimated (Table 2). Observer coverage goals for anchored small mesh gill nets were met in all management units for the winter 2016 – 2017 season (Table 2). Observer coverage goals were far exceeded in management units A (5.7%), C (5.3%), D (13.8%) and E (7.1%) for anchored small mesh gill nets (Table 2).

The spring 2017 season showed an increase in fishing trips for anchored small mesh gill nets compared to previous estimates for management units B, C, and D (Table 2). Management units A and E had fewer trips than estimated for the annual report. Observer coverage goals for anchored small mesh gill nets were met in all management units for the spring 2017 season (Table 2). Observer coverage goals were far exceeded in management units C (4.9%), D (9.6%), and E (9.9%) for anchored small mesh gill nets (Table 2).



State of North Carolina | Division of Marine Fisheries
3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
252-726-7021

The finalized TTP data for the summer 2017 season showed fewer fishing trips occurring for anchored small mesh gill nets than previously estimated in all management units (Table 2). Observer coverage goals for anchored small mesh gill nets were met in all management units for the summer 2017 season (Table 2). Observer coverage goals were far exceeded in management units A (4.0%), C (7.7%), and D (6.6%).

Atlantic Sturgeon Takes

Annual estimated allowable Atlantic sturgeon takes were recalculated for anchored large and small mesh gill nets using the finalized 2017 TTP data (Tables 3 and 4). The estimates of Atlantic sturgeon takes in anchored large mesh gill nets were less than previous estimates for the spring season in management unit A but remained relatively (increase of one estimated Atlantic sturgeon during summer season) constant for all other seasons for management unit A (Table 3). The fishery remained below the annual estimated allowable Atlantic sturgeon takes for all dispositions, in all management units, and for each season during ITP Year 2017 (Table 3). Confidence intervals for Management Unit A take estimates were not updated due to staffing limitations.

The estimates of Atlantic sturgeon takes in anchored small mesh gill nets remained constant from previous estimates for all seasons in management unit A (Table 4). The anchored small mesh gill net fishery remained below the annual estimated allowable Atlantic sturgeon takes for all dispositions for ITP Year 2017 for each season and management unit (Table 4). Confidence intervals for Management Unit A take estimates were not updated due to staffing limitations.



State of North Carolina | Division of Marine Fisheries
3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
252-726-7021

Table 1. Observer coverage calculated from finalized 2017 Trip Ticket data and observer data for anchored large mesh gill nets by season and management unit through the NCDMF Observer Program for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Season | Management Unit | Anchored Large Mesh | | |
|------------------|-----------------|---------------------|----------------|----------|
| | | Fishing Trips | Observed Trips | Coverage |
| Fall 2016 | A | 1,446 | 175 | 12.1 |
| | B | 1,156 | 131 | 11.3 |
| | C | 480 | 37 | 7.7 |
| | D | 446 | 49 | 11.0 |
| | E | 769 | 85 | 11.1 |
| Winter 2016-2017 | A | 638 | 79 | 12.4 |
| | B | n/a | n/a | n/a |
| | C | 84 | 23 | 27.4 |
| | D | 9 | 1 | 11.1 |
| | E | 19 | 6 | 31.6 |
| Spring 2017 | A | 1,549 | 167 | 10.8 |
| | B | n/a | n/a | n/a |
| | C | 1,024 | 92 | 9.0 |
| | D | 121 | 11 | 9.1 |
| | E | 259 | 56 | 21.6 |
| Summer 2017 | A | 1,018 | 65 | 6.4 |
| | B | 1,464 | 129 | 8.8 |
| | C | 380 | 28 | 7.4 |
| | D | 255 | 22 | 8.6 |
| | E | 643 | 113 | 17.6 |
| Total | | 11,760 | 1,269 | 10.8 |



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

Table 2. Observer coverage calculated from finalized 2017 Trip Ticket data and observer data for anchored small mesh gill nets by season and management unit through the NCDMF Observer Program for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Season | Management Unit | Anchored Small Mesh | | |
|------------------|-----------------|---------------------|----------------|------------|
| | | Fishing Trips | Observed Trips | Coverage |
| Fall 2016 | A | 147 | 0 | 0.0 |
| | B | 819 | 18 | 2.2 |
| | C | 222 | 8 | 3.6 |
| | D | 281 | 27 | 9.6 |
| | E | 420 | 28 | 6.7 |
| Winter 2016-2017 | A | 844 | 48 | 5.7 |
| | B | 767 | 9 | 1.2 |
| | C | 415 | 22 | 5.3 |
| | D | 58 | 8 | 13.8 |
| | E | 84 | 6 | 7.1 |
| Spring 2017 | A | 572 | 10 | 1.7 |
| | B | 1,517 | 21 | 1.4 |
| | C | 327 | 16 | 4.9 |
| | D | 83 | 8 | 9.6 |
| | E | 141 | 14 | 9.9 |
| Summer 2017 | A | 101 | 4 | 4.0 |
| | B | 674 | 10 | 1.5 |
| | C | 130 | 10 | 7.7 |
| | D | 61 | 4 | 6.6 |
| | E | 203 | 4 | 2.0 |
| Total | | 7,866 | 275 | 3.5 |



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

Table 3 . Authorized and actual annual estimated incidental takes per fishing year (for a total of 10 years; the life of the permit) with confidence intervals (95%) using a bootstrap method based on observer data for coverage and Atlantic sturgeon interaction levels in North Carolina's anchored large mesh (≥ 5.0 ISM) inshore gill net fishery for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Management Unit | Season | Total Interactions | | | |
|-----------------|--------|------------------------|-----------|-----------------------------|------|
| | | Authorized (Mortality) | | Actual All DPS ² | |
| | | Carolina DPS | Other DPS | Alive | Dead |
| A | Winter | 149 (6) | 50 (2) | 91 | 0 |
| | Spring | 460 (19) | 154 (6) | 282 | 0 |
| | Summer | 157 (6) | 52 (2) | 16 | 0 |
| | Fall | 838 (34) | 279 (11) | 305 | 15 |
| B | Winter | 2 (1) ¹ | n/a | 0 | 0 |
| | Spring | 1 (1) ¹ | 1 (0) | 0 | 0 |
| | Summer | 4 (2) ¹ | 2 (0) | 0 | 0 |
| | Fall | 17 (2) ¹ | 6 (0) | 0 | 0 |
| C | Winter | 2 (1) ¹ | n/a | 1 | 0 |
| | Spring | 3 (1) ¹ | 1 (0) | 3 | 0 |
| | Summer | 2 (1) ¹ | 1 (0) | 0 | 0 |
| | Fall | 4 (2) ¹ | 2 (0) | 0 | 0 |
| D | Annual | 8 (2) ¹ | n/a | 0 | 0 |
| E | Annual | 8 (2) ¹ | n/a | 1 | 0 |
| Total | | 1,655 (80) | 548 (21) | 698 | 15 |

¹ Total interaction number represents actual observed and not estimated based on observer coverage. Mortality estimates could not be completed for management units B-E due to low take; thus, if observed interactions were ≤ 5 mortality was one; if observed interactions were >5 mortality was two.

² Fin clip samples have been sent to the lab for genetic analysis



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

Table 4 . Authorized and actual annual estimated incidental takes per fishing year (for a total of 10 years; the life of the permit) with confidence intervals (95%) using a bootstrap method based on observer data for coverage and Atlantic sturgeon interaction levels in North Carolina’s anchored small mesh (<5.0 ISM) inshore gill net fishery for ITP Year 2017 (September 1, 2016 - August 31, 2017).

| Management Unit | Season | Total Interactions | | | |
|-----------------|--------|------------------------|-----------|-----------------------------|------|
| | | Authorized (Mortality) | | Actual All DPS ² | |
| | | Carolina DPS | Other DPS | Alive | Dead |
| A | Winter | 175 (14) | 35 (3) | 11 | 0 |
| | Spring | 219 (17) | 44 (4) | 0 | 0 |
| | Summer | 72 (6) | 14 (1) | 0 | 0 |
| | Fall | 103 (8) | 21 (2) | 0 | 0 |
| B | Winter | 2 (1) ¹ | n/a | 0 | 0 |
| | Spring | 6 (2) ¹ | 1 (0) | 1 | 0 |
| | Summer | 3 (1) ¹ | 1 (0) | 0 | 0 |
| | Fall | 3 (1) ¹ | 1 (0) | 0 | 0 |
| C | Winter | 2 (1) ¹ | n/a | 0 | 0 |
| | Spring | 2 (1) ¹ | n/a | 0 | 0 |
| | Summer | 2 (1) ¹ | n/a | 0 | 0 |
| | Fall | 2 (1) ¹ | n/a | 0 | 0 |
| D | Annual | 8 (2) ¹ | n/a | 0 | 0 |
| E | Annual | 8 (2) ¹ | n/a | 1 | 0 |
| Total | | 607 (58) | 117 (10) | 13 | 0 |

¹ Total interaction number represents actual observed and not estimated based on observer coverage. Mortality estimates could not be completed for management units B-E due to low take; thus, if observed interactions were ≤ 5 mortality was one; if observed interactions were >5 mortality was two.

² Fin clip samples have been sent to the lab for genetic analysis



State of North Carolina | Division of Marine Fisheries
 3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
 252-726-7021

Sincerely,

John McConnaughey, Conservation Biologist I
Division of Marine Fisheries, NCDEQ

cc: Chris Batsavage
Steven Murphey
Dee Lupton
Brooke Wheatley



State of North Carolina | Division of Marine Fisheries
3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557
252-726-7021

APPENDIX C



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JUL 19 2017

Braxton C. Davis
Director, North Carolina Division of Marine Fisheries
3441 Arendell Street
P.O. Box 769
Morehead City, NC 28557

Dear Mr. Davis:

On July 13, 2017, the N.C. Division of Marine Fisheries (NCDMF) requested a minor modification to the Atlantic Sturgeon Incidental Take Permit (ITP) no. 18102 to allocate the takes in management units A – C as annual takes rather than seasonal takes. You note in your request that the number of allowed seasonal takes is very low in some cases, and the seasonal takes have been reached on a few occasions and have resulted in seasonal closures.

In your request, you also address the concern of takes occurring in warmer waters (20°C – 30°C) being correlated with more mortalities by noting that lower fishing effort in the summer season due to increasing water temperatures and fish availability should prevent sturgeon mortalities from exceeding the take limit. In our discussions, your staff also noted that the flexibility gained from this minor modification will allow you to adaptively manage fishing effort for times when the fishery is most productive from the fall through the spring, and that fishing effort in the summer decreases as productivity wanes. You also note that you actively monitor the fisheries and take levels daily to ensure take levels, including mortality levels, are not exceeded.

We have considered this minor modification request and determined it to be reasonable. NMFS therefore concurs with your request for this minor modification.

I appreciate you proactively requesting minor modifications to maximize permit implementation as you identify them. Also, as we have discussed with you previously, we understand that you are in the process of developing an updated ITP application and we look forward to analyzing all aspects of that updated application. I encourage you to incorporate any further anticipated minor modifications into that application process so my staff can more efficiently analyze these requests. Please sign below to acknowledge that you will comply with the minor modifications specified in this letter and send a copy of the signed letter to Ron Dean on my staff at your earliest convenience.



We look forward to continuing to work with you on Endangered Species conservation in North Carolina.

Sincerely,


Donna S. Wieting
Director, Office of Protected Resources

I acknowledge the minor modification specified above to Permit No. 18102 issued under Section 10 (a)(1)(B) of the Endangered Species Act to incidentally take endangered Atlantic Sturgeon in gillnet fisheries operating in inshore waters of North Carolina.


Braxton C. Davis
Director
N.C. Division of Marine Fisheries

7/21/17
Date

Marine Mammal INCIDENTAL CAPTURE REPORT

Additional takes in set

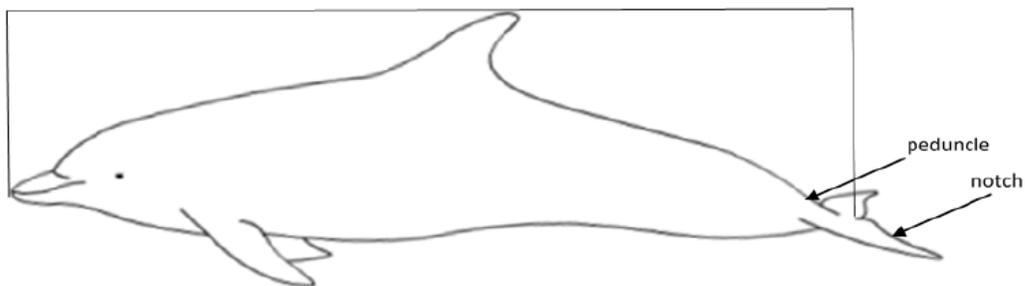
| *Marine Mammal # | SPECIES (use codes) | CONDITION (use codes) | **Trauma consistent with gear interaction (yes/no) | DISPOSITION (use codes) | TOTAL LENGTH (cm) | LENGTH ESTIMATE (E) ACTUAL (A) |
|--|---------------------|---|--|-------------------------|-------------------|--------------------------------|
| ▼ | ▼ | ▼ | ▼ | ▼ | | ▼ |
| TAG PRESENT? <input type="checkbox"/> IF YES, TAG #: | | TAG INSERTED? <input type="checkbox"/> IF YES, TAG #: | | | | |
| PHOTOS? <input type="checkbox"/> | | SKIN SAMPLE? <input type="checkbox"/> | | LATITUDE (DD.DDDD): | | LONGITUDE (DD.DDDD): |

| *Marine Mammal # | SPECIES (use codes) | CONDITION (use codes) | **Trauma consistent with gear interaction (yes/no) | DISPOSITION (use codes) | TOTAL LENGTH (cm) | LENGTH ESTIMATE (E) ACTUAL (A) |
|--|---------------------|---|--|-------------------------|-------------------|--------------------------------|
| ▼ | ▼ | ▼ | ▼ | ▼ | | ▼ |
| TAG PRESENT? <input type="checkbox"/> IF YES, TAG #: | | TAG INSERTED? <input type="checkbox"/> IF YES, TAG #: | | | | |
| PHOTOS? <input type="checkbox"/> | | SKIN SAMPLE? <input type="checkbox"/> | | LATITUDE (DD.DDDD): | | LONGITUDE (DD.DDDD): |

ADDITIONAL COMMENTS (please include any information not included in the above variables (i.e., injuries, wounds, weather conditions, etc.):

Observing a fisherman in Core Sound by Salters Lump, we noticed a large object that we originally thought was a shark, 20 yards deep in the gill net. The net was set 20-30 yards from shore set perpendicularly. As the object came closer to the boat we observed features that made it clear it was a bottlenose dolphin. We were approximately 50 feet away in our own vessel. The fisherman used his net reel to get the animal to the front of the boat where it could plainly be seen that is was a bottlenose dolphin entangled around the head and had also been wrapped multiple times. The animal was fully wrapped in the net a few times (top to bottom). The fisherman took approximately two mins to untangle the dolphin from the net. While the fisherman was untangling the dolphin, we spoke loudly to the fisherman to let us get the animal but he did not hear us. We called our supervisor to seek advice and inform him of the situation. As soon as the dolphin was free it sank out of sight. We finished observing the fisherman then we came back to the location and looked for the dolphin in the shallow water around the area but were unable to recover it.

Figure 1: Total length measured from tip of the rostrum to the notch in the flukes (centimeters)



Appendix E



NORTH CAROLINA MARINE FISHERIES COMMISSION DEPARTMENT OF ENVIRONMENTAL QUALITY

COMMISSIONERS

PAT MCCRORY
Governor

DONALD VAN DER VAART
Secretary

SAMMY CORBETT
Chairman

MARK GORGES
Wrightsville Beach
CHUCK
LAUGHRIDGE
Harker's Island
JANET ROSE
Moyock
JOE SHUTE
Morehead City

RICK SMITH
Greenville
MIKE WICKER
Raleigh
ALISON WILLIS
Harkers Island

Aug. 25, 2016

Mr. Bob Lorenz
P.O. Box 10512
Wilmington, NC 28404

Dear Bob:

I wanted to let you know at last week's Marine Fisheries Commission meeting I announced the Sea Turtle Advisory Committee was being disbanded. I wanted to contact you directly and let you know I had taken this action and the reason why.

The commission has a multitude of committees, many of which are statutorily mandated, such as the Northern and Southern regional advisory committees and the Finfish, Shellfish/Crustacean and Habitat and Water Quality advisory committees. These committees require a great deal of attention, both in staff time and in resources. In looking for efficiencies in our committee system, I felt our regional and pertinent standing advisory committees could serve as venues to review and provide the needed input on sea turtle issues. So, after much consideration, I decided to disband the Sea Turtle Advisory Committee, because it is not statutorily required. This was a difficult decision, especially since I served on the Sea Turtle Advisory Committee prior to being appointed to the Marine Fisheries Commission.

Later this fall we will be doing our annual solicitation for advisers. If any of you are interested in serving on other committees, please let me know and I will make every effort to place you on one of these committees as openings become available.

In closing, please know how much I appreciate your dedication and service to the state. I encourage you to please stay involved in fisheries issues and I hope to see you or hear from you in the future.

Sincerely,

A handwritten signature in black ink that reads "Sammy Corbett". The signature is written in a cursive, flowing style.

Sammy Corbett, Chairman
N.C. Marine Fisheries Commission

cc: Chris Batsavage, Division of Marine Fisheries



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: Marine Fisheries Commission
FROM: Kathy Rawls, Fisheries Management Section Chief
SUBJECT: Temporary Rule Suspension

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 February 2019 meeting.

Action Needed

For informational purposes only, **no 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. The current rule suspensions previously approved by the commission are as follows:

- Continued suspension of North Carolina Marine Fisheries Commission Rule 15A NCAC 03M .0516 Cobia, for an indefinite period of time. This continued suspension allows the division to manage the commercial and recreational cobia fisheries in accordance with management actions taken by the commission and in accordance with the Atlantic States Marine Fisheries Commission's Interstate Cobia Fishery Management Plan. This suspension was continued in Proclamation FF-10-2019.
- Continued suspension of portions of North Carolina Marine Fisheries Commission Rule 15A NCAC 03J .0301 Pots, for an indefinite period of time. This continued suspension allows the division to implement the crab pot escape ring requirements adopted by the commission in the May 2016 Revision to Amendment 2 of the North Carolina Blue Crab

Fishery Management Plan. This suspension was effective January 15, 2017, implemented in Proclamation M-11-2016.

- Continued suspension of portions of North Carolina Marine Fisheries Commission Rule 15A NCAC 03L .0201 Crab Harvest Restrictions, and portions of 03L .203 Crab Dredging, for an indefinite period of time. This continued suspension allows the division to implement the blue crab harvest restrictions adopted by the commission in the May 2016 Revision to Amendment 2 of the North Carolina Blue Crab Fishery Management Plan. These suspensions were implemented in Proclamation M-11-2016.
- Continued suspension of portions of North Carolina Marine Fisheries Commission Rule 15A NCAC 03J .0501 Definitions and Standards for Pound Nets and Pound Net Sets, for an indefinite period of time. Continued suspension of portions of this rule allows the division to increase the minimum mesh size of escape panels for flounder pound nets in accordance with Supplement A to Amendment 1 of the North Carolina Southern Flounder Fishery Management Plan. This suspension was implemented in Proclamation M-34-2015.
- Continued suspension of portions of North Carolina Marine Fisheries Commission Rule 15A NCAC 03M .0519 Shad and 03Q .0107 Special Regulations: Joint Waters, for an indefinite period of time. Continued suspension of portions of these rules 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-12-2019.

Issues/Reports





ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Catherine Blum, Fishery Management Plan and Rulemaking Coordinator
Fisheries Management Section

SUBJECT: Fishery Management Plan Update

Issue

Update the Marine Fisheries Commission on the status of ongoing North Carolina fishery management plans.

Action Needed

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

Overview

This memo provides an overview on the status of the North Carolina fishery management plans for the May 2019 commission meeting.

The review process for the **Southern Flounder Fishery Management Plan** is underway. As part of the review, a coast-wide stock assessment determined the stock is overfished and overfishing is occurring. The Southern Flounder Advisory Committee assisted the division with development of Amendment 2 to end overfishing and rebuild the stock. Lead staff will give a presentation on the draft amendment at the May Marine Fisheries Commission meeting. The commission will be asked to approve the draft plan to go out for advisory committee and public review and comment. The draft amendment, which contains the division and advisory committee recommendations, and a detailed memo can be found in the briefing materials.

The review process for the **Blue Crab Fishery Management Plan** is also underway. The Blue Crab Advisory Committee is continuing to assist the division with development of Amendment 3 to the plan. The next advisory committee meeting will be held at the end of May. Agenda items will include the last two issue papers for the plan. Lead staff will provide a summary on the progress of the amendment at the May Marine Fisheries Commission meeting.

For the review of the **Estuarine Striped Bass Fishery Management Plan**, stock assessments for the Central Southern Management Area stocks and the Albemarle Sound-Roanoke River stock that began in 2017 are continuing, now that the supplement to the fishery management plan has been implemented. Multiple assessment techniques are being used, given the number of

systems to assess and the variety of data sources for each system. The plan development team met April 17, 2019 to continue working towards completion of the stock assessments to inform the review of the plan and development of Amendment 2. Specifically, the team discussed the development of the matrix model for the Tar-Pamlico and Neuse rivers, showed sample results, finalized parameters, and listed scenarios to run. The tagging model for the Cape Fear River was also discussed. This is a joint plan with the Wildlife Resources Commission, so all updates and reviews are joint efforts by both agencies.

NORTH CAROLINA FISHERY MANAGEMENT PLANS

May 2019





ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Michael S. Loeffler and Anne L. Markwith, Southern Flounder Fishery Management Plan Co-Leads

SUBJECT: Southern Flounder Fishery Management Plan Amendment 2

Issue

The draft Southern Flounder Fishery Management Plan (FMP) Amendment 2 containing the Department of Environmental Quality, Division of Marine Fisheries and the FMP advisory committee initial positions on the issues is ready to be presented to the commission for approval to proceed with the amendment process. The division and FMP advisory committee have developed management measures for the commission's consideration to meet statutory requirements to achieve a sustainable harvest* in the southern flounder fishery, to end overfishing by 2021 and rebuild the spawning stock biomass* (SSB) by 2028.

Findings

- The most recent coast-wide stock assessment determined the stock* is overfished* and overfishing* is occurring.
- Reductions in **total coast-wide removals*** are necessary to end overfishing within two years and recover the stock from an overfished state within a 10-year period.
- To reach the fishing mortality* (*F*) threshold* and end overfishing within two years, a 31% reduction in removals is necessary, while a 51% reduction is necessary to reach the fishing mortality target*. Neither of these levels of reduction would rebuild the spawning stock biomass (SSB) by 2028, as a minimum of a 52% reduction would be needed.
- For the SSB to reach the threshold by 2028 and end the overfished status a 52% reduction in total removals coast-wide will be required. To reach the SSB target by 2028 a 72% reduction in total removals coast-wide will be required.
- Static quota, dynamic quota, slot limits, changes in the size limit, and gear changes related to size limit changes are not considered feasible options to address sustainable harvest in draft Amendment 2 due to the accelerated timeline and the need to implement management measures before the fall 2019 fishing season.

Action Needed

At its May 2019 meeting, the commission is scheduled to review draft Amendment 2 and vote on:

- Approval of the goal and objectives for Amendment 2; and
- Sending Amendment 2 out for public and advisory committee review.

Overview

Southern flounder is a commercially and recreationally important fishery currently managed under Amendment 1 and Supplement A to Amendment 1, as modified by the Aug. 17, 2017 settlement agreement, of the N.C. Southern Flounder FMP.

Amendment 2 Goal and Objectives

Part of the process in the development of draft Amendment 2 to the N.C. Southern Flounder FMP is presenting to the commission for approval the draft goal and objectives for the plan. These were reviewed and approved by the Southern Flounder FMP Advisory Committee at its Nov. 28, 2018 meeting. The division's proposed goal and objectives for the FMP are:

Goal

Manage the southern flounder 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

1. Implement management strategies within North Carolina and encourage interjurisdictional management strategies that maintain/restore the southern flounder spawning stock with multiple cohorts and adequate abundance to prevent recruitment overfishing.
2. Restore, enhance, and protect habitat and environmental quality necessary to maintain or increase growth, survival, and reproduction of the southern flounder population.
3. Use biological, environmental, habitat, fishery, social, and economic data needed to effectively monitor and manage the southern flounder fishery and its ecosystem impacts.
4. Promote stewardship of the resource through increased public awareness and interjurisdictional cooperation throughout the species range regarding the status and management of the southern flounder fishery, including practices that minimize bycatch and discard mortality.

Stock Assessment

Southern flounder is assessed as a single biological unit stock occurring from North Carolina through the east coast of Florida. Based on life history information, a multi-state cooperative group performed a stock assessment with a terminal year* of 2017 that determined the stock is overfished and overfishing is occurring.

- The stock assessment estimated biological reference points of $F_{35\%}$ (fishing mortality target) as 0.35 and $F_{25\%}$ (fishing mortality threshold) as 0.53. Estimated F in the terminal year of 2017 is 0.91, which is higher than the threshold and indicates overfishing is occurring.
- The stock assessment estimated an SSB target of 5,452 metric tons (approximately 12.0 million pounds) and threshold of 3,900 metric tons (approximately 8.6 million pounds). Estimated SSB in the terminal year of 2017 is 1,031 metric tons (approximately 2.3 million pounds), which is lower than the threshold and indicates the stock is overfished.

Statutory Requirements

North Carolina General Statute 113-182.1 mandates 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 a 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.”

In accordance with North Carolina General Statute 143B-289.52(e1) a supermajority of the Commission shall be six members. A supermajority shall be necessary to override recommendations from the Division of Marine Fisheries regarding measures needed to end overfishing or to rebuild overfished stocks.

Projections

To meet statutory requirements, calculations were made to determine coast-wide reductions in total removals necessary to end overfishing within the two-year period and recover the stock from an overfished state within the 10-year period. These projections estimate necessary changes to F when compared to the 2017 terminal year fishing mortality estimates identified in the stock assessment. In addition, the projections assumed management would start in 2019 and so the 10-year rebuilding period would need to be met by 2028.

To reach the fishing mortality threshold and end overfishing within two years, a 31% reduction in total removals is necessary, while a 51% reduction is necessary to reach the fishing mortality target. However, while both of these reductions are sufficient to end overfishing in two years, neither are sufficient to achieve a sustainable harvest and end the overfished status within the 10-year period.

To reach the SSB threshold and end the overfished status by 2028, as is statutorily required, a fishing mortality of 0.34 achieved via a 52% reduction in total removals is needed. To reach the SSB target by 2028, fishing mortality would need to be lowered to 0.18 by reducing total removals by 72%. All projections are associated with at least a 50% probability of success. Both scenarios for rebuilding SSB meet the requirement to end overfishing in two years.

The projections are based on coast-wide reductions (North Carolina to Florida) necessary for coast-wide rebuilding. However, in developing necessary management measures, the division has applied the reductions for total removals only to North Carolina’s portion. To do this, the percent reduction was applied to the total removals for North Carolina from the 2017 terminal year of the assessment. In North Carolina, the commercial fishery accounted for 71.8% of the total removals in pounds while the recreational fishery total removals (from hook-and-line and gigs) accounted for 28.2% in 2017. In addition, commercial removals that occurred through means of “other gears,” those non-targeted trips incidental to gigs, gill nets or pound nets are subtracted from the total removals prior to analysis. The impacts from these other gears are approximately 0.6% of the overall removals. While draft Amendment 2 will not impact other states' removals, continued cooperation among the state agencies involved with the stock assessment and their willingness to enact management measures to rebuild the stock within their jurisdictional boundaries is of the utmost importance for the stock.

Proposed Management Options

The list of proposed management options, including the positives and negatives for each option, can be found in Section VII, Proposed Management Options of draft Amendment 2. Department and Division recommendations are in ***bolded italicized*** font below, and additional information on these recommendations, can be found in Section VIII, Recommendations of Draft Amendment 2. The FMP advisory committee recommendations are summarized below and found in Section VIII, Recommendations of Draft Amendment 2.

The Department and the Division recognize that these reductions are significant but necessary to increase the probability of successfully rebuilding this important recreational and commercial resource.

Commercial Fishery Options

- A. Status quo (maintains management actions implemented through Amendment 1 and Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement)
- B. Establish seasonal closures by area for the commercial fishery to reduce F to the fishing mortality threshold (31% reduction)
- C. Establish seasonal closures by area for the commercial fishery to reduce F and allow the SSB to rebuild to the threshold (52% reduction)
- D. Establish seasonal closures by area for the commercial fishery to increase SSB between the threshold and target (62% reduction)
- E. Establish seasonal closures by area for the commercial fishery to reduce F and allow the SSB to rebuild to the target (72% reduction)

Establish seasonal closures by area for the commercial fishery to reduce F and increase SSB to rebuild between the threshold and the target in 2019 (Option D, 62% reduction) and establish seasonal closures by area for the commercial fishery to reduce F and allow the SSB to rebuild to the target in 2020 (Option E, 72% reduction).

Recreational Fishery Options

- A. Status Quo (maintains management measures implemented through Amendment 1, Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement, and the Atlantic States Marine Fisheries Commission Summer Flounder, Scup, and Black Sea Bass FMP)
- B. Establish a season for the recreational fishery to reduce F to the fishing mortality threshold (31% reduction)
- C. Establish a season for the recreational fishery to reduce F and allow the SSB to rebuild to the threshold (52% reduction)
- D. Establish seasonal closures by area for the recreational fishery to increase SSB between the threshold and target (62% reduction)
- E. Establish a season for the recreational fishery to reduce F and allow the SSB to rebuild to the target (72% reduction)

Establish seasonal closures by area for the recreational fishery to reduce F and increase SSB to rebuild between the threshold and the target in 2019 (Option D, 62% reduction) and establish seasonal closures by area for the recreational fishery to reduce F and allow the SSB to rebuild to the target in 2020 (Option E, 72% reduction).

Additional Management Options: Non - Quantifiable Harvest Restrictions

These options can be implemented in conjunction with seasons to minimize the potential for overages in total removals by mitigating probable effort changes due to shortened seasons.

- A. Trip Limits
 - i. Limiting numbers per trip for the commercial gig fishery
 - ii. Limiting pounds per trip for the commercial pound net fishery
- B. Limiting days per week and/or reducing fishing times allowed in the Neuse River, Tar/Pamlico River and the Albemarle Sound areas that have previously been exempt from set time restrictions

C. Gear Modifications

- i. Prohibit the use of picks when harvesting fish from pound nets
- ii. Reducing the maximum yardage allowed in the large mesh gill net fishery

Management measures from Amendment 1 and Supplement A to Amendment 1 will be incorporated into Amendment 2 (see Section VIII, Recommendations in Draft Amendment 2). Additionally, the recreational bag limit of no more than four flounder is maintained in Amendment 2. This bag limit is required through the N.C. FMP for Interjurisdictional Fisheries to maintain compliance with the Atlantic States Marine Fisheries Commission Summer Flounder, Scup, and Black Sea Bass FMP Addendum XXVIII. The December commercial closure period from Amendment 1 would no longer be in effect, as it is encompassed by the seasonal closure periods implemented by the adoption of Amendment 2.

The NCDMF recommendation includes that the adoption of Amendment 2 authorizes continued development of Amendment 3 and more robust management strategies. Amendment 3 will be completed as quickly as possible with the ongoing contributions of the Southern Flounder FMP Advisory Committee members. This will best serve to assist the division in development of Amendment 3, by building on the knowledge, expertise, and cooperation already underway and continue the work uninterrupted from meetings that began in January 2018.

Southern Flounder FMP Advisory Committee Recommendation

At the April 2, 2019 Southern Flounder FMP Advisory Committee meeting, the following recommendation was approved by the committee for the 2019 and 2020 fishing year and forward. For further information, including proposed seasons, see Section VIII, Recommendations of Draft Amendment 2. The committee voted to establish a season for the commercial and recreational fisheries to reduce *F* to the fishing mortality threshold in 2019 (Option B, 31% reduction) and establish a season for the commercial and recreational fisheries to reduce *F* and allow the SSB to rebuild to the threshold in 2020 (Option C, 52% reduction) with the following additional modifications.

FMP AC Management Option for 2019

Implement a 31% reduction for all commercial sectors in 2019. Implement a 33% reduction for the recreational hook-and-line fisheries to best align with the MRIP estimates for reductions; the recreational gig fishery will coincide with the hook-and-line season with a 69% reduction.

FMP AC Management Option for 2020 and forward

Starting Jan. 1, 2020 adopt the Division of Marine Fisheries recommendation for a 52% reduction for the commercial and recreational fisheries with the following changes for the commercial fishery, calculated by the northern, central, and southern areas proposed by the division:

- Commercial pound net fishery, 40% reduction
- Commercial gig fishery, 40% reduction
- Commercial large-mesh gill net fishery, a reduction of approximately 70% would be needed to make up the difference to yield a 52% reduction for the commercial fishery overall. The AC recognizes that the division proposal for the Recreational Commercial Gear License large mesh gill net season of Sept. 15-Sept. 30 may be changed by this final percent reduction.

In addition, as of Jan. 1, 2020, implement a 1,500-yard limit for large mesh gill nets in Management Unit A, and implement a 1,000-yard limit for large mesh gill nets in Management Units B, C, D, and E.

Timeline

June 3, 2019

If the commission approves sending draft Amendment 2 out for public comment and advisory committee review, it will be presented to the Northern Regional, Southern Regional, and Finfish advisory committees at a joint meeting the afternoon of June 3. A public comment period will be held during the meeting and the meeting will occur within a 30-day period for the public to submit comments in writing. The Southern Flounder FMP Advisory Committee will meet in the evening after the joint meeting for final approval of its recommendation based on input by the public and other committees; no public comment period will be held in the evening.

June 6, 2019

The division will detail advisory committee and public input and the commission will vote to select its preferred management options and vote to send the draft Amendment 2 to the Department of Environmental Quality secretary, the Joint Legislative Oversight Committee on Agriculture and Natural and Economic Resources, and the Fiscal Research Division for review and comment.

August 2019

The commission will consider departmental and legislative input and vote on final approval of Amendment 2. If approved, management measures will be implemented via the proclamation authority of the division director following the meeting.

*Definitions

Sustainable Harvest – The amount of fish (in weight) that can be taken from a stock at a given fishing intensity and the stock biomass does not change year to year.

Spawning Stock Biomass – Total weight of mature females in the stock.

Stock – A group of fish of the same species in a given area. Unlike a fish population, a stock is defined as much by management concerns (jurisdictional boundaries or harvesting locations) as by biology.

Overfished – State of a fish stock that occurs when a stock size falls below a specific threshold.

Overfishing – Occurs when the rate that fish that are harvested or killed exceeds a specific threshold.

Total removals – In the commercial fishery, the sum of the landings and dead discards; in the recreational fishery, the sum of the observed harvest and dead discards.

Fishing Mortality (F) – Rate at which southern flounder are removed from the population due to fishing.

Threshold – The maximum values of fishing mortality or minimum values of the biomass, which must not be exceeded. Otherwise, it is considered that it might endanger the capacity of self-renewal of the stock.

Target – The level of fishing mortality or of the biomass, which permit a long-term sustainable exploitation of the stock, with the best possible catch.

Terminal Year – The final year of estimates being used in an analysis.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

North Carolina
Southern Flounder (*Paralichthys lethostigma*)
Fishery Management Plan
Amendment 2

By
North Carolina Division of Marine Fisheries

North Carolina Department of Environmental Quality
Division of Marine Fisheries
3441 Arendell Street
Post Office Box 769
Morehead City, NC 28557

May 2019

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Amendment 2 to the N.C. Southern Flounder Fishery Management Plan

Achieving Sustainable Harvest

May 9, 2019

I. ISSUE

The issue is to implement management measures to achieve sustainable harvest in the southern flounder fishery to end overfishing by 2021 and rebuild the spawning stock by 2028.

II. ORIGINATION

North Carolina Division of Marine Fisheries (NCDMF)

The N.C. Fishery Management Plan Review Schedule, as approved by the North Carolina Marine Fisheries Commission (NCMFC) at its August 2018 meeting, shows the review of the Southern Flounder Fishery Management Plan (FMP) is underway. As part of the review, a coast-wide stock assessment determined the stock is overfished and overfishing is occurring (Lee et al. 2018; Flowers et al. 2019). The NCDMF is proceeding with an amendment to the FMP to meet the statutory requirements to specify a time period not to exceed two years from the date of adoption of the amendment to end overfishing and a time period not to exceed 10 years from the date of adoption of the amendment for achieving a sustainable harvest.

III. BACKGROUND

Southern flounder supports one of the largest and most valuable commercial fisheries in North Carolina, accounting for landings of 1.39 million pounds with a dockside value of \$5.66 million in 2017. Pound nets, gill nets, and gigs have accounted for 98% of commercial southern flounder landings in North Carolina for the last 10 years (Figure 1). Historically, North Carolina has accounted for approximately 99% of annual U.S. South Atlantic coast commercial southern flounder landings since 1978 (Figure 2). North Carolina's total commercial removals (landings and dead discards; in pounds) are equivalent to approximately 38.3% of the coast-wide removals of southern flounder for the last 10 years (Figure 3). The commercial landings of southern flounder in North Carolina increased steadily in the mid-1970s, peaked in the mid-1990s at more than 4 million pounds, and have since declined to approximately 1.4 million pounds in 2017 (Figure 4). In 2017, dead discards in the North Carolina southern flounder commercial gill net fishery (the only commercial fishery with discard estimates) were the lowest they had been over the time series of the stock assessment (1989-2017), accounting for 0.3% of North Carolina's total commercial removals in 2017. Dead discards in the North Carolina commercial gill net fishery have steadily been declining from a peak in 1994. The total number of individual participants in the commercial southern flounder fishery during 2017 was 1,048 and has been variable the last 10 years ranging from 945 (2016) to 1,299 (2009). Many of the participants often use multiple gears and will fish multiple gears per trip in order to maximize effort. Commercial trips landing southern flounder have declined since 2008 primarily in the gill net and other gear categories. Pound net trips have been variable and gigs have increased (Table 1). Likewise, the number of participants landing southern flounder has declined since 2008, primarily in the gill net and other gear categories. Gig

DRAFT DOCUMENT SUBJECT TO CHANGE

participants have increased and pound net trips have remained relatively constant since 2008 (Table 1).

Southern flounder, or flounder species in general, are one of the most sought-after recreational species in North Carolina. Historically, North Carolina accounted for approximately 21.1% of the total recreational removals (observed harvest and dead discards; in pounds) in the U.S. South Atlantic (Figure 5); in 2017, North Carolina accounted for 29.6% of the recreational removals coast-wide. For the last 10 years (2008-2017), North Carolina's total recreational removals (in pounds) are equivalent to approximately 19% of the total coast-wide removals (Figure 3). Southern flounder are taken by recreational fishers using hook-and-line, gigs, and through the recreational use of commercial gears such as gill nets. In the North Carolina recreational hook-and-line fishery, flounder species have been the most often reported target species in 20 of the last 37 years (Figure 6; Table 2). Species targeted during recreational angling trips are identified through interviews conducted by Marine Recreational Information Program (MRIP) agents.

The recreational harvest of southern flounder exhibits a distinct seasonality concentrated between May and October, whereas commercial harvest is concentrated between September and November (Figure 7; Figure 8). Since 2011, there has been a decrease in recreational harvest of southern flounder in the recreational hook-and-line fishery due, at least in part, from an increase to a 15-inch minimum size limit (Figure 9). Increases in the minimum size limit over time have also resulted in North Carolina having the largest recreational ratio of released to harvested flounder in the U.S. South Atlantic (Figure 10).

Additional information about stock assessments, fishery habitat and water quality considerations, and user conflicts may be found in Amendment 1 to the FMP, the 2018 FMP Review for Southern Flounder, the Coastal Habitat Protection Plan, and the 2018 updated coast-wide stock assessment for southern flounder (NCDMF 2013, 2018a; NCDEQ 2016; Flowers et al. 2019).

Amendment 1 Management

Southern flounder is currently managed under Amendment 1 and Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement of the N.C. Southern Flounder FMP (NCDMF 2013, 2017a; Table 3). Actions to achieve sustainable harvest in Amendment 1 included: 1) accepting certain management measures to reduce protected species interactions as the management strategy for achieving sustainable harvest in the commercial southern flounder fishery and 2) increasing the recreational minimum size limit to 15 inches total length (TL) and decreasing the daily creel limit to six fish. Amendment 1 also set new sustainability benchmarks of 25% Spawning Potential Ratio (SPR; threshold) and 35% SPR (target).

The NCMFC took final action on Supplement A to Amendment 1 at its November 2015 business meeting. The NCMFC adopted a suite of management measures with varied effective dates ranging from Jan. 1 through Oct. 16, 2016. Management actions approved included: 1) increasing the commercial minimum size limit to 15 inches TL; 2) increasing the minimum mesh size for gill nets to six inches stretched mesh (ISM) for the harvest of southern flounder; 3) annually closing the commercial gill net and recreational fisheries on Oct. 15; 4) a 38% harvest reduction in commercial pound net harvest based on 2011–2015 average landings; 5) closing the commercial gig fishery once the commercial pound net fishery closes; and 6) increasing the minimum mesh size of escape panels in flounder pound nets to five and three-quarter inches. On Oct. 10, 2016, a

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

judge issued a temporary injunction against certain management changes adopted by the NCMFC as part of Supplement A to Amendment 1. The temporary injunction remained in effect until a settlement agreement was reached on Aug. 17, 2017. Per the settlement agreement, only certain provisions of Supplement A remain in place and no new temporary management measures can be implemented until the adoption of the next amendment to the FMP. The management measures that were not implemented under the agreement were the Oct. 15 commercial gill net and recreational closure, the closure of the commercial gig fishery, and the 38% reduction in commercial pound net landings based on 2011–2015 average landings.

The current recreational bag limit of no more than four flounder per person per day is required through the N.C. Fishery Management Plan for Interjurisdictional Fisheries. This was implemented in 2017 to maintain compliance with the Atlantic States Marine Fisheries Commission (ASMFC) Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan Addendum XXVIII.

IV. AMENDMENT 2 GOALS, OBJECTIVES, AND STOCK STATUS

The goals and objectives for the FMP are as stated below.

Goal

Manage the southern flounder 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

1. Implement management strategies within North Carolina and encourage interjurisdictional management strategies that maintain/restore the southern flounder spawning stock with multiple cohorts and adequate abundance to prevent recruitment overfishing.
2. Restore, enhance, and protect habitat and environmental quality necessary to maintain or increase growth, survival, and reproduction of the southern flounder population.
3. Use biological, environmental, habitat, fishery, social, and economic data needed to effectively monitor and manage the southern flounder fishery and its ecosystem impacts.
4. Promote stewardship of the resource through increased public awareness and interjurisdictional cooperation throughout the species' range regarding the status and management of the southern flounder fishery, including practices that minimize bycatch and discard mortality.

Stock Assessment

The biological unit stock for southern flounder inhabiting U.S. South Atlantic coastal waters includes waters of North Carolina, South Carolina, Georgia, and the east coast of Florida, and is based on multiple tagging studies (Ross et al. 1982; Monaghan 1996; Schwartz 1997; Craig and Rice 2008), genetic studies (Anderson and Karel 2012; Wang et al. 2015), and an otolith morphology study (Midway et al. 2014), all of which provide evidence of a single unit stock occurring from North Carolina through the east coast of Florida. Based on this life history

DRAFT DOCUMENT SUBJECT TO CHANGE

information, a multi-state cooperative group performed a stock assessment to determine the status of southern flounder in U.S. South Atlantic waters.

To address the coast-wide nature of the southern flounder stock, a comprehensive stock assessment approach, using the Age Structured Assessment Program (ASAP) model, was applied to available data from North Carolina through the east coast of Florida to assess the status of the U.S. South Atlantic southern flounder stock from 1989 through 2017 (Flowers et al. 2019). The assessment is based on a forward-projecting, statistical catch-at-age approach using ASAP3 software (version 3.0.17; NOAA Fisheries Toolbox 2014). The model synthesized information from multiple fishery-independent and fishery-dependent data sources, tracked population dynamics, estimated critical demographic and fishery parameters such as fishing mortality (F), and thus, provided a comprehensive assessment of southern flounder status in the U.S. South Atlantic. The model estimated overall declining trends in recruitment and female spawning stock biomass (SSB). Recruitment has decreased throughout the time-series from approximately 13 million recruits in 1989 to approximately 4 million recruits in 2017 (Figure 11). The model also predicted a decline in SSB beginning in 2007, which corresponds with an increase in F beginning in 2007 with a time-series high in 2013 (Figure 12; Figure 13).

The model estimated $F_{35\%}$ (fishing mortality target) as 0.35 and $F_{25\%}$ (fishing mortality threshold) as 0.53. Estimated fishing mortality in 2017 was 0.91, which is higher than the F threshold of 0.53 and indicates overfishing is occurring (Figure 12). The probability the fishing mortality in 2017 was above the threshold value of 0.53 is 96.4%, whereas there is a 100% chance fishing mortality in 2017 was above the target value of 0.35.

Amendment 2 sustainability benchmarks were calculated using projected SSB values modeled using estimates of fishing mortality associated with a SPR 25% (threshold) and SPR 35% (target) instead of using static estimates of SPR as used in Amendment 1. Static SPR estimates only reflect changes in fishing mortality not SSB. The ASAP model estimated a value of 5,452 metric tons (approximately 12.0 million pounds) for $SSB_{35\%}$ (SSB target) and a value of 3,900 metric tons (approximately 8.6 million pounds) for $SSB_{25\%}$ (SSB threshold). The estimate of SSB in 2017 is 1,031 metric tons (approximately 2.3 million pounds), which is lower than the SSB threshold of 3,900 metric tons and indicates the stock is overfished (Figure 13). The probability that SSB in 2017 was below the threshold and target value (3,900 and 5,452 metric tons, respectively) is 100%.

Projections

North Carolina General Statute 113-182.1 mandates 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 a 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(14a) 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.”

To meet statutory requirements, calculations were made to determine the reductions in **total coast-wide removals** necessary to end overfishing within two years and recover the stock from an overfished state within the 10-year period. To reach the fishing mortality threshold and end

DRAFT DOCUMENT SUBJECT TO CHANGE

overfishing within two years, a 31% reduction in removals is necessary, while a 51% reduction is necessary to reach the fishing mortality target. However, while both reductions are enough to end overfishing in two years, neither are enough to end the overfished status within the 10-year time period (Figure 14).

An additional series of projections was performed to determine the reductions in **total coast-wide removals** necessary to end the overfished status by reaching the SSB threshold within 10 years and reaching the SSB target within 10 years. Projections were conducted for years 2018–2050 using the AgePro software version 4.2.2 (Brodziak et al. 1998). Three scenarios were performed that would achieve a sustainable harvest:

- 1) Determine F needed to end overfished status (i.e., reach the SSB threshold) within 10 years
- 2) Determine F needed to reach the SSB target within 10 years
- 3) Determine F needed to reach a value between the SSB threshold and target within 10 years

Projections assume all four states implement measures for the reductions required to rebuild SSB. For further information on the interjurisdictional nature of this species, please see the *Interjurisdictional Management* section below.

All projections estimate necessary changes to fishing mortality when compared to the terminal year (2017) fishing mortality identified in the stock assessment. In addition, the projections assumed management would start in 2019 and the 10-year rebuilding deadline would be 2028. The projection scenarios are constrained to the current management regulations, including size limits, creel limits, and gear requirements.

Baseline projections were performed to provide guidance on a scenario where fishing continues with no reductions in removals. Under the assumption that fishing mortality continues at recent levels ($F_{2017}=0.91$) and the predicted declining trend in recruitment continues, projections indicate SSB will continue to decline (Figure 15). Other projection scenarios were carried out to determine the fishing mortality and the associated reduction in total removals (from 2017 levels and defined for the purpose of this document as the total pounds from observed harvest and dead discards within a fishery) necessary to end the overfished status (i.e., reach the SSB threshold), to reach the SSB target, and to reach a value between the SSB threshold and target within 10 years (by 2028, assuming management measures begin in 2019). The projections indicate a fishing mortality of 0.34 is needed for the SSB to reach the SSB threshold by 2028 and end the overfished status, as is statutorily required (Figure 16). This will require a 52% reduction in total removals coast wide. To reach the SSB target by 2028, fishing mortality would need to be lowered to 0.18 (Figure 17). This will require a 72% reduction in total removals coast wide. To reach a value of SSB between the threshold and the target, fishing mortality would need to be lowered to 0.26 (Figure 18). This will require a 62% reduction in total removals coast wide. All projections are associated with at least a 50% probability of achieving sustainable harvest for the fishery. These three scenarios for rebuilding SSB meet the statutory requirement to end overfishing in two years.

V. AUTHORITY

North Carolina General Statutes

G.S. 113-134 RULES

G.S. 113-182 REGULATION OF FISHING AND FISHERIES

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

G.S. 113-182.1 FISHERY MANAGEMENT PLANS

G.S. 143B-289.52 MARINE FISHERIES COMMISSION – POWERS AND DUTIES

North Carolina Marine Fisheries Commission Rules

15A NCAC 03H .0103 PROCLAMATIONS, GENERAL

15A NCAC 03M .0503 FLOUNDER

VI. MANAGEMENT STRATEGIES FOR SUSTAINABLE HARVEST

The management measures implemented from the original FMP (2005), Amendment 1 (2013), and Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement (2017) have not resulted in the necessary decrease in fishing mortality and increase in SSB to end the stock's overfished status, thus further reductions are necessary (NCDMF 2005, 2013, 2017a). Management measures will be selected and implemented based on the allowable total removals (landings and dead discards) calculated related to the 2017 fishing mortality estimates of the terminal year of the stock assessment. The Southern Flounder Stock Assessment group has developed allowable harvest levels based on coast-wide reductions (North Carolina to the east coast of Florida) necessary for coast-wide stock rebuilding. However, in developing management measures, the NCDMF has applied the reductions only to North Carolina's portion of total removals through the time series of this assessment.

Total removals are defined for the purpose of this document as the total pounds of landed southern flounder plus dead discards. Dead discards are comprised of fish that were dead upon retrieval of gear and not harvested and fish that were released alive that experience delayed mortality. The discard mortality rate for recreationally released southern flounder is 9%, and for commercially released flounder from gill nets is 23% (Lee et al. 2018). Management measures specific to shrimp trawl bycatch were not included here because the estimates of discards and reductions needed could not be broken out by state as the calculations are coast-wide. The current level of discards for shrimp trawls was assumed to continue into the future and was maintained as a fleet when estimating necessary reductions. In addition, when the effects of removing shrimp trawl bycatch were analyzed during sensitivity analyses, they did not have an impact on the model results. The discussion below includes specific management measures that are quantifiable and projected to meet the reduction in southern flounder total removals needed to end overfishing within two years and achieve sustainable harvest within 10 years with at least a 50% probability of success as outlined in North Carolina General Statute 113-182.1.

Several management tools were explored to achieve North Carolina's contribution to sustainable harvest in the southern flounder fishery. Static quota, dynamic quota, slot limits, changes in size limits, and gear changes related to size limit changes, and species-specific management are not considered feasible options to address sustainable harvest in Amendment 2 due to the accelerated timeline and the immediate need to implement management measures to reduce harvest before the fall 2019 fishing season. The projections assume management would start in 2019 and the 10-year rebuilding period would need to be met by 2028; delayed implementation will further increase the magnitude of necessary reductions. Monitoring of static quotas cannot be implemented in a short time frame as they require the Division to develop permits, evaluate the existing quota monitoring system to determine if southern flounder can be included without major revision, determine if additional staff would be necessary to monitor the quota, develop a means to verify reporting requirements, and identify the level of reporting needed (daily, weekly, monthly). In addition to

DRAFT DOCUMENT SUBJECT TO CHANGE

logistics, the quota itself would need to be finalized, accountability measures for both the commercial and recreational fisheries developed, and the NCDMF would also need to determine what percentage of the landed quota would trigger a closure.

Likewise, changes to size limits require additional analyses and updates to the projections as they are based on 2017 regulations (minimum size limits). Analysis is limited by data currently not available (fecundity estimates) to describe the value of varying sizes of southern flounder and their impact to SSB. Additionally, selectivity estimates need to be identified for various scenarios to determine impacts due to size limit changes including slot limits. If the minimum size limit is decreased, then conservation equivalencies need to be discussed with ASMFC to account for potential impacts to the summer flounder fishery. Static quota and the other options mentioned above will be explored in Amendment 3 to the FMP, which is concurrently being developed with the Southern Flounder FMP Advisory Committee.

The NCDMF recognizes the need for quick implementation of management strategies to reduce total removals stemming from the continued overfished status and overfishing status of southern flounder that have remained unchanged since 1989 relative to the 2017 thresholds. Therefore, the NCDMF recommends seasonal closures by sector, with additional management options for the commercial sector to include areas and/or gears, as the best short-term management strategy to initiate reductions to address sustainable harvest in 2019 given the status of the southern flounder stock. Additionally, several non-quantifiable management strategies (i.e., trip limits, gear changes) could be considered in conjunction with seasonal closures to help ensure the required reductions are achieved by mitigating probable effort changes due to shortened seasons. Seasonal closures can be implemented in 2019 to reduce fishing mortality and begin stock rebuilding while other management strategies are further developed and considered as part of Amendment 3 offering a more long-term approach. Implementation of season closures in 2019 with adoption of Amendment 2 starts the time period required by statute to end overfishing and rebuild SSB. Management strategies through Amendment 3 would not restart the time requirements but to further meet the mandates of the statutes.

To account for North Carolina's portion of these reductions in the recreational and commercial fisheries, the percent reduction was applied to the total removals for North Carolina from the terminal year of the assessment, which is 2017 (Figure 19). In 2017, the commercial fishery accounted for 71.8% while the recreational fishery (hook-and-line and gigs) accounted for 28.2% of the total North Carolina removals (Figure 19).

Identify Management Areas for the Commercial Fisheries

Landings data for the southern flounder commercial fishery were reviewed by North Carolina Trip Ticket Program (NCTTP) waterbody locations to determine if natural breaks by area occurred (NCDMF 2017b), thereby allowing the fishery to operate independently within multiple management areas. Areas were investigated by NCTTP waterbody because of the migratory nature of southern flounder; as the fall weather begins to change southern flounder begin to migrate to the south and east then into the ocean. The migration begins in the northern and western sounds and tributaries of the state before it begins in the southern areas. A natural break in effort and landings occurs in several areas across the state; however, three areas appear to provide feasible management area options (Figure 20).

DRAFT DOCUMENT SUBJECT TO CHANGE

- A “northern” area that includes Albemarle, Currituck, Roanoke, and Croatan sounds and their associated rivers or waters north from a line extending across the 35° 46.3000’N latitude from Oregon Inlet across to mainland Hyde County.
- A “central” area including Pamlico Sound and the Tar-Pamlico, Neuse, Pungo, and Bay rivers and their tributaries north of a line starting at a point on Portsmouth Island 35° 0.0765’ N – 76° 7.4123’ W running westerly to Cedar Island Ferry following the shoreline to a point at Cedar Island Ferry landing 35° 1.1349’ N – 76° 18.7599’ W following Highway 12 to the intersection of Highway 70 to the Core Creek bridge.
- A “southern” area comprising all waters from the line described above south to the South Carolina border.

These three management areas capture the seasonality of the commercial southern flounder fishery while providing each area an opportunity for harvest during a portion of the peak migration periods. Because the recreational fishery is not as reliant on the timing of fall migration for successful harvest by region there was no need to select management areas within the recreational fishery.

Identify Seasonal Time Frames

Landings data for the southern flounder commercial and recreational fisheries were evaluated to determine how landings fluctuate during the year. This helped to identify what time periods would allow for the most productive fishery while meeting the necessary reductions in total removals. As of 2019, commercial harvest of southern flounder is allowed from Jan. 1 through Nov. 30, while recreational harvest can occur all year. Commercial landings remain low through the majority of the first half of the year and begin to increase in late summer and peak in October and early November (Figure 8). These times vary by location and gear but typically landings increase in the Albemarle Sound area (northern) in early September, Pamlico Sound (central) in mid- to late September, and Core Sound and south (southern) by October. One exception is in the southern portion of the state where the commercial gig fishery harvests flounder beginning in early summer. Recreational hook-and-line harvest is low in the early months of the year, begins to increase in May and June, and remains high through the summer before dropping off in October (Figure 7). The recreational gig fishery shows a similar pattern in seasonality with a peak in harvest in the summer.

Reducing discards is extremely important for rebuilding the stock and meeting the necessary reductions in total removals. Therefore, significant periods without commercial gear that interact with flounder in the water and without targeted recreational trips will be necessary in order to reduce discards. Identifying time periods when southern flounder harvest is low, and the harvest of other species will not be significantly impacted confounds identifying potential management options. Due to the large volume of landings that occur in the summer and fall along with the necessary reductions required, any fishing season selected will be very short. After reviewing commercial landings data by day, the fall fishery was identified as the most productive portion of the commercial targeted southern flounder fishery. Varying start dates can be selected but landings data show the earlier the start date the earlier the total allowable removals will be harvested. Also, with the earlier start dates, most of the harvest would come from gigs and gill nets, severely limiting harvest from pound nets. Flounder pound nets have a less protracted season and only

DRAFT DOCUMENT SUBJECT TO CHANGE

operate in the fall. To maximize the commercial harvest period and maintain equitability across gears in the commercial fishery, the southern flounder commercial fishery would need to operate somewhere between the first of September and end of November, but the timing may need to account for variation by area or gear.

MRIP harvest data was analyzed by two-week intervals to identify appropriate recreational southern flounder fishing seasons. The recreational fishery peaks in mid-summer so to maximize opportunity and minimize discards harvest should be allowed to occur within a defined window between May and October. A large portion of the recreational harvest occurs in July, so the length of a season will be significantly reduced if that month is included in any selected season. Delaying harvest until August will maximize season length while still overlapping a portion of the peak harvest period.

Establish Seasonal Closures by Area for the Commercial Fishery

North Carolina commercial harvest accounts for 38.3% of total coast-wide removals (71.8% of total North Carolina removals in 2017) (Figure 3; Figure 19). Dead discards are a minor component of the removals and accounted for 0.2% of North Carolina total commercial removals in 2017. To meet the required reductions in total removals, the NCDMF recommends separating the commercial southern flounder fishery into three management areas as described above and reducing the 2017 removals associated within each area by the necessary reduction. Total removals in pounds are comprised of the landings plus estimates of dead discards from the commercial gill net fishery.

Flounder landings reported through the NCTTP are not broken out by species. To determine the commercial landings of each species, it is assumed that all flounder harvested from internal waters are southern flounder, while all flounder taken from the ocean are summer flounder. The NCDMF determined from dependent sampling efforts of commercial fish houses that southern flounder make up less than 1% of the catch from ocean waters, while summer flounder and Gulf flounder account for approximately 2% or less of the total flounder harvested from internal waters (NCDMF unpublished data).

Once the level of allowable removals by area was calculated, commercial removals that occurred from non-targeted flounder gear such as fyke nets, crab pots, and trawls were compiled. These “other gears” removals comprise approximately 0.6% of the overall total commercial removals. To minimize regulatory burden on the “other gear” fisheries, their removals were set at the 2017 level and subtracted from the allowable harvest. (Table 4) prior to computing the allocation for targeted commercial fisheries of gill net, pound net and gig. Daily harvest values were then summed across various time periods and averaged across a 10-year period to identify dates the fishery could operate and provide the best chance to not exceed the identified level of catch. To maximize opportunity and maintain the fishery during periods when southern flounder are the target species, a start date of Sept. 15 was selected for each area. However, additional options are available (Tables 5, 6, and 7) and will be further considered after review of committees and public comment. To meet the required reductions, it is necessary to remove gears (e.g., anchored large mesh gill nets, flounder pound nets, and large mesh RGCL gill nets) from the water during closed seasons in internal waters where southern flounder discards are likely to occur. Potential exceptions can be allowed for commercial large mesh gill net fisheries that target American and hickory shad and catfish species if these fisheries are only allowed to operate during times of the

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

year and locations where bycatch of southern flounder is unlikely. Any additional discards created during closed periods will negatively impact expected reductions. It is important to note that any selected open season does not take precedent over gill net regulations necessary to maintain compliance through incidental take permits for sea turtles and Atlantic sturgeon, therefore the seasons for gill nets may not be open for the times identified herein if allowable takes for endangered species are reached.

Establish Seasonal Closures by Area for the Commercial Fishery to Reduce F to the Overfishing Threshold

A 31% reduction in total removals is necessary to reduce fishing mortality to the threshold and end overfishing within the required two-year time period. **This does not rebuild the stock to end the overfished status.** The 31% reduction in total removals allows for 965,326 pounds of allowable commercial removals of which 8,416 pounds will be available for non-targeted “other” gears (Table 4). This reduction gives the northern area allowable removals of 224,250 pounds, the central area allowable removals of 480,473 pounds, and the southern area allowable removals of 252,187 pounds (Table 4). With a Sept. 15 start date the northern area will meet their removal level on average by Oct. 26, the central area by Nov. 11, and the southern area by Nov. 25 (Table 5; Figure 21).

Establish Seasonal Closures by Area for the Commercial Fishery to Increase SSB to the Threshold

A 52% reduction in total removals is necessary to allow the SSB to increase to the threshold within the required 10-year time period. The 52% reduction in total removals allows for 671,531 pounds of allowable commercial removals of which 8,416 pounds will be available for non-targeted “other” gears (Table 4). This reduction gives the northern area allowable removals of 155,834 pounds, the central area allowable removals of 332,956 pounds, and the southern area allowable removals of 174,325 pounds (Table 4). With a Sept. 15 start date the northern area will meet their removal level on average by Oct. 17, the central area by Oct. 24, and the southern area by Nov. 15 (Table 5; Figure 21).

Establish Seasonal Closures by Area for the Commercial Fishery to Increase SSB between the Threshold and Target

A reduction of 62% in total removals will end overfishing and achieve sustainable harvest by rebuilding SSB between the threshold and target within the required 10-year time period. The 62% reduction in total removals allows for 531,629 pounds of allowable commercial removals of which 8,416 pounds will be available for non-targeted “other” gears (Table 4). This reduction gives the northern area allowable removals of 123,255 pounds, the central area allowable removals of 262,710 pounds, and the southern area allowable removals of 137,248 pounds (Table 4). With a Sept. 15 start date the northern area will meet their removal level on average by Oct. 13, the central area by Oct. 17, and the southern area by Nov. 2 (Table 5; Figure 21).

Establish Seasonal Closures by Area for the Commercial Fishery to Increase SSB to the Target

A 72% reduction in total removals is necessary to allow the SSB to increase to the target within the required 10-year time period. The 72% reduction in total removals allows for 391,726 pounds of total removals of which 8,416 pounds will be available for non-targeted “other” gears (Table 4). This reduction gives the northern area allowable removals of 90,675 pounds, the central area

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

allowable removals of 192,464 pounds and the southern area allowable removals of 100,171 pounds (Table 4). With a Sept. 15 start date the northern area will meet their removal level on average by Oct. 6, the central area by Oct. 11, and the southern area by Oct. 20 (Table 5; Figure 21).

Establish Seasonal Closure for the Recreational Fishery

North Carolina recreational harvest accounts for 21.1% of the total recreational coast-wide removals (Figure 5). The recreational fishery accounts for 28.2% of the total removals in North Carolina; 26.0% of the total removals were from recreational harvest and 2.2% from recreational dead discards (Figure 19). In 2017, harvest accounted for 92% and dead discards accounted for 8% of the total North Carolina recreational removals. In the last 10 years, the proportion of dead discards in the total removals for the recreational fishery has been of a similar magnitude. North Carolina represents the largest proportion of southern flounder released by recreational anglers in the South Atlantic (Figure 10). Current regulatory measures have resulted in a ratio of nine discarded fish for every one fish harvested by hook-and line in North Carolina in 2017. Dead discards were identified at a rate of 9% of the recreational releases (discard mortality rate). Applying a weight of 0.21 pounds per released fish results in 37,597 pounds of dead discards for 2017. In 2017, the recreational hook-and-line fishery harvested 451,126 pounds of southern flounder. This added to the dead discards (37,597 pounds) results in 488,723 total pounds of southern flounder removed in the recreational hook-and-line fishery. In addition to the recreational hook-and-line fishery, the recreational gig fishery was examined to identify possible seasons to achieve necessary reductions. Gig harvest accounted for 11% of the total recreational harvest in 2017, with dead discards making up 2.6% of the total gig removals. The recreational gig fishery total removals in 2017 was 57,019 pounds. It is necessary to maintain concurrent seasons for the recreational hook-and-line and gig fisheries to keep from undermining the success of achieving necessary reductions.

Once the level of harvest for each reduction value was identified, catch from the MRIP was analyzed by two-week increments (the finest level of detail available) and summed to determine seasonal dates the fishery could operate while meeting the necessary reduction. When the recreational fishery is closed, recreational harvest of flounder in both internal and ocean waters will be unlawful as all flounder species (southern, summer, Gulf, etc.) are currently managed collectively in North Carolina.

Establish Seasonal Closure for the Recreational Fishery to Reduce F to the Overfishing Threshold

A reduction of 31% in total removals is necessary to reduce fishing mortality to the threshold and end overfishing within the required two-year time period. **This does not rebuild the stock to end the overfished status.** This equates to a total allowable removal of 337,219 pounds from the recreational hook-and-line fishery. Based on available harvest information seasonal dates that most closely meet the necessary reduction were identified as June 1 through Sept. 15 (Table 6).

Applying a 31% reduction leaves 39,343 pounds of allowable removals for the recreational gig fishery. Conducting the same two-week analysis as the hook-and-line fishery identified a 69% reduction in removals if the gig fishery operates during the same season, June 1 through Sept. 15 (Table 7).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Establish Seasonal Closure for the Recreational Fishery to Increase SSB to the Threshold

A reduction of 52% in total removals is necessary to allow the SSB to increase to the threshold within the required 10-year time period. This equates to a total allowable removal of 234,587 pounds from the recreational hook-and-line fishery. Based on available harvest information seasonal dates that most closely meet the necessary reduction were identified as July 16 through Sept. 30 or Aug. 1 through Sept. 30 (Table 6). It should be noted that the July 16 through Sept. 30 season will only result in a 51% reduction for the recreational hook-and-line fishery. This is the closest estimated reduction to the required 52% since MRIP estimates cannot be broken out into less than two-week windows.

Applying a 52% reduction leaves 27,369 pounds of allowable removals for the recreational gig fishery. Conducting the same two-week analysis as the hook-and-line fishery results in a 77% reduction in removals if the gig fishery operates during the July 16 through Sept. 30 season, or an 80% reduction in removals if the gig fishery operates during the Aug. 1 through Sept. 30 season (Table 7).

Establish Seasonal Closure for the Recreational Fishery to Increase SSB between the Threshold and Target

A reduction of 62% in total removals will end overfishing and achieve sustainable harvest by rebuilding SSB between the threshold and target within the required 10-year time period. This equates to a total allowable removal of 185,715 pounds from the recreational hook-and-line fishery. Based on available harvest information seasonal dates that most closely meet the necessary reduction were identified as Aug. 1 through Sept. 30 (Table 6).

Applying a 62% reduction leaves 21,667 pounds of allowable removals for the recreational gig fishery. Conducting the same two-week analysis as the hook-and-line fishery results in an 80% reduction in removals if the gig fishery operates during the Aug. 1 through Sept. 30 season (Table 7).

Establish Seasonal Closure for the Recreational Fishery to Increase SSB to the Target

A 72% reduction in total removals is necessary to allow the SSB to increase to the target within the required 10-year time period. This equates to a total allowable removal of 136,843 pounds for the recreational hook-and-line fishery. Based on available harvest information a single season from Aug. 16 through Sept. 30 was identified that meets the necessary reduction (Table 6).

Applying a 72% reduction leaves 15,965 pounds to be harvested in the recreational gig fishery. Conducting the same two-week analysis as the hook-and-line fishery identified an 84% reduction in removals if the recreational gig fishery operates during the same season, Aug. 16 through Sept. 30 (Table 7).

Establish Seasonal Closure for the Recreational Commercial Gear License (RCGL) Fishery

Recreational use of limited commercial fishing gears is allowed in North Carolina and is subject to the same reductions as the other recreational and commercial fisheries. Calculating reductions for the RCGL fishery is not possible as collection of RCGL harvest data has not occurred since 2008. Multiple management changes have also occurred since 2008, thus reducing the reliability of the data for estimating reductions for Amendment 2. The use of commercial gears for

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

recreational purposes is also only allowed during an open recreational and commercial fishing season that allows the specific gear, and the user is only allowed harvest that does not exceed the recreational limits. Due to these requirements, the only option available for harvest of flounder using a RCGL is during a period of time when the commercial and recreational fisheries are open simultaneously. Based on the above discussion RCGL gear used for harvesting southern flounder could operate between Sept. 15 and Sept. 30.

Additional Management Strategies

The recommendation of a seasonal approach presents some concern, as seasons do not enforce a maximum removal level on the fishery and only limit the time when targeted harvest can occur. Seasonal closure concerns include the potential to concentrate fishing effort during the open season, potentially altering fishing behaviors from previous years that were used to estimate harvest windows; that is, fishing effort may increase during the open season and lead to higher than predicted removals. To mitigate these concerns the NCDMF is evaluating additional specific quantifiable and non-quantifiable management measures, to augment the seasonal closures, that may serve to improve the overall southern flounder stock by helping to ensure total removals are reduced and southern flounder SSB and recruitment increase. In other words, incorporating management strategies in addition to seasonal closures may be necessary to make a seasonal closure approach more effective in constraining harvest to the anticipated levels. These additional strategies may not be quantifiable in this amendment but serve the purpose of addressing fishing behavior and changes in effort to minimize the possibility of catching southern flounder in a greater volume than predicted.

These potential additional strategies include items carried over from Amendment 1 and Supplement A as modified by the Aug. 17, 2017 settlement agreement.

Amendment 1 Management Carried Forward in Amendment 2

The following management measures from Amendment 1 and Supplement A to Amendment 1 are incorporated into Amendment 2 upon its adoption.

- From the Southern Flounder FMP Amendment 1:
 - Management measures including limiting the number of fishing days per week and the amount of yardage allowed for large mesh gill nets in various areas of the state;
 - A minimum distance (area dependent) between gill net and pound net sets, per NCMFC Rule 15A NCAC 03J .0103 (d); and
 - A recreational minimum size limit of 15 inches TL.
- From Supplement A to the Southern Flounder FMP Amendment 1, as modified by the Aug. 17, 2017 settlement agreement:
 - A commercial minimum size limit of 15 inches TL;
 - A minimum mesh size of 6.0-ISM to harvest southern flounder from a gill net; and
 - A minimum mesh size of 5.75-ISM for pound net escape panels.

Additionally, the recreational bag limit of no more than four flounder per person per day will be maintained in Amendment 2. This bag limit is required through the N.C. Fishery Management Plan for Interjurisdictional Fisheries to maintain compliance with the ASMFC Summer Flounder, Scup, and Black Sea Bass FMP Addendum XXVIII. It is important to note, the December

DRAFT DOCUMENT SUBJECT TO CHANGE

commercial closure period from Amendment 1 will no longer be in effect, as it will be encompassed by any seasonal closure periods implemented by the adoption of Amendment 2.

In addition to those items described above, the following potential options or strategies may mitigate expansion in effort due to shortened seasons and keep estimates more in line with projections.

Non-Quantifiable Harvest Reductions

There are two categories of management measures: quantifiable and non-quantifiable. “Quantifiable” are those reductions, as discussed in previous sections, that can be measured in terms of the impact they will have on reducing removals of southern flounder. “Non-Quantifiable” measures are those measures that will likely reduce removals, but the magnitude of the impact can only be qualified. This does not mean that non-quantifiable measures are not important to consider in management, they merely are not able to be included in the percent reduction needed to end the overfishing/overfished status as statutorily required. If non-quantifiable measures are implemented, future stock assessments will indirectly reflect their effect on the fishery status along with the impact of the quantifiable measures. These management strategies are intended to help constrain fishing effort in order to ensure required reductions are achieved; these are needed as the seasons do not cap total removals as a quota would. Various non-quantifiable management options under consideration include:

- trip limits for the commercial gig and pound net fisheries;
- limiting the number of fishing days per week in the large mesh gill net fishery as a means to control effort in the fishery;
- limiting the fishing times in the large mesh gill net fishery as means to control effort in the fishery;
- yardage reductions; and
- prohibiting the use of picks when removing undersized fish from pound nets.

Trip Limits

As of 2019 there are no trips limits in place for the southern flounder commercial fishery. However, as seasons do not create a cap on harvest but only limit harvest to certain time periods, trip limits may enhance the effectiveness of Amendment 2. Trip limits are generally used within the confines of a quota to prevent harvesting the available amount of fish too quickly and to avoid exceeding the quota (overage). In the case of Amendment 2, the proposed seasons are meant to act in a similar capacity as a quota. NCMFC Rule 15A NCAC 03M .0503 allows for the Fisheries Director, by proclamation, to specify the quantity of flounder landed within the flounder fishery. To help ensure the required reductions are achieved, trip limits for pound nets and gigs could be recommended. To calculate the trip limits for the gig and pound net fisheries, average landings for the past 10 years by the areas proposed were reviewed in conjunction with the numbers of trips with landings in increments for each area based on the 10-year average for that fishery.

For the gig fishery, a trip limit in numbers of fish, not pounds, is needed for the restriction to be enforceable. To calculate this, the pounds harvested were converted to numbers of fish based on an average of 2.56 pounds per gilled fish as determined from commercial fish house sampling. Proposed trip limits for the commercial gig and pound net fishery have not been determined at this

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

time, but information is available to identify the volume of trips that remove southern flounder based on various intervals (Table 8; Table 9).

With Amendment 2, trip limits for gill nets to minimize the impacts of additional discards to the total removals in 2019 are not recommended. Trips limits on gill net fisheries create additional discards, as captured fish in excess of a specified trip limit would not be retained but released with an estimated mortality of 23%. There are concerns with trip limits for the pound net fishery, particularly if set too low. Since southern flounder can be held in pound nets, it is possible for fishermen to hold southern flounder until they can be landed. Multiple people can harvest from a single operation in order to land the fish available. If the pound net trip limit is set too low, safety becomes a consideration as well and fisherman may be forced to fish their sets in unfavorable weather conditions; currently, sets are fished on good weather days, not every day.

Fishing Times

Pursuant to NCMFC Rule 15A NCAC 03J .0103 the Fisheries Director may, by proclamation, specify the means and methods for setting gill nets. Per proclamation it is unlawful to use gill nets with a stretched mesh length of 4.0 inches through 6.5 inches for daytime sets in Management Units B, D2, and E; only single overnight soaks are permitted where nets may be set no sooner than one hour before sunset and must be retrieved no later than one hour after sunrise the next morning. In Management Units D2 and E, overnight sets are allowed five out of seven days; in Management Unit B four out of seven days. Proclamation limits Management Unit A, sub unit A1 to single overnight soaks four out of seven days. The remainder of Management Unit A, which includes Albemarle Sound and its tributaries, as well as the Neuse and Tar/Pamlico rivers are currently exempt from prohibitions on the setting of gill nets and are required to actively fish net sets at least once during a 24-hour period no later than 12 noon each day. One recommendation to help ensure required reductions are achieved could be for gill nets set in the Albemarle Sound and its tributaries as well as the Neuse and Tar/Pamlico rivers to also be reduced to single overnight soaks where nets may be set no sooner than one hour before sunset and must be retrieved no later than one hour after sunrise the next morning. The number of allowable fishing days in these areas, unless otherwise stated in proclamation, could be reduced to setting Sunday night through Thursday night (five out of seven days). Changes to fishing times would bring consistency between soak times across areas of the state and limit potential discards.

Gear Changes

Gill Nets

Pursuant to NCMFC Rule 15A NCAC 03J .0103 the Fisheries Director may, by proclamation, specify the net number and length for setting gill nets. Per proclamation it is unlawful to use large mesh gill nets more than 2,000 yards in length in Management Units A, B and C, and more than 1,000 yards in length in Management Units D1, D2 and E. Table 10 provides the average yards of large mesh gill nets fished by Management Unit for 2016-2017. These values were calculated from observer trips and responses from fishermen during fish house sampling. One recommendation to help ensure required reductions are achieved could be to further reduce the maximum yardage allowed, which could prevent fishermen from increasing the total length of large mesh gill nets set to offset the proposed shortened seasons.

DRAFT DOCUMENT SUBJECT TO CHANGE

Pound Nets

The use of puncturing devices (including fish picks, gaffs, gigs, and spears) could be prohibited when removing undersized flounder from a pound net. This would minimize additional discards to the total removals.

Socioeconomic Impacts to the Southern Flounder Commercial and Recreational Fisheries

North Carolina General Statute 113-182.1(b)(1) stipulates fishery management plans will include information about the social and economic impact of the fishery to the state. Despite the negative connotation of the term “impact”, it includes benefits of the fishery as well as costs. The socio-economic information presented is about the current fishery and is not intended to be used to predict potential impacts from management changes. However, this and other information pertaining to fishery management plans is included to help inform decision-makers regarding the long-term viability of the state’s commercially and recreationally significant species or fisheries.

IMPLAN economic impact modeling software is used to generate an input-output model of economic impacts associated with recreational southern flounder fishing (IMPLAN Group, LLC. 2013. IMPLAN System, Version 3.1.1001.2. Huntersville, NC. www.implan.com.) Input-output modelling and analysis provide a means to examine inter-industry relationships within an economy and relationships between businesses and final consumers. IMPLAN is a regional input-output modeling system consisting of regional data bases and trade flow data. IMPLAN is used by several state agencies, universities and federal agencies, including the U.S. Forest Service, National Oceanic and Atmospheric Administration (NOAA) Fisheries, the U.S. Army Corps of Engineers, the National Park Service, and the Bureau of Land Management. Expenditure estimates are input into the appropriate industry sector and the model generates estimates for three types of impacts: employment, income, and output. Output is the gross sales impact from businesses within the economic region affected by an activity. Labor income impacts include personal income (wages and salaries) and proprietors generated as a result of the economic activity in a target area. Employment impacts are the estimated jobs generated from said economic activity.

Quantifying the potential economic impacts to the commercial and recreational fisheries has several uncertainties discussed below, and the commercial and recreational impact estimates cannot be directly compared due to how they are calculated. For a detailed explanation of the methodology used to estimate the economic impacts please refer to the NCDMF’s License and Statistics Section Annual Report (NCDMF 2018b). Each model is estimated using the best available data to capture economic activity in each sector. However, the data and the activity being captured in each sector are not the same. The commercial fishing sector is a predefined industry in IMPLAN that can be custom tailored based on NCTTP data. It is a straightforward impact assessment because it is a single industry demand change based on the ex-vessel value of landings. IMPLAN’s multipliers and inter-industry transactional data are well defined for this industry. The recreational sector does not have a defined single industry within IMPLAN. Recreational angling economic activity is measured through expenditures in a variety of industries. Angler trip expenditures (fuel, bait, ice, food, lodging, etc.) occur across a variety of industries. The recreational impact model in its nature is of larger magnitude than the commercial aspect because it is describing spending changes in a greater variety of industries. Commercial fishing is driven by inter-industry (indirect) transactions, where recreational fishing is driven by induced household spending. Typically induced impact magnitudes are higher by nature especially in rural areas

DRAFT DOCUMENT SUBJECT TO CHANGE

because of the natural way industries are located. Household demand for lower order goods can be met with relative ease in rural areas but inputs are typically imported.

Commercial Impacts

The economic impact estimates presented represent those of commercial southern flounder harvesters, dealers, and processors and are calculated via the NCDMF commercial fishing economic impact model. The model now includes contributions from wholesalers, distributors, and retailers as sourced from NOAA's most recent Fisheries Economics of the U.S. These estimates are a product of IMPLAN economic impact modeling software customized with data from the NCTTP used as the primary inputs. Output is the gross sales impact from businesses within the economic region affected by an activity. Labor income impacts include personal income (wages and salaries) and proprietors generated because of the economic activity in a target area. Employment impacts are the estimated jobs generated from said economic activity (Table 11).

Due to the reductions in landings that are required, the commercial fishery will likely see a reduction in ex-vessel value of the fishery. Decreased supply of the commercial fishery will likely cause an acute jump in the average ex-vessel price per pound. Past landings and value have fluctuated widely. Ex-vessel prices fluctuate frequently and are often influenced by other substitute fisheries such as the summer flounder fishery. Southern flounder have exhibited a relatively flexible price elasticity of supply; meaning that a change in the price results in a bigger proportional change in supply. The management options presented here do not propose to explicitly remove participants in the fishery moving forward, although the potential for decreased profitability from reduced landings may cause some to exit the fishery.

Recreational Impacts

The economic impact estimates presented for southern flounder recreational fishing represent the economic activity generated from trip expenditures. These estimates are a product of annual trip estimations originating from the NOAA Fisheries MRIP effort data by area and by mode (i.e., shore, for-hire, private/rental vessel, and man-made), and trip expenditure estimates from the NCDMF economics program biennial socioeconomic survey of Coastal Recreational Fishing License holders (Dumas et al. 2009; Crosson 2010; Hadley 2012; Stemle and Condon 2018). Estimates for trips by charter fishing also include average charter fees and tips paid per trip, and pier trips include average pier admission costs.

Table 12 shows the economic impacts associated with recreational southern flounder fishing in North Carolina from 2009-2017. Over the past 10 years recreational trips targeting flounder have been declining slightly, approximately 3% on average every year. In turn, recreational trip expenditures and overall economic impacts have been declining slightly as well. The top industries impacted by recreational southern flounder fishing in terms of output sales and employment are retail gasoline stores, retail sporting goods stores, retail food and beverage stores, real estate, and wholesale trade businesses. It should be noted that not included in these estimates, but often presented in NCDMF overall recreational impacts models, are the durable good impacts from economic activity associated with the consumption of durable goods (e.g., rods and reels, other fishing related equipment, boats, vehicles, and second homes). Durable goods represent goods that have multi-year life spans and are not immediately consumable. Most equipment related to fishing is considered durable goods. However, the durable good expense of anglers for a given species

DRAFT DOCUMENT SUBJECT TO CHANGE

cannot be estimated. Durable goods expenses and impacts are estimated on an annual basis and serve to supplement angler expenditures outside of trip-based estimates.

The value of the economic impacts from the recreational fishery stem from directed southern flounder trips as well as trips that caught or harvested southern flounder. Trips that caught southern flounder that were not targeted trips are likely to remain at the same level, as flounder will still be available to catch and release during these trips. However, it is expected the total directed trips will likely be reduced if a season is implemented. This will reduce the overall expenditures anglers make annually pursuing southern flounder fishing, and in turn will reduce the economic impacts generated from those expenditures. It is difficult to determine the magnitude of potential losses to angler trips and the associated economic impacts. The NCDMF currently lacks data used in choice experiment methodologies which would enable modelling of predictive behavior of anglers in response to stated management actions. Anglers may choose to target another fishery more than not to fish all together. However, if management actions are successful, the stock would be rebuilt for long-term sustainable use. While there are acute economic costs for the proposed management actions for southern flounder, action is needed to rebuild and improve the fishery to ensure the long-term viability of the stock. Short-term economic costs are expected to be mitigated by the long-term sustainability of the fishery yielding positive economic returns into the fishery overall.

Interjurisdictional Management

While Amendment 2 will not impact other states' removals, it is important to describe the complexity of southern flounder management with regards to the continued cooperation among the state agencies involved with the stock assessment and the willingness of all states to enact management measures to rebuild the stock within their respective jurisdictional boundaries. There is currently no formal agreement in place requiring cooperation among the participating agencies on this particular stock and as a result, each South Atlantic state manages southern flounder in their own waters. Most other coast-wide stocks are managed by a larger governing body, such as the ASMFC or the South Atlantic Fishery Management Council, where states have common vested interests. The identified reductions to North Carolina's southern flounder total removals alone are likely not enough to rebuild the coast-wide stock without cooperation from the other states. In addition, future updates of this coast-wide stock assessment to monitor trends post-management changes hinge on cooperation among these partners. Discussions have taken place to continue cooperation and the NCDMF is spearheading efforts to further build collaborative relationships with these partners to ensure management of the stock provides for the best chance of recovery and sustainability. At an April 1, 2019 meeting with division directors and other representatives from all four states, the directors agreed to create a working group to continue informal collaboration to work towards coast-wide reductions within the constraints of each individual state management system.

An additional component to this complex jurisdictional situation is how requirements from the ASMFC Summer Flounder, Scup, and Black Sea Bass FMP will harmonize with certain southern flounder management strategies because of the overlap in management of the flounder species. It is possible that with certain management strategies (i.e., size limit changes), North Carolina may have to apply for conservation equivalency measures for summer flounder in order to not be found out of compliance with current interstate regulations.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Current Regulations by State

North Carolina

North Carolina's commercial flounder fishery is subject to a 15-inch TL minimum size limit in internal waters and a 14-inch TL minimum size limit in ocean waters. There is a statewide closure in internal waters from Dec. 1 through Dec. 30. All flounder pound nets are required to use escapement panels of at least 5.75-ISM. In internal waters, the use of gill nets with a stretch mesh length less than 6.0 inches is prohibited for harvesting flounder. In all estuarine areas (except Pamlico, Pungo, Bay, and Neuse rivers and the Albemarle Sound Management Area), use of large mesh gill nets is limited to four nights per week and 2,000 yards, except south of Shackleford Banks and south of the Highway 58 Bridge to the South Carolina border; this gear is allowed five nights per week with a maximum of 1,000 yards. All other areas are limited to 2,000 yards of large mesh gill net. Additionally, the gill net fishery is subject to closures and other gear restrictions by Management Unit based on interactions with sea turtles and Atlantic sturgeon, which are managed through incidental take permits issued by NOAA Fisheries under the Endangered Species Act. In crab trawls, a minimum tailbag mesh size of 4-ISM is required in western Pamlico Sound to minimize bycatch of undersized southern flounder.

Current regulations for the recreational flounder fishery include a 15-inch TL minimum size limit in internal and ocean waters, a four-fish per person per day daily creel limit, and no closed season.

South Carolina

Regulations for the South Carolina flounder fishery in 2017 (*Paralichthys* spp.) include a 15-inch TL minimum size limit and a 10 flounder per person per day bag limit, not to exceed 20 flounder per boat per day. Bag limit and minimum size limits are applicable to both hook-and-line and gig fisheries in the state. It is unlawful to gig flounder in salt water during daylight hours (excluding spearfishing). Commercial gill netting for flounder is only permitted in the Little River Inlet, a small estuary in the north of the state (no more than one hundred yards in length with a mesh size no smaller than 3.0-ISM and up to 5.5-ISM; must be attended within 500 feet).

Georgia

Current regulations for the commercial and recreational flounder fishery in Georgia include a 12-inch TL minimum size limit and a 15-fish daily bag limit. Gill nets are prohibited except for landing shad.

Florida

Current regulations for the commercial and recreational flounder fishery in Florida include a 12-inch TL minimum size limit, daily recreational bag limit of 10 fish, and harvest is limited to the use of hook-and-line, cast net, beach seine, and gigs.

Historical regulation histories for each state can be found in Lee et al. 2018.

VII. PROPOSED MANAGEMENT OPTIONS

(+ Potential positive impact of action)

(- Potential negative impact of action)

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

The following positive and negative impacts apply to all options (with the exception of *Status quo*); specific impacts are listed with each option.

- + May increase abundance of mature females to help rebuild SSB
- + Necessary reductions come from both commercial and recreational southern flounder fisheries
- + No rule changes required
- Decreased harvest may result in economic loss to the fishery

Commercial Fishery

- A. *Status quo (maintains management actions implemented through Amendment 1 and Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement)*
- + Fishery will operate on full fishing year (with the exception of the month of December), allowing for maximum economic potential
 - Overfishing will not end, failing to meet the statutory requirements
 - SSB will not be rebuilt to a level of sustainability, failing to meet the statutory requirements
- B. *Establish Seasonal Closures by Area for the Commercial Fishery to Reduce F to the Overfishing Threshold (31% reduction)*
- + Projected to meet the reduction needed for the commercial fishery to end overfishing, per statutory requirements
 - + Season allows for equitability among gears
 - Possible increase in effort due to shortened season creating a “derby fishery”
 - Will not meet the reduction in the commercial fishery needed to achieve a level of SSB for sustainable harvest within the 10-year time period, failing to meet statutory requirements
- C. *Establish Seasonal Closures by Area for the Commercial Fishery to Reduce F and Allow the SSB to Rebuild to the Threshold (52% reduction)*
- + Projected to meet the reduction needed for the commercial fishery to end overfishing, per statutory requirements
 - + Projected to meet the reduction for the commercial fishery needed to achieve a level of SSB equal to or greater than the threshold, per statutory requirements
 - + Season allows for equitability among gears
 - Possible increase in effort due to shortened season creating a “derby fishery”
- D. *Establish Seasonal Closures by Area for the Commercial Fishery to Increase SSB between the Threshold and Target (62% reduction)*
- + Projected to meet the reduction needed for the commercial fishery to end overfishing, per statutory requirements
 - + Projected to meet the reduction for the commercial fishery needed to achieve a level of SSB between the threshold and target, per statutory requirements
 - + Projections show rebuilding occurring more quickly than the minimum reduction and this increases the probability of reaching the threshold
 - + Season allows for equitability among gears
 - Possible increase in effort due to shortened season creating a “derby fishery”

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

- E. *Establish Seasonal Closures by Area for the Commercial Fishery to Reduce F and Allow the SSB to Rebuild to the Target (72% reduction)*
- + Projected to meet the reduction needed for the commercial fishery to end overfishing, per statutory requirements
 - + Projected to meet the reduction for the commercial fishery needed to achieve a level of SSB equal to the target, per statutory requirements
 - + Projections show rebuilding occurring more quickly than the minimum reduction and this increases the probability of reaching the threshold
 - + Season allows for equitability among gears
 - Possible increase in effort due to shortened season creating a “derby fishery”

Recreational Fishery

- A. *Status Quo (maintains management measures implemented through Amendment 1, Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement, and the ASMFC Summer Flounder, Scup, and Black Sea Bass FMP)*
- + Projected to operate on full fishing year, allowing for maximum economic potential
 - Overfishing will not end, failing to meet statutory requirements
 - SSB will not be rebuilt to a level of sustainability, failing to meet statutory requirements.
- B. *Establish a Seasonal Closure for the Recreational Fishery to reduce F to the Overfishing Threshold (31% reduction)*
- + Projected to meet the reduction needed for the recreational fishery to end overfishing, per statutory requirements
 - Will not meet the reduction in the recreational fishery needed to achieve a level of SSB for sustainable harvest within the 10-year time period, failing to meet statutory requirements
 - Discards due to incidental catch when targeting other species
- C. *Establish a Seasonal Closure for the Recreational Fishery to Reduce F and Allow the SSB to Rebuild to the Threshold (52% reduction)*
- + Projected to meet the reduction needed for the recreational fishery to end overfishing, per statutory requirements
 - + Projected to meet the reduction for the recreational fishery needed to achieve a level of SSB equal to or greater than the threshold, per statutory requirements
 - Discards due to incidental catch when targeting other species
- D. *Establish a Seasonal Closure for the Recreational Fishery to Increase SSB between the Threshold and Target (62% reduction)*
- + Projected to meet the reduction needed for the recreational fishery to end overfishing, per statutory requirements
 - + Projected to meet the reduction for the recreational fishery needed to achieve a level of SSB between the threshold and target, per statutory requirements
 - + Projections show rebuilding occurring more quickly than the minimum reduction and this increases the probability of reaching the threshold
 - Discards due to incidental catch when targeting other species

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

- E. *Establish a Seasonal closure for the Recreational Fishery to Reduce F and Allow the SSB to Rebuild to the Target (72% reduction)*
- + Projected to meet the reduction needed for the recreational fishery to end overfishing, per statutory requirements
 - + Projected to meet the reduction for the recreational fishery needed to achieve a level of SSB equal to the target, per statutory requirements
 - + Projections show rebuilding occurring more quickly than the minimum reduction and this increases the probability of reaching the threshold
 - Discards due to incidental catch when targeting other species

Additional Management Options: Non-Quantifiable Harvest Restrictions

- A. *Trip Limits*
- i. Limiting numbers per trip for the commercial gig fishery
 - ii. Limiting pounds per trip for the commercial pound net fishery
 - + May ensure required reductions are achieved and alleviate concerns of a “derby fishery”
 - Some fisheries impacted more than others
 - Potential issue with enforceability for large volume pound net fishery
- B. *Limiting Days per Week Allowed in the Neuse, Tar/Pamlico Rivers and the Albemarle Sound Areas that have Previously been Exempt*
- + May ensure required reductions are achieved
 - + Reduce gear in the water
 - + Consistency between harvest days across areas of the state
 - + Limit the amount of potential discards
 - Some regions impacted more than others
- C. *Limiting Fishing Times Allowed in the Neuse, Tar/Pamlico Rivers and the Albemarle Sound Areas that have Previously been Exempt*
- + May ensure required reductions are achieved
 - + Reduce gear in the water
 - + Consistency between soak times across areas of the state
 - + Limit the amount of potential discards
 - Some regions impacted more than others
- D. *Gear Modifications*
- i. Prohibiting the use of picks, gaffs, gigs, and spears when removing flounder from pound nets
 - ii. Reducing the maximum yardage allowed in the large mesh gill net fishery
 - + May ensure required reductions are achieved
 - + Reduce gear in the water
 - + Prevent expansion of gear
 - + Limit the amount of potential discards
 - Some regions impacted more than others

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

VIII. RECOMMENDATION

NCDMF Recommendation

Management Carried Forward

Under the NCDMF recommendation, the following management measures from Amendment 1 and Supplement A to Amendment 1 will be incorporated into Amendment 2 management upon its adoption.

- From the Southern Flounder FMP Amendment 1:
 - Management measures limiting the number of fishing days per week and the amount of yardage allowed for large mesh gill nets in various areas of the state;
 - A minimum distance (area dependent) between gill net and pound net sets, per NCMFC Rule 15A NCAC 03J .0103 (d); and
 - A recreational minimum size limit of 15 inches TL.
- From Supplement A to the Southern Flounder FMP Amendment 1, as modified by the Aug. 17, 2017 settlement agreement:
 - A commercial minimum size limit of 15 inches TL;
 - A minimum mesh size of 6.0-ISM to harvest southern flounder from a gill net; and
 - A minimum mesh size of 5.75-ISM stretched mesh for pound net escape panels.

Additionally, the recreational bag limit of no more than four flounder per person per day will be maintained in Amendment 2. This bag limit is required through the N.C. FMP for Interjurisdictional Fisheries to maintain compliance with the ASMFC Summer Flounder, Scup, and Black Sea Bass FMP Addendum XXVIII. It is important to note that the December commercial closure period from Amendment 1 will no longer in effect, as it will be encompassed by the seasonal closure periods implemented by the adoption of Amendment 2.

Amendment 2 Management Strategy

In concurrence with the incorporated actions from Amendment 1 and Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement, the N.C. Department of Environmental Quality and the NCDMF recommend a management strategy be implemented in Amendment 2 to reduce fishing mortality in the commercial and recreational fisheries to a level that ends overfishing within two years and allows the SSB to increase between the threshold and the target within 10 years via a 62% reduction ($F=0.26$) in total removals in 2019 and beginning in 2020, via a 72% reduction ($F=0.18$) in total removals (Figure 22).

Adoption of Amendment 2 Includes Continued Development of Amendment 3

Implementation of the management strategy recommended in Amendment 2 is deemed critical to successful rebuilding of the southern flounder stock, so management actions can be implemented during the 2019 calendar year and reducing harvest is not delayed while more comprehensive strategies are developed for Amendment 3. The N.C. Department of Environmental Quality and the NCDMF recommendation includes that the adoption of Amendment 2 authorizes concurrent development of Amendment 3 and more robust management strategies. Amendment 3 will be completed as quickly as possible with the ongoing contributions of the existing FMP committee appointees. This will best serve to assist the NCDMF in development of Amendment 3, by building

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

on the knowledge, expertise, and cooperation already underway and continue the work uninterrupted from meetings that began in January 2018.

Amendment 2 Management Recommendations

Management measures to implement the strategy from Amendment 2 include:

- During 2019, establish three commercial southern flounder management areas that open:
 - Northern – Sept. 15 through Oct. 13;
 - Central – Sept. 15 through Oct. 17; and
 - Southern – Sept. 15 through Nov. 2.
- Note: Monitoring, reporting, and closure requirements identified through the NCDMF’s sea turtle and Atlantic sturgeon incidental take permits will remain in effect and may impact dates identified.
- An Aug. 1 through Sept. 30 recreational hook-and-line and gig fishery.
- Allow RCGL large mesh gill nets to operate from Sept. 15 through Sept. 30.

- Beginning in 2020, continue use of the three commercial southern flounder management areas that open:
 - Northern – Sept. 15 through Oct. 6;
 - Central – Sept 15 through Oct. 11; and
 - Southern – Sept 15 through Oct. 20.
- Note: Monitoring, reporting, and closure requirements identified through the NCDMF’s sea turtle and Atlantic sturgeon incidental take permits will remain in effect and may impact dates identified.
- An Aug. 16 through Sept. 30 recreational hook-and-line and gig fishery;
- Allow RCGL large mesh gill nets to operate from Sept. 15 through Sept. 30.

Although the identified season dates meet the necessary reductions defined by the N.C. Department of Environmental Quality and the NCDMF recommendations, additional options are available (Tables 5, 6, and 7) and will be further considered after review of committees and public comment.

Additionally, it is necessary to remove all commercial gears from the water (e.g., commercial and RCGL anchored large mesh gill nets, gigs, and flounder pound nets) in areas and during times outside of the seasons implemented. This is important, as any additional dead discards will negatively impact expected reductions in discards during periods not open for southern flounder harvest and further delay rebuilding of the stock. Exceptions can be allowed for commercial large mesh gill net fisheries that target American and hickory shad and catfish species if these fisheries are only allowed to operate during times of the year and locations where bycatch of southern flounder is unlikely.

During the recommended closed commercial season, it will be unlawful to possess flounder harvested from the internal waters of the state. It will also be unlawful to use any method of retrieving live flounder from pound nets that cause injury to released fish (no picks, gigs, spears, etc.). During the recommended closed recreational season, it will be unlawful to possess flounder

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

in internal and ocean waters. To minimize the likelihood of creating derby fisheries the NCDMF also recommends considering the following:

- limiting the daily harvest of the commercial gig fishery;
- limiting the daily harvest of the commercial pound net fishery;
- expanding the commercial gill net management measures by limiting days per week allowed in the Neuse, Tar/Pamlico rivers and the Albemarle Sound areas that have previously been exempt;
- expanding the commercial gill net management measures by reducing fishing times allowed in the Neuse, Tar/Pamlico rivers and the Albemarle Sound areas that have previously been exempt; and
- reducing the maximum yardage allowed in the commercial large mesh gill net fishery.

The N.C. Department of Environmental Quality and the NCDMF recognize that these reductions are significant but necessary to increase the probability of successfully rebuilding this important recreational and commercial resource. The department and the NCDMF recommend a 62% reduction in 2019 and a 72% reduction beginning in 2020 for the following reasons:

- The projections were made with the assumptions that each state that participated in the coast-wide stock assessment would implement measures for the necessary reductions required to rebuild SSB. There are uncertainties surrounding the other states with implementing cooperative management and the timing of regulations if implemented.
- With the ability to be implemented in 2019, seasonal closures by area provide the best short-term management tool available. It is important to act quickly for the immediate benefit of the stock but not to such a degree that fisheries are eliminated.
- It is best for the resource in the short-term by significantly decreasing fishing pressure and allowing a greater abundance of spawning stock to emigrate to the ocean to spawn, which will ultimately enhance the likelihood of stock rebuilding. The proposed seasonal closures are based on past removals and behavior and assume effort will be consistent with what has been observed in the past. Compared to quotas, seasonal closures do not place a maximum removal level on the fishery, but simply limit the time when targeted harvest can occur. Seasonal closures do present some concerns such as the potential to concentrate fishing effort during the open season, potentially altering fishing behaviors from previous years that were used to estimate harvest windows; that is, fishing effort may increase during the open season and lead to higher than predicted removals.
- The lack of rebuilding success related to management implemented from the original FMP (2005), Amendment 1 (2013), and Supplement A to Amendment 1 as modified by the Aug. 17, 2017 settlement agreement (2017) has not resulted in the necessary increase in SSB to end the stock's overfished status, thus further reductions are necessary.

Harvest of southern flounder has already been occurring during 2019 and the seasonal closures cannot be implemented until the adoption of Amendment 2. The NCDMF recommends reviewing committees and public comment prior to selecting the seasons to be implemented. Once selected,

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

seasons will still allow for some reductions and increased escapement in 2019. In 2020, reductions will more likely be realized in full, as management measures will already be in place at the start of the calendar year.

Advisory Committee Recommendations (Refer to Table 13 for a comparison of recommendations)

Southern Flounder FMP Advisory Committee

Management for the 2019 Fishing Year

The Southern Flounder FMP Advisory Committee recommends that the NCDMF implement a 31% reduction ($F=0.53$) for all commercial sectors in 2019, based on fishing areas (as defined by the NCDMF, see Figure 20) and gear (as presented to the committee on April 2, 2019). Season dates will be,

- Aug. 1 start date for pound nets, with an open season:
Northern – Aug. 1 through Oct. 29;
Central – Aug. 1 through Nov. 10; and
Southern – Aug. 1 through Nov. 7.
- Aug. 1 start date for commercial large mesh gill nets with an open season:
Northern – Aug. 1 through Oct. 8;
Central – Aug. 1 through Oct. 19; and
Southern – Aug. 1 through Nov. 13.
- April 1 start date for commercial gigs with an open season:
Northern – April 1 through Oct. 25;
Central – April 1 through Nov. 14; and
Southern – April 1 through Sept. 19.

The Southern Flounder FMP Advisory Committee recommends that the NCDMF implement a 33% reduction for the recreational hook-and-line fishery, in order to best align with the MRIP estimates for reductions (Table 6). The recreational gig fishery will coincide with the recreational hook-and-line fishery, with an identified reduction of 69% (Table 7). The season identified for the recreational hook-and-and line and gig fisheries is Jun. 1 through Sept. 15.

Management for the 2020 Fishing Year Forward

The Southern Flounder FMP Advisory Committee recommends that starting Jan. 1, 2020 the NCDMF recommendation (as presented to the committee on April 2, 2019) for a 52% reduction ($F=0.34$) be adopted with the following changes for the commercial fishery, calculated for the Northern, Central, and Southern areas:

- 40% reduction for the pound net fishery, with a start date of Sept. 15:
Northern – Sept. 15 through Oct. 28;
Central – Sept. 15 through Nov. 2; and
Southern – Sept. 15 through Nov. 3.
- 40% reduction for the gig fishery, with a start date of April 1:
Northern – April 1 through Oct. 24;
Central – April 1 through Nov. 11; and
Southern – April 1 through Aug. 25.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

- For the large mesh gill net fishery, a reduction to make up the difference to yield a 52% reduction for the commercial fishery overall, with a start date of Sept. 15, recognizing that the NCDMF proposal for the RCGL large mesh gill net season of Sept. 15-Sept. 30 may be changed by this final percent reduction.

The percent reduction for the large mesh gill net fishery, based on the Southern Flounder FMP Advisory Committee recommendation, would be approximately 71% compared to the 2017 removals. This reduction to the large mesh gill net fishery is equal to 162,770 pounds in total removals. A start date of Sept. 15 results in the following seasons:

- Northern – Sept. 15 through Oct. 12;
- Central – Sept. 15 through Oct. 5; and
- Southern – Sept. 15 through Oct. 21.

In addition, as of Jan. 1, 2020, the committee recommends implementing a 1,500-yard limit for large mesh gill nets in Management Unit A, and implementing a 1,000-yard limit for large mesh gill nets in Management Units B, C, D, and E.

The committee also recommends that starting in 2020 the NCDMF season recommendation (as presented to the AC on April 2, 2019) be applied to the recreational fisheries. The season for the recreational hook-and-line and gig fisheries will be July 16 through Sept. 30.

After analysis of the Southern Flounder FMP Advisory Committee recommendation, the NCDMF determined the recommendation meets the statutory requirement of ending overfishing within two years. The recommendation fails to meet the statutory requirement of ending the overfished status within the required 10-year time period. SSB is projected to rebuild to a level of 3,569 metric tons compared to the threshold (minimum rebuilding) of 3,900 metric tons, a projected shortage of 331 metric tons (Figure 23).

Northern Advisory Committee

Southern Advisory Committee

Finfish Advisory Committee

MFC Selected Management Strategy

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

IX. LITERATURE CITED

- Anderson, J.D., and W.J. Karel. 2012. Population genetics of southern flounder with implications for management. *North American Journal of Fisheries Management* 32(4):656–662.
- Brodziak, J., P. Rago, and R. Conser. 1998. A general approach for making short-term stochastic projections from an age-structured fisheries assessment model. In: F. Funk, T. Quinn II, J. Heifetz, J. Ianelli, J. Powers, J. Schweigert, P. Sullivan, and C.-I. Zhang (editors), *Proceedings of the International Symposium on Fishery Stock Assessment Models for the 21st Century*. Alaska Sea Grant College Program, Univ. of Alaska, Fairbanks.
- Craig, J.K., and J.A. Rice. 2008. Estuarine residency, movements, and exploitation of southern flounder (*Paralichthys lethostigma*) in North Carolina. North Carolina State University, North Carolina Sea Grant, Final Report Grant 05-FEG-15, Raleigh.
- Crosson, S. 2010. A Social and Economic Survey of Recreational Saltwater Anglers in North Carolina. Department of Environment and Natural Resources, Division of Marine Fisheries.
- Dumas, C., J. Whitehead, C. Landry, and J. Herstine. 2009. Economic Impacts and Recreational Value of the North Carolina For-Hire Fishing Fleet. North Carolina Sea Grant Fishery Resource Grant Report 07-FEG-05.
- Flowers, A.M., S.D. Allen, A.L. Markwith, and L.M. Lee (editors). 2019. Stock assessment of southern flounder (*Paralichthys lethostigma*) in the South Atlantic, 1989–2017. Joint report of the North Carolina Division of Marine Fisheries, South Carolina Department of Natural Resources, Georgia Coastal Resources Division, Florida Fish and Wildlife Research Institute, University of North Carolina at Wilmington, and Louisiana State University. NCDMF SAP-SAR-2019-01. 213 p.
- Fournier, D.A., H.J. Skaug, J. Ancheta, J. Ianelli, A. Magnusson, M. Maunder, A. Nielsen, and J. Sibert. 2012. AD Model Builder: using automatic differentiation for statistical inference of highly parameterised complex non-linear models. *Optimisation Methods & Software* 27:233–249.
- Hadley, J. 2012. A Social and Economic Profile of Ocean Fishing Piers in North Carolina. Department of Environment and Natural Resources, Division of Marine Fisheries.
- IMPLAN Group, LLC. 2013. IMPLAN System, Version 3.1.1001.2. Huntersville, NC. www.implan.com
- Lee, L.M., S.D. Allen, A.M. Flowers, and Y. Li (editors). 2018. Stock assessment of southern flounder (*Paralichthys lethostigma*) in the South Atlantic, 1989–2015. Joint report of the North Carolina Division of Marine Fisheries, South Carolina Department of Natural Resources, Georgia Coastal Resources Division, Florida Fish and Wildlife Research Institute, University of North Carolina at Wilmington, and Louisiana State University. NCDMF SAP-SAR-2018-01. 425 p.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

- Midway, S.R., S.X. Cadrin, and F.S. Scharf. 2014. Southern flounder (*Paralichthys lethostigma*) stock structure inferred from otolith shape analysis. Fisheries Bulletin 112(4):326–338.
- Monaghan, J.P. 1996. Life history aspects of selected marine recreational fishes in North Carolina: Study 2 migration of Paralichthid flounders tagged in North Carolina, Completion Report, Grant F-43, North Carolina Division of Marine Fisheries, Morehead City, North Carolina. 44 p.
- NCDEQ (North Carolina Department of Environmental Quality). 2016. North Carolina Coastal Habitat Protection Plan Source Document. Morehead City, NC. Division of Marine Fisheries. 475 p.
- NCDMF (North Carolina Division of Marine Fisheries). 2005. North Carolina fishery management plan southern flounder (*Paralichthys lethostigma*). North Carolina Department of Environment and Natural Resources, Division of Marine Fisheries, Morehead City, North Carolina. 359 p.
- NCDMF (North Carolina Division of Marine Fisheries). 2013. North Carolina southern flounder (*Paralichthys lethostigma*) fishery management plan: Amendment 1. North Carolina Division of Marine Fisheries, Morehead City, North Carolina. 380 p.
- NCDMF 2017a. North Carolina southern flounder (*Paralichthys lethostigma*) fishery management plan: Supplement A to Amendment 1. North Carolina Division of Marine Fisheries, Morehead City, North Carolina. 83 p
- NCDMF 2017b. North Carolina Division of Marine Fisheries Trip Ticket User Manual. Version 9. North Carolina Department of Environmental Quality, Division of Marine Fisheries, Morehead City, North Carolina. 43 p.
- NCDMF 2018a. Southern Flounder *in* 2017 Fishery Management Plan Review. North Carolina Division of Marine Fisheries, Morehead City, North Carolina. 590 p.
- NCDMF 2018b. North Carolina Division of Marine Fisheries License and Statistics Section Annual Report. North Carolina Department of Environmental Quality, Division of Marine Fisheries, Morehead City, North Carolina.
- NOAA Fisheries Toolbox. 2014. Age Structured Assessment Program, version 3.0.17. [Available at <http://www.nefsc.noaa.gov/nft>, accessed October 2018]
- Ross, S.W., J.H. Hawkins, D.A. DeVries, C.H. Harvell, R.C. Harriss Jr. 1982. North Carolina Estuarine Finfish Management Program, Completion Report for Project 2-372-R. North Carolina Department of Natural Resources and Community Development, Division of Marine Fisheries, Morehead City, N. C. 175 p.
- Schwartz, F.J. 1997. Distance movements of fishes, white shrimp, and blue crabs tagged in or near the estuarine Cape Fear River and adjacent Atlantic Ocean, North Carolina, 1973 through 1978. The Journal of Elisha Mitchell Scientific Society 113:123–132.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Stemle, A., and M. Condon. 2018. Socioeconomic Survey of Recreational Saltwater Anglers in North Carolina 2016. Division of Marine Fisheries, Morehead City, N.C.

Wang, V.H., M.A. McCartney, and F.S. Scharf. 2015. Population genetic structure of southern flounder inferred from multilocus DNA profiles. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* 7(1):220–232.

DRAFT

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Prepared by

Michael S. Loeffler

Anne L. Markwith

Michael.loeffler@ncdenr.gov

Anne.Markwith@ncdenr.gov

252-264-3911

910-796-7292

DRAFT

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

X. TABLES

Table 1. Number of Commercial Trips and Participants that landed southern flounder by gear, 2008-2017.

| Year | Trips | | | | Participants | | | |
|---------|-------|----------|-------|-----------|--------------|----------|-------|-----------|
| | Gear | | | | Gear | | | |
| | Gigs | Gill Net | Other | Pound Net | Gigs | Gill Net | Other | Pound Net |
| 2008 | 1,459 | 23,493 | 2,510 | 1,508 | 140 | 924 | 413 | 83 |
| 2009 | 1,450 | 23,691 | 2,510 | 1,746 | 143 | 992 | 426 | 85 |
| 2010 | 2,283 | 15,134 | 1,384 | 1,610 | 226 | 837 | 329 | 84 |
| 2011 | 2,076 | 11,403 | 963 | 1,370 | 212 | 759 | 250 | 63 |
| 2012 | 3,001 | 14,713 | 1,462 | 1,754 | 288 | 855 | 291 | 84 |
| 2013 | 2,408 | 16,968 | 2,094 | 2,111 | 270 | 933 | 343 | 82 |
| 2014 | 2,655 | 11,778 | 1,887 | 1,806 | 316 | 799 | 373 | 88 |
| 2015 | 2,616 | 8,465 | 1,002 | 1,803 | 307 | 674 | 249 | 81 |
| 2016 | 2,657 | 8,422 | 838 | 1,423 | 323 | 591 | 227 | 77 |
| 2017 | 2,752 | 12,363 | 943 | 1,908 | 310 | 713 | 237 | 88 |
| Average | 2,336 | 14,643 | 1,559 | 1,704 | 254 | 808 | 314 | 82 |

Note: Participants often participate using multiple gears and fish multiple gears per trip, individuals and trips may be duplicated across gears.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 2. Top five ranked species that are reported targeted in the North Carolina recreational hook-and-line fishery, 1981-2017. Top rank for each year is in **bold**. (Source: Marine Recreational Information Program).

| Species | Trip Year | | | | | | | | | | | | | | | | | | |
|------------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
| Flounder | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 2 | 2 | 2 | 1 |
| Bluefish | 1 | 2 | 1 | 2 | 2 | 4 | 2 | 2 | 2 | 5 |
| Red Drum | 4 | 4 | 3 | 4 | 4 | 5 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | 3 | 3 | 5 | 5 | 3 | 2 |
| Spanish Mackerel | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 3 | 4 | 3 |
| Spotted Seatrout | 2 | 3 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 5 | 4 | 2 | 3 | 4 | 5 | 4 |

| Species | Trip Year | | | | | | | | | | | | | | | | | | |
|------------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | |
| Flounder | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | |
| Bluefish | 4 | 2 | 4 | 4 | 3 | 2 | 4 | 4 | 4 | 5 | 5 | 3 | 4 | 4 | 5 | 4 | 4 | 4 | |
| Red Drum | 2 | 3 | 3 | 3 | 4 | 5 | 3 | 2 | 2 | 3 | 2 | 4 | 3 | 1 | 1 | 1 | 1 | 1 | |
| Spanish Mackerel | 3 | 4 | 2 | 2 | 2 | 4 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | |
| Spotted Seatrout | 5 | 5 | 5 | 5 | 5 | 3 | 2 | 3 | 3 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 3. Management action taken as a result of Amendment 1 and Supplement A to the Southern Flounder Fishery Management Plan.

| MANAGEMENT STRATEGY | OUTCOME | Source Document |
|---|---|---|
| <p><u>Commercial</u>: Accept management measures to reduce protected species interactions as the management strategy for achieving sustainable harvest in the commercial southern flounder fishery.</p> <p><u>Recreational</u>: Increase the minimum size limit to 15 inches and decrease the creel limit to six fish-20.2% harvest reduction</p> | <p><u>Commercial</u>: No Action Required; Specific minimum measures for the flounder gill net fishery are provided in Issue Paper 10.1.1 (Amendment 1, page 129).</p> <p><u>Recreational</u>: Proclamation FF-29-2011 (refer to Supplement A to the 2005 FMP)</p> | Amendment 1 |
| Status quo and address research recommendations | No Action Required | Amendment 1 |
| Status quo (implement mediation and proclamation authority to address user conflicts with large mesh gill nets) | No Action Required | Amendment 1 |
| Status quo (minimum distance (area dependent) between pound nets and gill nets; per rule 15A NCAC 03J .0103 (d)) | No Action Required | Amendment 1 |
| Status quo and address research recommendations | No Action Required | Amendment 1 |
| Status quo and expand research on flatfish escape devices and degradable panels under commercial conditions to other parts of the state | No Action Required | Amendment 1 |
| Status quo and expand research on factors impacting the release mortality of southern flounder and on deep hooking events of different hook types and sizes | No Action Required | Amendment 1 |
| <ul style="list-style-type: none"> • Request funding for state observer program • Apply for Incidental Take Permit for large mesh gill net fishery • Continue gear development research to minimize protected species interactions | No Action Required | Amendment 1 |
| Status quo minimum mesh size for escape panels (5.5-inch stretched mesh) and recommend further research on 5.75-inch stretched mesh escape panels | No Action Required | Amendment 1 |
| Status quo minimum mesh size (5.5-inch stretched mesh) | No Action Required | Amendment 1 |
| Increase minimum mesh size to harvest southern flounder to 6.0- inch stretched mesh Increase minimum size limit for commercial fisheries to 15 inches | Proclamation FF-3-2016 (refer to Supplement A to Amendment 1 of the 2005 FMP) | Supplement A to Amendment 1 |
| Increase minimum mesh size for escape panels to 5.75-inch stretched mesh | Proclamation M-34-2015 (refer to Supplement A to Amendment 1 of the 2005 FMP) | Supplement A to Amendment 1 |
| Reduce daily bag limit for recreational harvest of southern flounder from 6 fish to 4 fish | Proclamation FF-4-2017 (refer to Addendum XXVIII to ASMFC Summer Flounder, Scup, Black seabass FMP) | Addendum XXVIII to the Summer Flounder, Scup, Black seabass FMP |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 4. Southern Flounder Amendment 2 total allowable removals (observed harvest and dead discards) in pounds by management area to meet the necessary reductions for the overfishing threshold and SSB threshold and target of the commercial fishery in 2019 compared to the 2017 harvest and dead discards.

| Reduction | Management Area | 2017 Landings Value | Dead Discards | 2017 Total Catch | After Reduction | “Other” Gear Allocation | Gill Net, Pound Net, Gig Allocation |
|------------------------------|-----------------|---------------------|---------------|------------------|-----------------|-------------------------|-------------------------------------|
| Overfishing Threshold 31% | Northern | 324,779 | 1,014 | 325,793 | 224,797 | 547 | 224,250 |
| | Central | 700,258 | 2,203 | 702,461 | 484,698 | 3,644 | 480,473 |
| | Southern | 369,580 | 1,190 | 370,770 | 255,831 | 4,225 | 252,187 |
| | Total | 1,394,617 | 4,407 | 1,399,024 | 965,326 | 8,416 | 956,910 |
| SSB Threshold 52% | Northern | 324,779 | 1,014 | 325,793 | 156,381 | 547 | 155,834 |
| | Central | 700,258 | 2,203 | 702,461 | 337,181 | 3,644 | 332,956 |
| | Southern | 369,580 | 1,190 | 370,770 | 177,969 | 4,225 | 174,325 |
| | Total | 1,394,617 | 4,407 | 1,399,024 | 671,531 | 8,416 | 663,115 |
| 62% | Northern | 324,779 | 1,014 | 325,793 | 123,802 | 547 | 123,255 |
| | Central | 700,258 | 2,203 | 702,461 | 266,935 | 3,644 | 262,710 |
| | Southern | 369,580 | 1,190 | 370,770 | 140,892 | 4,225 | 137,248 |
| | Total | 1,394,617 | 4,407 | 1,399,024 | 531,629 | 8,416 | 523,213 |
| SSB Target 72% | Northern | 324,779 | 1,014 | 325,793 | 91,222 | 547 | 90,675 |
| | Central | 700,258 | 2,203 | 702,461 | 196,689 | 3,644 | 192,464 |
| | Southern | 369,580 | 1,190 | 370,770 | 103,815 | 4,225 | 100,171 |
| | Total | 1,394,617 | 4,407 | 1,399,024 | 391,726 | 8,416 | 383,310 |

*Other gear included gear that catch southern flounder incidentally. These gears include, but aren't limited to, crab post, trawls, peeler post, fyke nets, channel nets, and seines.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 5. Southern Flounder Amendment 2 dates of fishery opening (formatted in **bold font**) and associated closure dates by management area necessary to meet the reductions in total removals (observed harvest and dead discards) to the overfishing threshold and SSB threshold and target **for the commercial fishery** in 2019.

| Reduction | Management Area | Season Start Date | | | | | | |
|----------------------------------|-----------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | 1-Jan | 1-Feb | 1-Mar | 1-Apr | 1-May | 1-Jun | 1-Jul |
| | | Season End Date | | | | | | |
| Overfishing Threshold 31% | Northern | 30-Sep | 30-Sep | 30-Sep | 1-Oct | 4-Oct | 7-Oct | 11-Oct |
| | Central | 23-Oct | 23-Oct | 24-Oct | 24-Oct | 25-Oct | 26-Oct | 28-Oct |
| | Southern | 5-Oct | 6-Oct | 6-Oct | 7-Oct | 11-Oct | 23-Oct | 5-Nov |
| | Statewide | 14-Oct | 14-Oct | 14-Oct | 15-Oct | 17-Oct | 19-Oct | 23-Oct |
| SSB Threshold 52% | Northern | 10-Sep | 10-Sep | 11-Sep | 12-Sep | 16-Sep | 22-Sep | 1-Oct |
| | Central | 7-Oct | 7-Oct | 8-Oct | 8-Oct | 9-Oct | 11-Oct | 14-Oct |
| | Southern | 3-Sep | 4-Sep | 4-Sep | 6-Sep | 11-Sep | 27-Sep | 9-Oct |
| | Statewide | 22-Sep | 22-Sep | 22-Sep | 23-Sep | 26-Sep | 1-Oct | 7-Oct |
| 62% | Northern | 29-Aug | 30-Aug | 30-Aug | 31-Aug | 5-Sep | 12-Sep | 20-Sep |
| | Central | 29-Sep | 29-Sep | 29-Sep | 1-Oct | 2-Oct | 3-Oct | 6-Oct |
| | Southern | 7-Aug | 8-Aug | 9-Aug | 11-Aug | 17-Aug | 10-Sep | 30-Sep |
| | Statewide | 9-Sep | 9-Sep | 10-Sep | 11-Sep | 14-Sep | 21-Sep | 28-Sep |
| SSB Target 72% | Northern | 16-Aug | 17-Aug | 17-Aug | 18-Aug | 24-Aug | 1-Sep | 12-Sep |
| | Central | 17-Sep | 17-Sep | 17-Sep | 19-Sep | 21-Sep | 23-Sep | 28-Sep |
| | Southern | 15-Jul | 16-Jul | 16-Jul | 18-Jul | 24-Jul | 17-Aug | 17-Sep |
| | Statewide | 22-Aug | 23-Aug | 23-Aug | 25-Aug | 31-Aug | 7-Sep | 18-Sep |

Note: Monitoring, reporting, and closure requirements identified through the NCDMF's sea turtle and Atlantic sturgeon Incidental Take Permits will remain in effect and may impact dates identified in this table.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 5. Continued

| Reduction | Management Area | Season Start Date | | | | | |
|----------------------------------|-----------------|-------------------|--------|--------|--------|---|--|
| | | 1-Aug | 1-Sep | 15-Sep | 1-Oct | Jan. 1, mid-year closure, re-open Sept. 1 | Jan. 1, mid-year closure, re-open Sept. 15 |
| | | Season End Date | | | | | |
| Overfishing Threshold 31% | Northern | 14-Oct | 18-Oct | 26-Oct | 11-Nov | 15-Oct | 22-Oct |
| | Central | 2-Nov | 7-Nov | 11-Nov | 21-Nov | 4-Nov | 7-Nov |
| | Southern | 19-Nov | 25-Nov | 25-Nov | 29-Nov | 17-Nov | 24-Nov |
| | Statewide | 29-Oct | 4-Nov | 17-Nov | 20-Nov | 31-Oct | 4-Nov |
| SSB Threshold 52% | Northern | 6-Oct | 10-Oct | 17-Oct | 31-Oct | 5-Oct | 13-Oct |
| | Central | 18-Oct | 21-Oct | 24-Oct | 5-Nov | 19-Oct | 21-Oct |
| | Southern | 24-Oct | 7-Nov | 15-Nov | 24-Nov | 23-Oct | 29-Oct |
| | Statewide | 12-Oct | 19-Oct | 24-Oct | 7-Nov | 14-Oct | 20-Oct |
| 62% | Northern | 26-Sep | 2-Oct | 13-Oct | 27-Oct | 27-Sep | 10-Oct |
| | Central | 10-Oct | 14-Oct | 17-Oct | 26-Oct | 11-Oct | 14-Oct |
| | Southern | 13-Oct | 26-Oct | 2-Nov | 15-Nov | 11-Oct | 17-Oct |
| | Statewide | 5-Oct | 12-Oct | 17-Oct | 28-Oct | 6-Oct | 11-Oct |
| SSB Target 72% | Northern | 20-Sep | 27-Sep | 6-Oct | 22-Oct | 12-Sep | 21-Sep |
| | Central | 2-Oct | 8-Oct | 11-Oct | 19-Oct | 4-Oct | 8-Oct |
| | Southern | 1-Oct | 14-Oct | 20-Oct | 2-Nov | 29-Sep | 7-Oct |
| | Statewide | 26-Sep | 3-Oct | 9-Oct | 21-Oct | 27-Sep | 3-Oct |

Note: Monitoring, reporting, and closure requirements identified through the NCDMF's sea turtle and Atlantic sturgeon Incidental Take Permits will remain in effect and may impact dates identified in this table.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 6. Southern Flounder Amendment 2 seasons needed to meet the necessary reduction in total removals (observed harvest and dead discards) for the overfishing threshold and SSB threshold and target of the NC recreational hook-and-line fishery in 2019.

| | % Reduction | Total removals (lbs) |
|---------------|-------------|----------------------|
| Terminal Year | 2017 | 488,723 |
| Target | 72% | 136,843 |
| 62% | 62% | 185,715 |
| Threshold | 52% | 234,587 |
| Overfishing | 31% | 337,219 |

| Season | % Reduction | Total removals (lbs) |
|------------------|-------------|----------------------|
| no closure | 0% | 488,723 |
| May 1 - Sept 30 | 18% | 399,908 |
| Jun 1 - Sept 30 | 26% | 360,813 |
| Jul 1 - Sept 30 | 41% | 286,724 |
| Jul 16 - Sept 30 | 51% | 240,876 |
| Aug 1 - Sept 30 | 60% | 195,868 |
| Aug 16 - Sept 30 | 72% | 138,362 |
| Jul 1 - Oct 15 | 35% | 318,760 |
| Jun 1 - Sept 15 | 33% | 325,691 |
| Jul 1 - Sept 15 | 48% | 253,123 |
| Jun 16 - Sept 15 | 40% | 294,998 |
| Jul 16 - Oct 15 | 44% | 271,391 |
| Aug 1 - Oct 30 | 49% | 249,887 |
| Jul 16 -Oct 30 | 40% | 294,894 |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 7. Southern Flounder Amendment 2 seasons needed to meet the necessary reduction in total removals (observed harvest and dead discards) for the overfishing threshold and SSB threshold and target of **the NC recreational gig fishery** in 2019.

| | % Reduction | Total removals (lbs) |
|---------------|-------------|----------------------|
| Terminal Year | 2017 | 57,019 |
| Target | 72% | 15,965 |
| 62% | 62% | 21,667 |
| Threshold | 52% | 27,369 |
| Overfishing | 31% | 39,343 |

| Season | % Reduction | Total Removals (lbs) |
|------------------|-------------|----------------------|
| no closure | 0% | 57,019 |
| Mar 1 - Oct 15 | 15% | 48,707 |
| Mar 16 - Oct 31 | 16% | 47,734 |
| Mar 1 - Sept 30 | 21% | 45,207 |
| Apr 1 - Oct 31 | 24% | 43,260 |
| Mar 16 - Sept 30 | 29% | 40,732 |
| Apr 1 - Oct 15 | 30% | 39,759 |
| Apr 1 - Sept 30 | 36% | 36,258 |
| May 1 - Oct 31 | 40% | 34,311 |
| Apr 16 - Sept 30 | 44% | 31,784 |
| May 1 - Oct 15 | 46% | 30,811 |
| May 1 - Sept 30 | 52% | 27,310 |
| Jun 1 - Sept 30 | 63% | 21,374 |
| Jul 16 - Oct 31 | 64% | 20,330 |
| Jul 1 - Oct 15 | 67% | 18,938 |
| Aug 1 - Oct 31 | 68% | 18,221 |
| Jun 1 - Sept 15 | 69% | 17,873 |
| Jul 16 - Oct 15 | 70% | 16,829 |
| Jul 1 - Sept 30 | 73% | 15,438 |
| Jun 16 - Sept 15 | 74% | 14,905 |
| Jul 16 - Sept 30 | 77% | 13,329 |
| Jul 1 - Sept 15 | 79% | 11,937 |
| Aug 1 - Sept 30 | 80% | 11,219 |
| Aug 16 - Sept 30 | 84% | 9,110 |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 8. Southern Flounder Amendment 2 trip limit options (in pounds) for the commercial pound net fishery, including the number, % of trips, and % of harvest within each trip limit option for each management area, September through November 2008-2017.

| Pounds Per Trip | Management Area | | | | | |
|-------------------------|-----------------|------------|--------------|-----------------|------------|--------------|
| | Northern | | | Central | | |
| | Number of Trips | % of Trips | % of Harvest | Number of Trips | % of Trips | % of Harvest |
| <251 | 1,633 | 65.2% | 8.5% | 4,173 | 51.3% | 10.5% |
| 251-500 | 291 | 11.6% | 7.8% | 1,533 | 18.8% | 13.5% |
| 501-750 | 159 | 6.3% | 7.3% | 794 | 9.8% | 11.9% |
| 751-1,000 | 86 | 3.4% | 5.7% | 518 | 6.4% | 11.0% |
| 1,001-1,250 | 63 | 2.5% | 5.2% | 315 | 3.9% | 8.7% |
| 1,251-1,500 | 43 | 1.7% | 4.5% | 212 | 2.6% | 7.2% |
| 1,501-2,000 | 66 | 2.6% | 8.3% | 252 | 3.1% | 10.7% |
| 2,001-3,000 | 63 | 2.5% | 11.4% | 209 | 2.6% | 12.4% |
| 3,001-4,000 | 36 | 1.4% | 9.8% | 76 | 0.9% | 6.4% |
| 4,001+ | 66 | 2.6% | 31.6% | 59 | 0.7% | 7.8% |
| Average Pounds Per Trip | 539 | | | 503 | | |

| Pounds Per Trip | Management Area | | | | | |
|-------------------------|-----------------|------------|--------------|-----------------|------------|--------------|
| | Southern | | | Statewide | | |
| | Number of Trips | % of Trips | % of Harvest | Number of Trips | % of Trips | % of Harvest |
| <251 | 1,850 | 65.8% | 17.7% | 7,656 | 56.9% | 11.2% |
| 251-500 | 420 | 14.9% | 15.4% | 2,244 | 16.7% | 12.6% |
| 501-750 | 197 | 7.0% | 12.6% | 1,150 | 8.5% | 11.0% |
| 751-1,000 | 123 | 4.4% | 10.9% | 727 | 5.4% | 9.9% |
| 1,001-1,250 | 63 | 2.2% | 7.4% | 441 | 3.3% | 7.8% |
| 1,251-1,500 | 40 | 1.4% | 5.7% | 295 | 2.2% | 6.4% |
| 1,501-2,000 | 48 | 1.7% | 8.8% | 366 | 2.7% | 9.9% |
| 2,001-3,000 | 40 | 1.4% | 10.4% | 312 | 2.3% | 11.8% |
| 3,001-4,000 | 20 | 0.7% | 6.8% | 132 | 1.0% | 7.2% |
| 4,001+ | 9 | 0.3% | 4.4% | 134 | 1.0% | 12.3% |
| Average Pounds Per Trip | 344 | | | 475 | | |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 9. Southern Flounder Amendment 2 trip limit options (in number of fish) for the commercial gig fishery, including the number, % of trips, and % of harvest within each trip limit option for each management area, 2008-2017.

| Number of Fish | Equivalent pounds | Management Area | | | | | |
|-------------------------|-------------------|-----------------|------------|--------------|-----------------|------------|--------------|
| | | Northern | | | Central | | |
| | | Number of Trips | % of Trips | % of Harvest | Number of Trips | % of Trips | % of Harvest |
| 25 | 64 | 77 | 81.9% | 54.1% | 859 | 69.4% | 35.5% |
| 50 | 128 | 14 | 14.9% | 33.3% | 268 | 21.6% | 33.6% |
| 75 | 192 | 2 | 2.1% | 7.1% | 75 | 6.1% | 16.2% |
| 100 | 256 | 1 | 1.1% | 5.5% | 24 | 1.9% | 7.8% |
| 125 | 320 | | 0.0% | 0.0% | 5 | 0.4% | 2.1% |
| 150 | 384 | | 0.0% | 0.0% | 1 | 0.1% | 0.5% |
| 175 | 448 | | 0.0% | 0.0% | 3 | 0.2% | 1.7% |
| 200 | 512 | | 0.0% | 0.0% | 3 | 0.2% | 2.7% |
| Average Pounds Per Trip | | 41.2 | | | 57.2 | | |

| Number of Fish | Equivalent pounds | Management Area | | | | | |
|-------------------------|-------------------|-----------------|------------|--------------|-----------------|------------|--------------|
| | | Southern | | | Statewide | | |
| | | Number of Trips | % of Trips | % of Harvest | Number of Trips | % of Trips | % of Harvest |
| 25 | 64 | 16,352 | 74.7% | 44.8% | 17288 | 74.4% | 44.3% |
| 50 | 128 | 4,222 | 19.3% | 32.9% | 4504 | 19.4% | 33.0% |
| 75 | 192 | 864 | 3.9% | 11.8% | 941 | 4.1% | 12.0% |
| 100 | 256 | 299 | 1.4% | 5.8% | 324 | 1.4% | 5.9% |
| 125 | 320 | 87 | 0.4% | 2.2% | 92 | 0.4% | 2.2% |
| 150 | 384 | 31 | 0.1% | 1.0% | 32 | 0.1% | 0.9% |
| 175 | 448 | 16 | 0.1% | 0.6% | 19 | 0.1% | 0.7% |
| 200 | 512 | 20 | 0.1% | 1.0% | 23 | 0.1% | 1.1% |
| Average Pounds Per Trip | | 51.6 | | | 51.9 | | |

*used an average of 2.56 pounds per fish (2008-2017 average)

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 10. Average yards of large mesh gill net fished per trip by ITP Management Unit and season during 2016 and 2017.

| Management Unit | Season | Average Yards |
|-----------------|--------------------|---------------|
| A | December-February | N/A |
| | March-May | 1,464 |
| | June-August | 1,424 |
| | September-November | 1,590 |
| B | December-February | N/A |
| | March-May | 1,000 |
| | June-August | 921 |
| | September-November | 1,007 |
| C | December-February | 425 |
| | March-May | 951 |
| | June-August | 1,042 |
| | September-November | 964 |
| D | December-February | 600 |
| | March-May | 936 |
| | June-August | 971 |
| | September-November | 951 |
| E | December-February | 525 |
| | March-May | 586 |
| | June-August | 638 |
| | September-November | 669 |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 11. Economic impacts associated with **commercial southern flounder fishing** in North Carolina, 2009-2017.

| Year | Participants ¹ | Pounds ¹ | Ex-Vessel Value ¹ | Economic Impacts | | |
|------|---------------------------|---------------------|------------------------------|---------------------|--|--|
| | | | | Jobs ^{2,3} | Income Impacts (thousands of dollars) ³ | Output Impacts (thousands of dollars) ^{3,4} |
| 2009 | 1,299 | 2,396,240 | \$4,609,932 | 419 | \$9,908 | \$17,769 |
| 2010 | 1,182 | 1,689,557 | \$3,695,889 | 328 | \$7,963 | \$14,222 |
| 2011 | 1,039 | 1,247,450 | \$2,753,128 | 246 | \$5,977 | \$10,669 |
| 2012 | 1,202 | 1,646,137 | \$4,451,482 | 393 | \$9,633 | \$17,259 |
| 2013 | 1,286 | 2,186,391 | \$5,673,190 | 487 | \$12,347 | \$21,801 |
| 2014 | 1,222 | 1,673,511 | \$4,839,672 | 396 | \$10,753 | \$18,933 |
| 2015 | 1,029 | 1,202,930 | \$3,823,707 | 300 | \$8,397 | \$14,722 |
| 2016 | 945 | 897,765 | \$3,610,533 | 286 | \$7,167 | \$14,925 |
| 2017 | 1,048 | 1,394,552 | \$5,655,489 | 453 | \$14,660 | \$21,442 |

1 As reported by the North Carolina Trip Ticket Program

2 Represents both full-time and part-time jobs

3 Economic impacts calculated using the NCDMF commercial fishing economic impact model and IMPLAN economic impact modeling software. Economic impact estimates are for the state economy of North Carolina.

4 Represents sales impacts

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 12. Economic impacts associated with recreational southern flounder fishing in North Carolina from 2009-2017.

| Year | Trips ¹ | Estimated Expenditures (thousands of dollars) ² | Economic Impacts | | |
|------|--------------------|--|---------------------|--|--|
| | | | Jobs ^{3,4} | Income Impacts (thousands of dollars) ⁴ | Output Impacts (thousands of dollars) ⁴ |
| 2009 | 2,577,363 | \$442,934 | 3,572 | \$108,658 | \$273,219 |
| 2010 | 2,900,583 | \$497,196 | 4,052 | \$124,734 | \$310,591 |
| 2011 | 2,519,959 | \$436,762 | 3,736 | \$118,739 | \$293,707 |
| 2012 | 2,552,146 | \$444,117 | 3,686 | \$119,177 | \$294,023 |
| 2013 | 2,623,195 | \$452,931 | 3,542 | \$115,739 | \$286,489 |
| 2014 | 2,685,072 | \$460,707 | 3,486 | \$115,658 | \$286,196 |
| 2015 | 2,536,854 | \$434,272 | 3,286 | \$110,637 | \$274,761 |
| 2016 | 2,420,326 | \$415,870 | 3,041 | \$103,370 | \$254,916 |
| 2017 | 2,107,301 | \$362,466 | 2,574 | \$87,722 | \$216,218 |

1 Trip estimates from MRIP include trips in which any Flounder was targeted, harvested, or discarded

2 Estimated expenditures include only trip expenditures.

3 Includes full time and part time jobs

4 Economic impacts calculated using the NCDMF coastal recreational fishing economic impact model and IMPLAN economic impact modeling software. Economic impact estimates are for the state economy of North Carolina.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 13. Draft NCDMF and Advisory Committee recommendations for public comment in draft Amendment 2 of the Southern Flounder FMP. Recommendations will be provided by the MFC Regional and Standing Committees and public from June 2019.

| Issue | NCDMF | Advisory Committee | MFC Committees | Public Comment |
|---|--|---|---------------------------------|----------------|
| Sustainable harvest in the commercial fishery | Establish seasonal closures by area for the commercial fishery to reduce F and increase SSB to rebuild between the threshold and the target in 2019 (62% reduction) and establish seasonal closures by area for the commercial fishery to reduce F and allow the SSB to rebuild to the target beginning in 2020 (72% reduction)[as of 5/8/2019]. | <p>For the 2019 fishing year, implement a 31% reduction through seasonal closures by area and major gear type.</p> <p>For the 2020 fishing year, implement a 52% reduction through seasonal closures by area and major gear types, with the following changes to the NCDMF recommendation (as presented by the NCDMF on April 2, 2019):</p> <ul style="list-style-type: none"> -40% reduction to the pound net fishery -40% reduction to the gig fishery -approximately 70% reduction to the gill net fishery (to make the total reduction to the commercial fishery equal 52%)[as of 4/02/2019] | Southern Northern Finfish | |
| Sustainable harvest non-quantifiable harvest restrictions in the commercial fishery | Status quo- NCDMF has no preferred recommendation at this time (as of 5/8/2019). | As of Jan. 1, 2020, implement a 1,500-yard limit for large mesh gill nets in Management Unit A, and a 1,000-yard limit for all other management units where it is not already at 1,000 yards (as of 4/02/2019). | Southern Northern Finfish | |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 13. Continued.

| Issue | NCDMF | Advisory Committee | MFC Committees | Public Comment |
|---|---|--|--|-----------------------|
| Sustainable harvest in the recreational fishery | <p>Establish seasonal closures by area for the recreational fishery to reduce F and increase SSB to rebuild between the threshold and the target in 2019 (62% reduction) and establish seasonal closures by area for the recreational fishery to reduce F and allow the SSB to rebuild to the target beginning in 2020 (72% reduction).</p> <p>The Recreational Commercial Gear License fishery, for large mesh gill nets, will operate during the dates where the recreational and commercial seasons overlap (as of 5/08/2019).</p> | <p>For the 2019 fishing year, implement a 33% reduction to the recreational hook-and-line fishery through a seasonal closure. The recreational gig fishery will follow the same season.</p> <p>For the 2020 fishing year, implement the NCDMF's recommendation (as presented on April 2, 2019) at a 52% reduction for the recreational hook-and-line fishery through a seasonal closure. The recreational gig fishery will follow the same season.</p> <p>The Recreational Commercial Gear License fishery, same as the NCDMF (as of 4/02/2019).</p> | <p>Southern</p> <p>Northern</p> <p>Finfish</p> | |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

Table 13. Continued.

| Issue | NCDMF | Advisory Committee | MFC Committees | Public Comment |
|---|--|---------------------------|--|-----------------------|
| Sustainable harvest, management carried forward and Amendment 3 | <p>Current management measures, including size limits, the recreational bag limit, minimum mesh size for gill nets and the pound net escape panels, the number gill net fishing days and amount of yardage allowed in various areas of the state, and minimum distance requirements between gill net and pound nets, will be carried forward in Amendment 2 (as of 05/08/2019).</p> <p>Amendment 3 will continue to be developed with more robust management strategies (as of 5/08/2019).</p> | | <p>Southern</p> <p>Northern</p> <p>Finfish</p> | |

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

XI. FIGURES

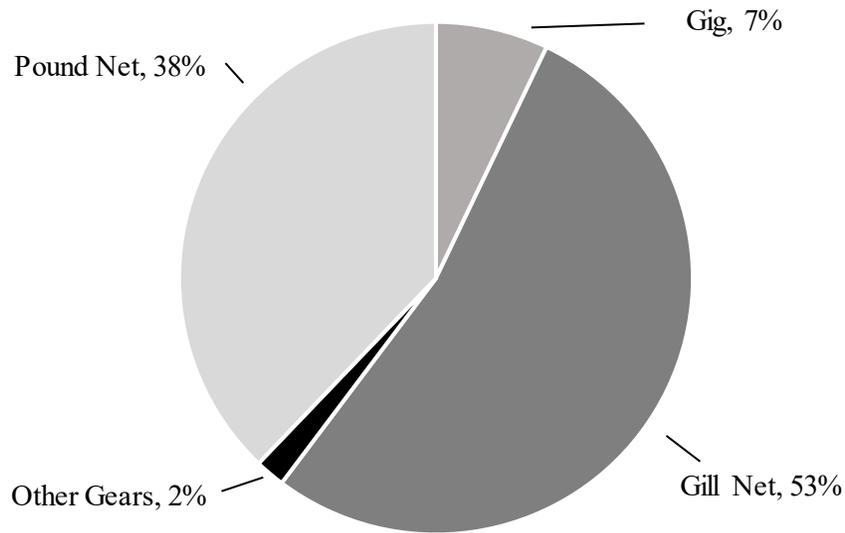


Figure 1. Contribution (pounds) to the North Carolina southern flounder commercial fishery total removals (observed landings and dead discards) by gear, 2008-2017. (Source: North Carolina Trip Ticket Program and North Carolina Estuarine Gill Net Observer Program).

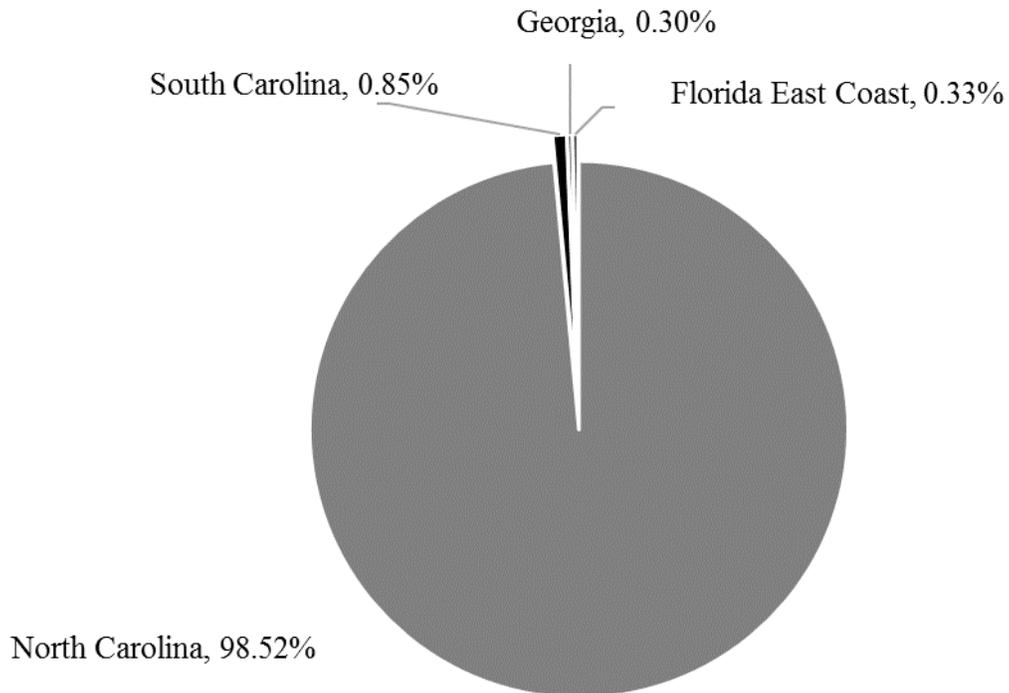


Figure 2. Average contribution to U.S. South Atlantic coast southern flounder commercial landings (pounds) by state, 1978-2017. (Source: NOAA Fisheries Annual Commercial Landing Statistics and North Carolina Trip Ticket Program).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

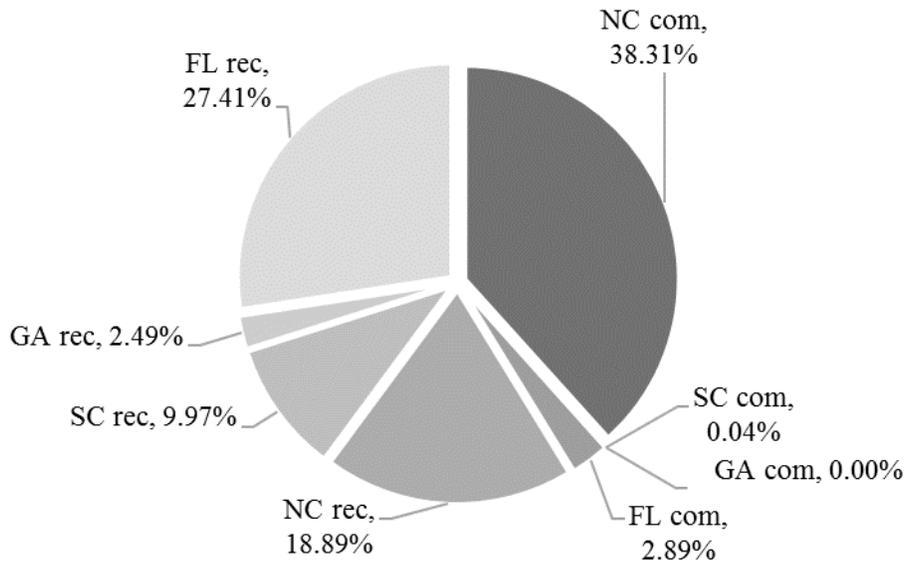


Figure 3. Average contribution to U.S. South Atlantic coast southern flounder commercial and recreational removals (observed harvest and dead discards) in pounds by state, 2008-2017. (Source: NOAA Fisheries Annual Commercial Landing Statistics, North Carolina Trip Ticket Program and the Marine Recreational Information Program).

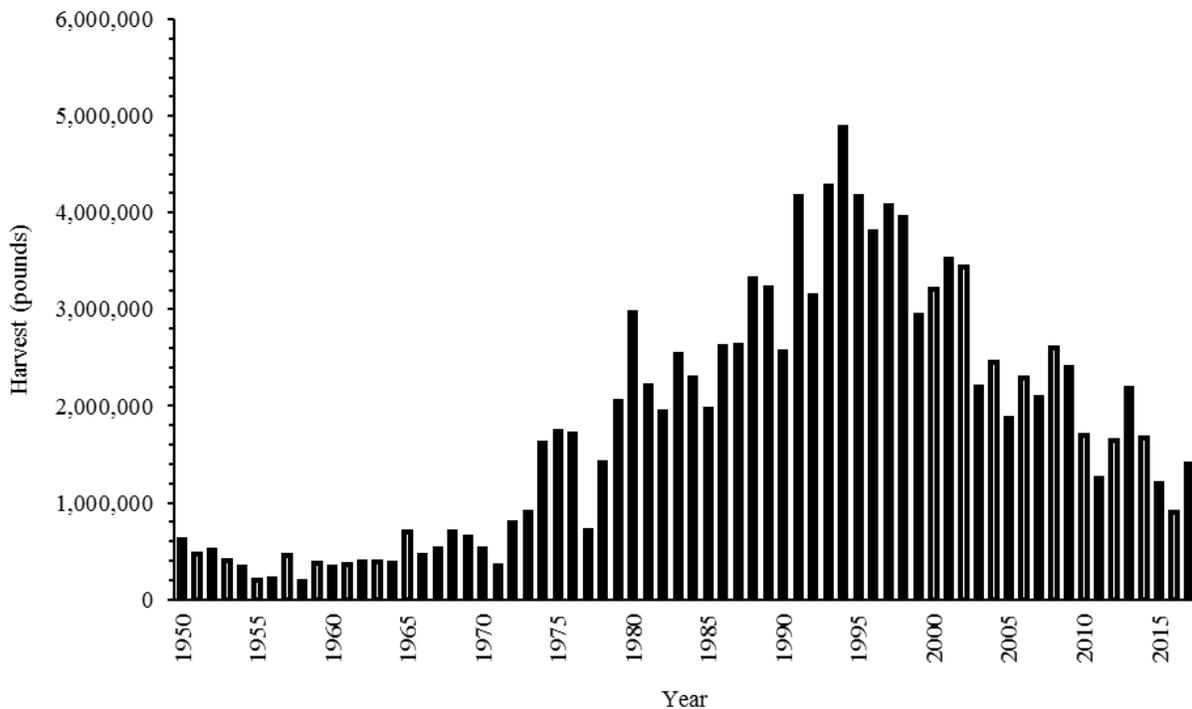


Figure 4. North Carolina annual southern flounder commercial harvest (pounds), 1950-2017. (Source: North Carolina Trip Ticket Program).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

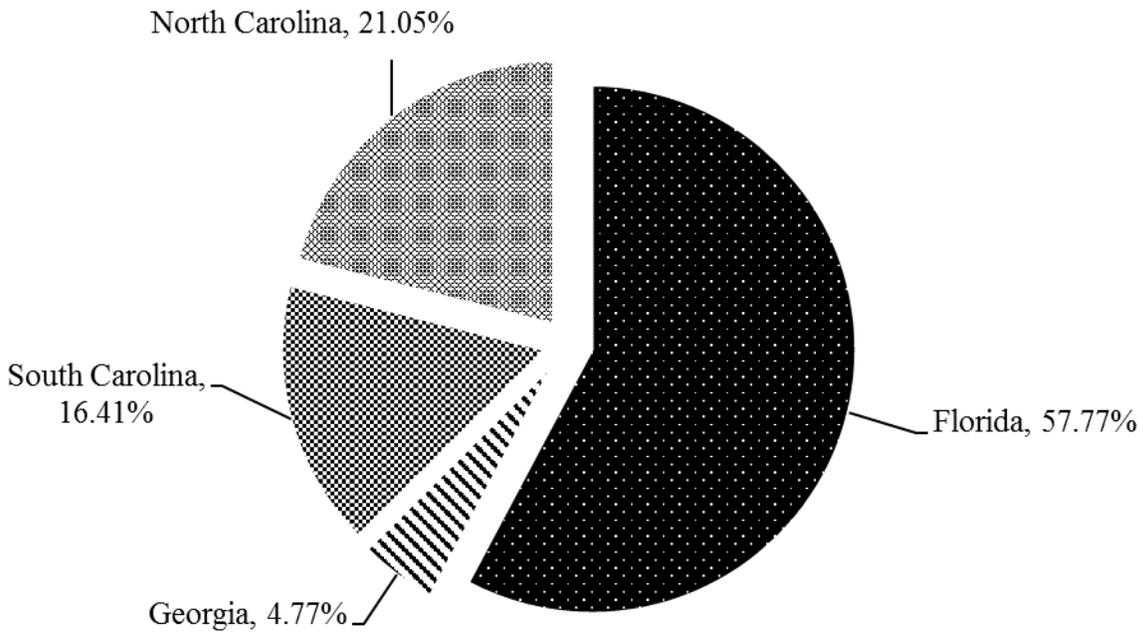


Figure 5. Average contribution to U.S. South Atlantic coast southern flounder recreational removals (observed harvest and dead discards; in pounds) by state, 1981-2017. (Source: Marine Recreational Information Program).

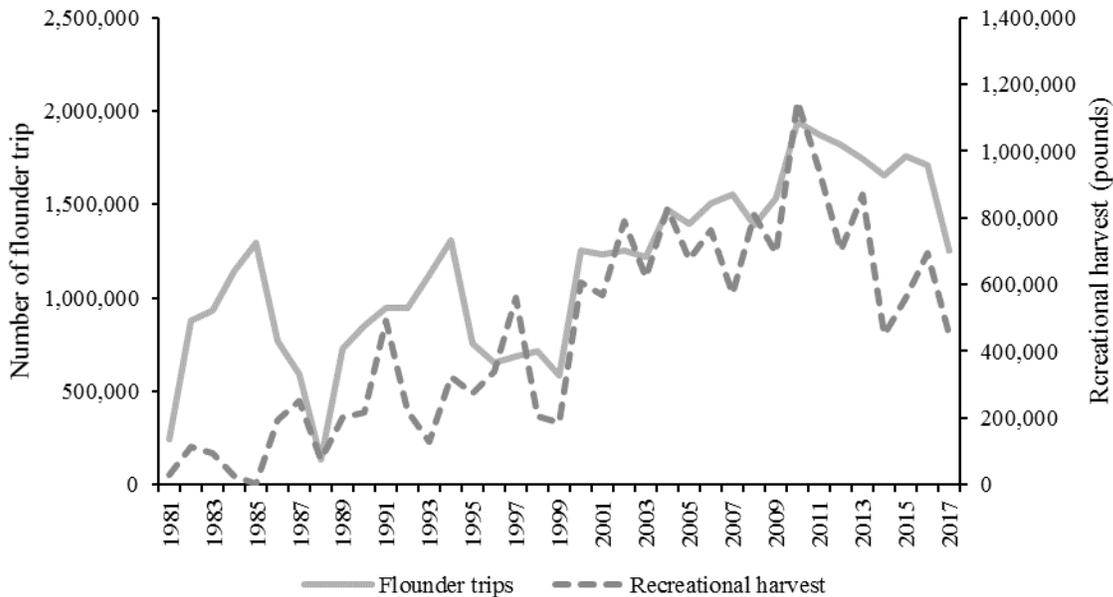


Figure 6. Recreational hook-and-line trips targeting flounder species in North Carolina, 1981-2017. (Source: Marine Recreational Information Program, targeted trips identified by angler interviews)

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

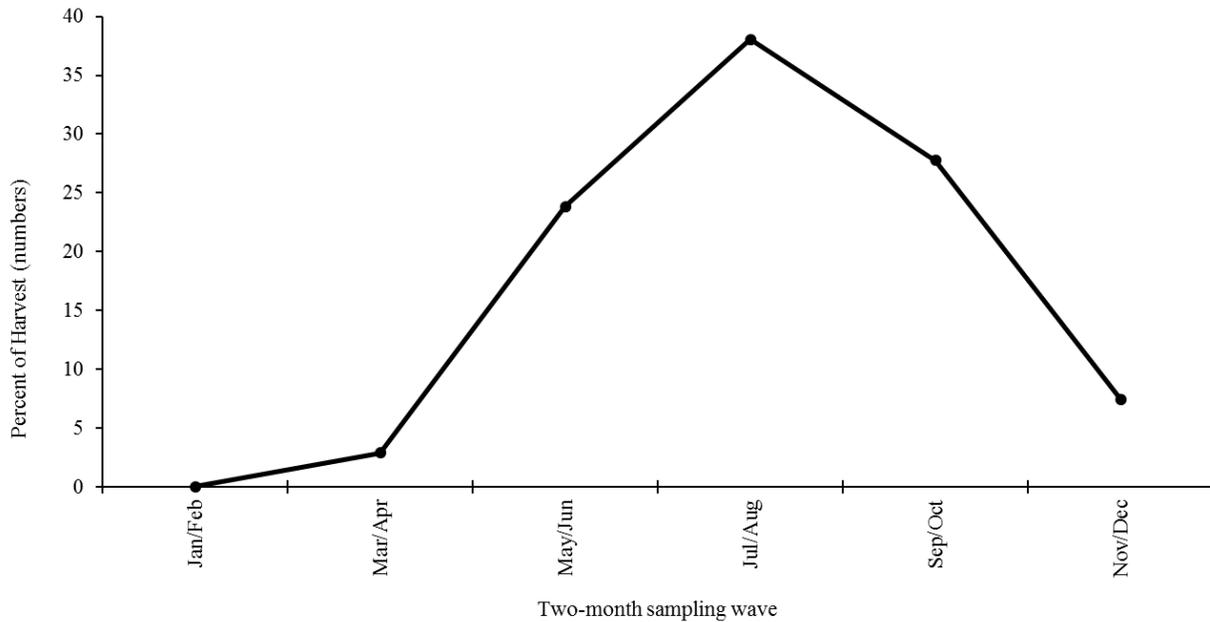


Figure 7. Average percent of recreational harvest (numbers of fish) of hook-and-line caught southern flounder in North Carolina by two-month wave, 1981-2017. (Source: Marine Recreational Information Program).

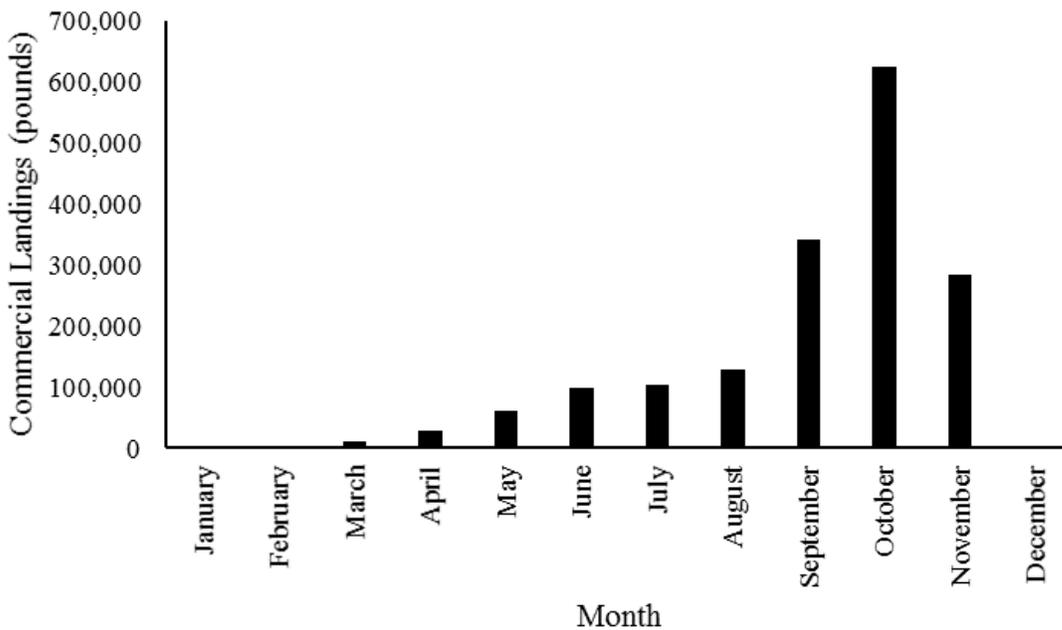


Figure 8. Average commercial southern flounder landings (pounds) by month in North Carolina, 2008-2017. (Source: North Carolina Trip Ticket Program).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

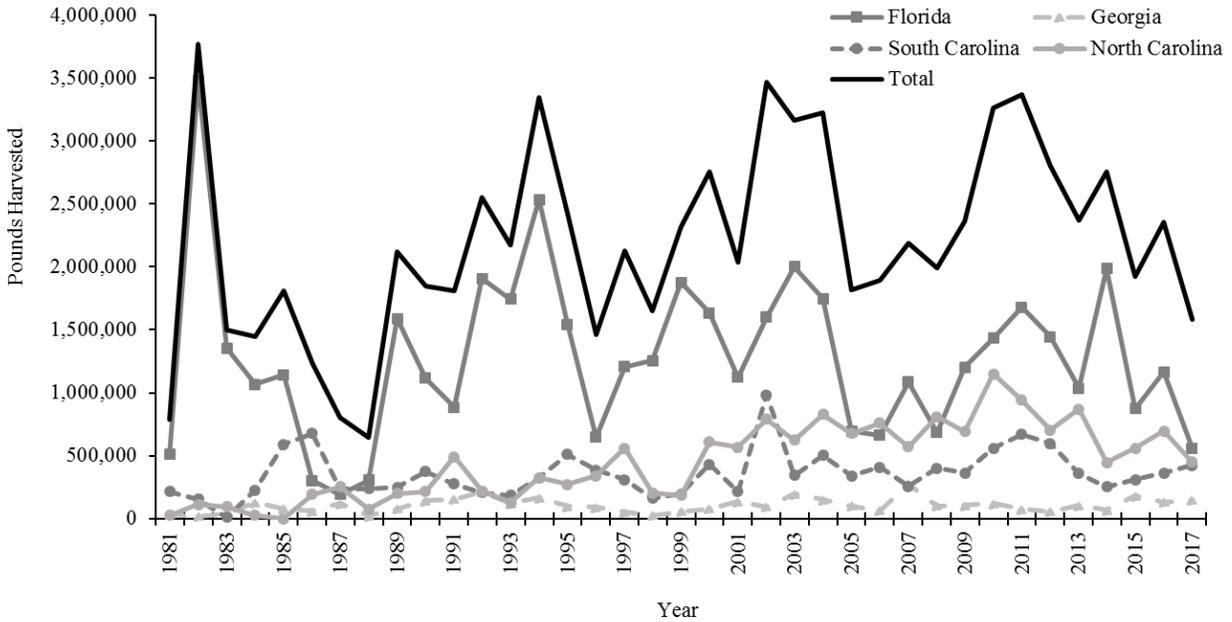


Figure 9. Recreational hook-and-line harvested pounds of southern flounder estimated through MRIP for North Carolina through Florida, 1981-2017. (Source: Marine Recreational Information Program).

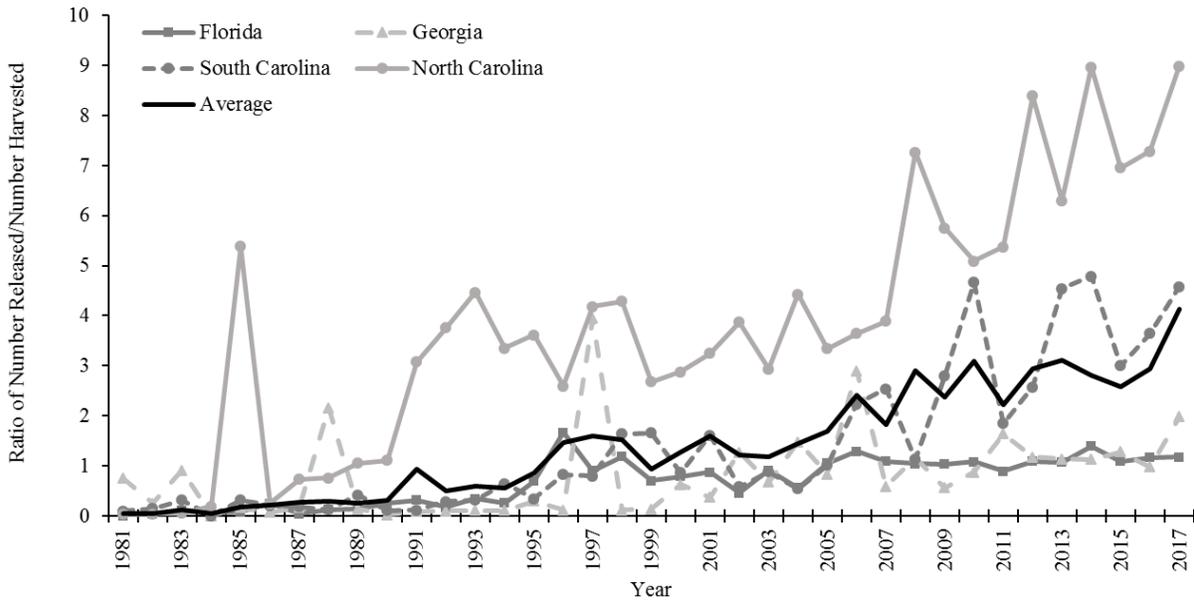


Figure 10. The ratio of released southern flounder compared to harvested southern flounder by number from recreational hook-and-line caught fish for North Carolina through Florida, 1981-2017. (Source: Marine Recreational Information Program).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

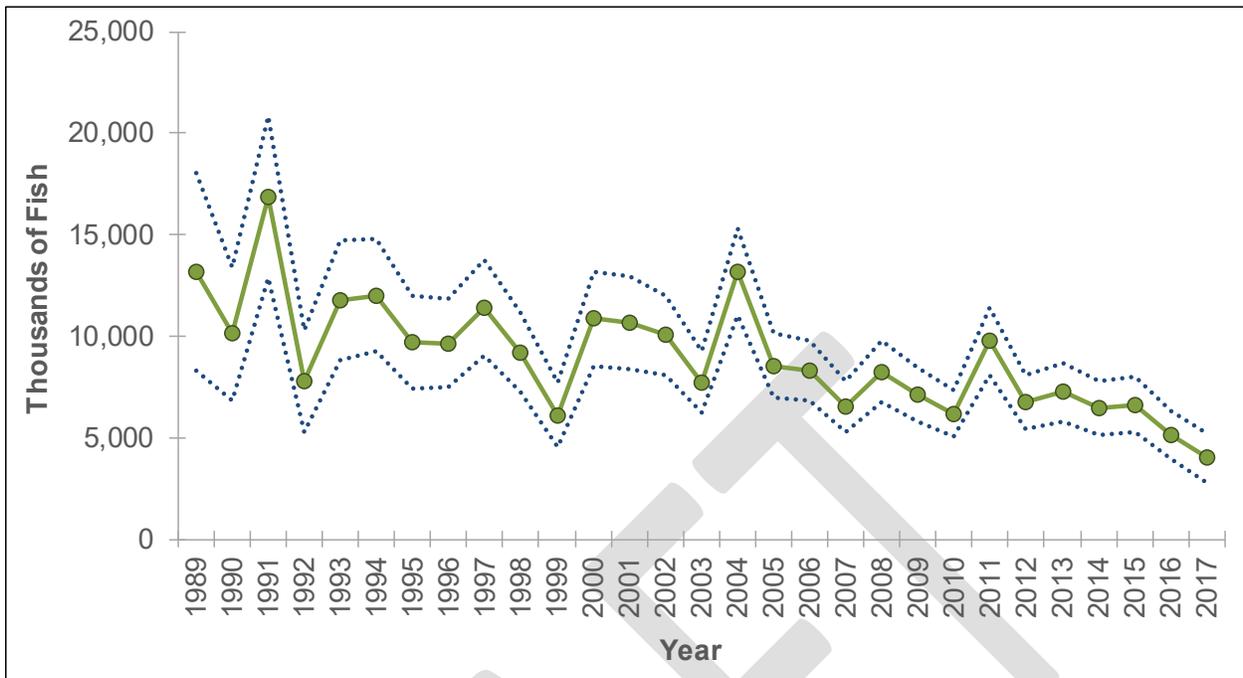


Figure 11. Predicted number of recruits (in thousands of fish) from the base run of the ASAP model, 1989-2017.

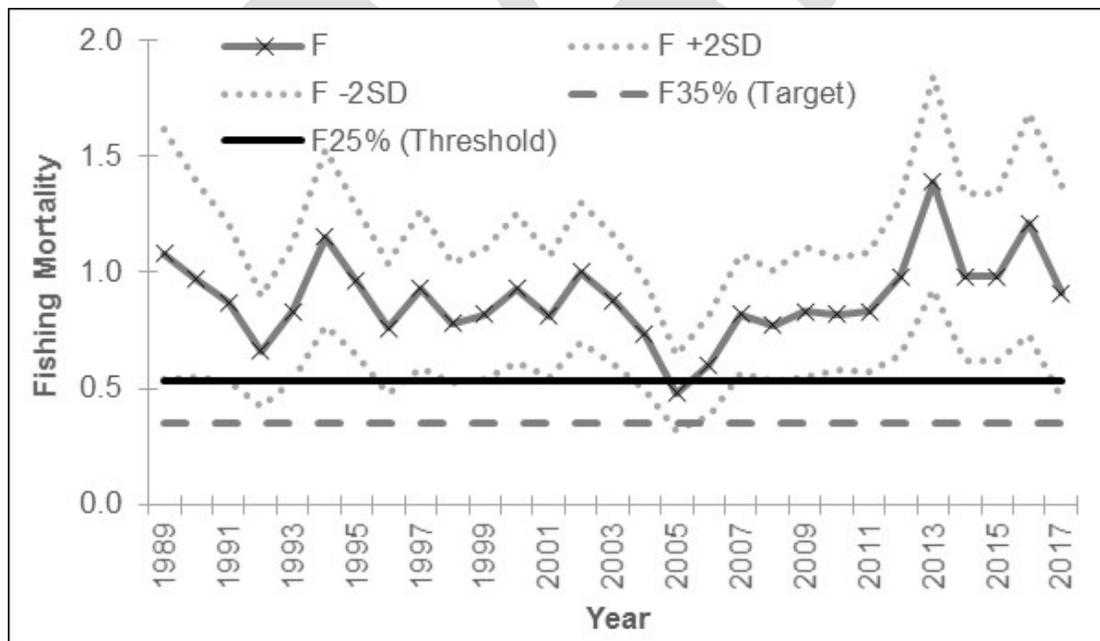


Figure 12. Estimated fishing mortality rates (numbers-weighted, ages 2–4) compared to established reference points, 1989–2017. (Source: Flowers et al. 2019).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

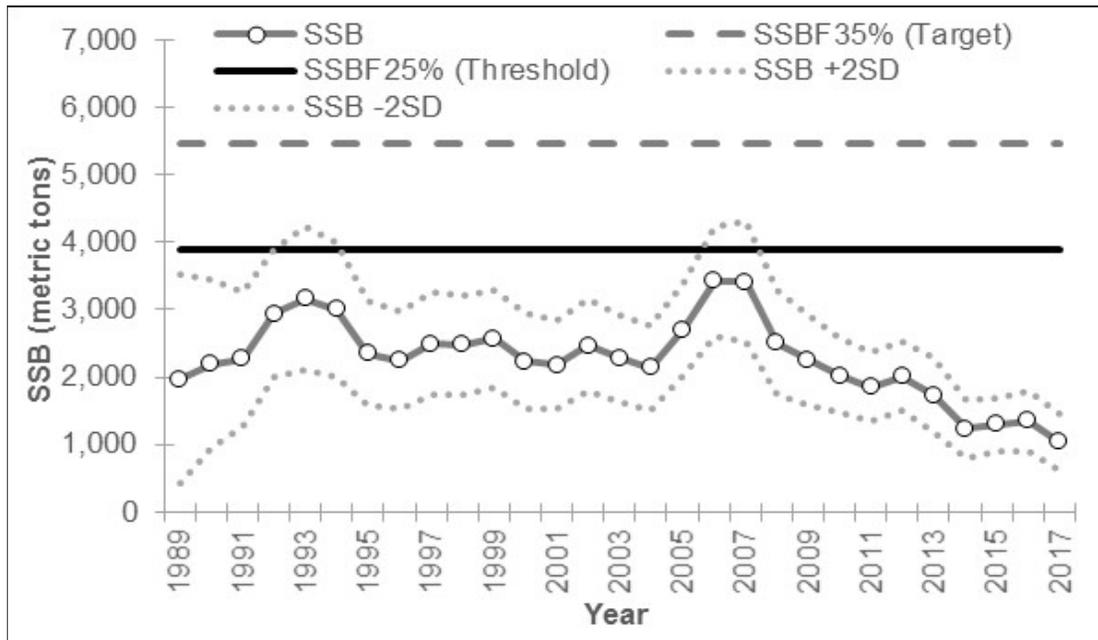


Figure 13. Estimated spawning stock biomass compared to established reference points, 1989–2017. (Source: Flowers et al. 2019).

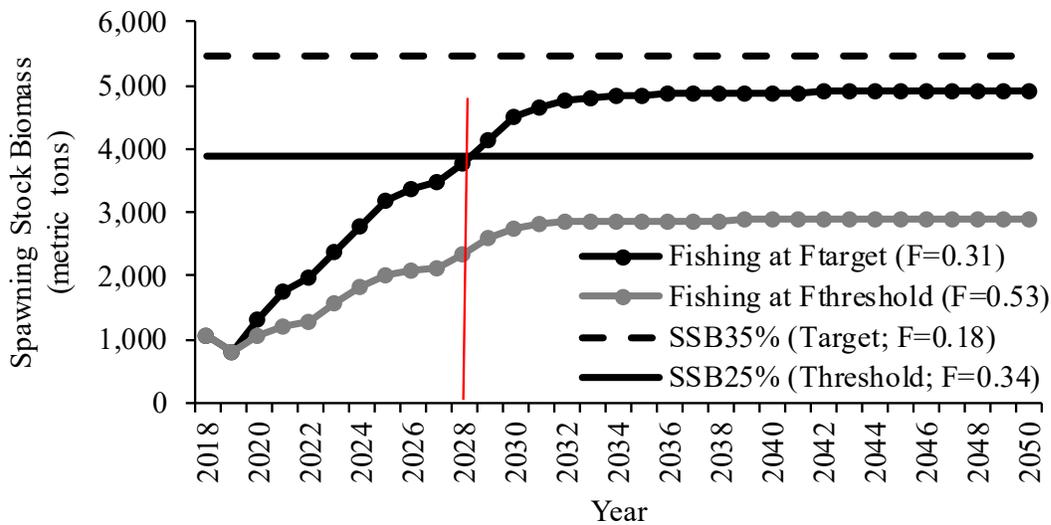


Figure 14. Projections of SSB related to fishing at a level to end overfishing in the required two-year time period. Fishing at $F_{\text{threshold}}$ equates to a 31% reduction in total removals, while Fishing at F_{target} equates to a 51% reduction in total removals. (Note: SSB does not rebuild within required 10-year time period; Source: Flowers et al. 2019).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

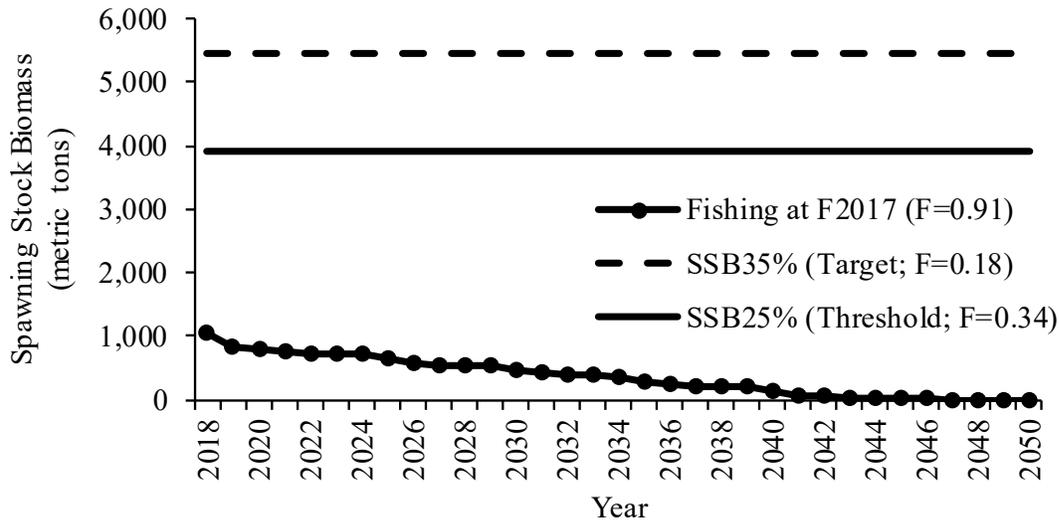


Figure 15. Predicted future spawning stock biomass (metric tons) assuming fishing at recent levels ($F_{2017}=0.91$) and continuing decline in recruitment. (Source: Flowers et al. 2019).

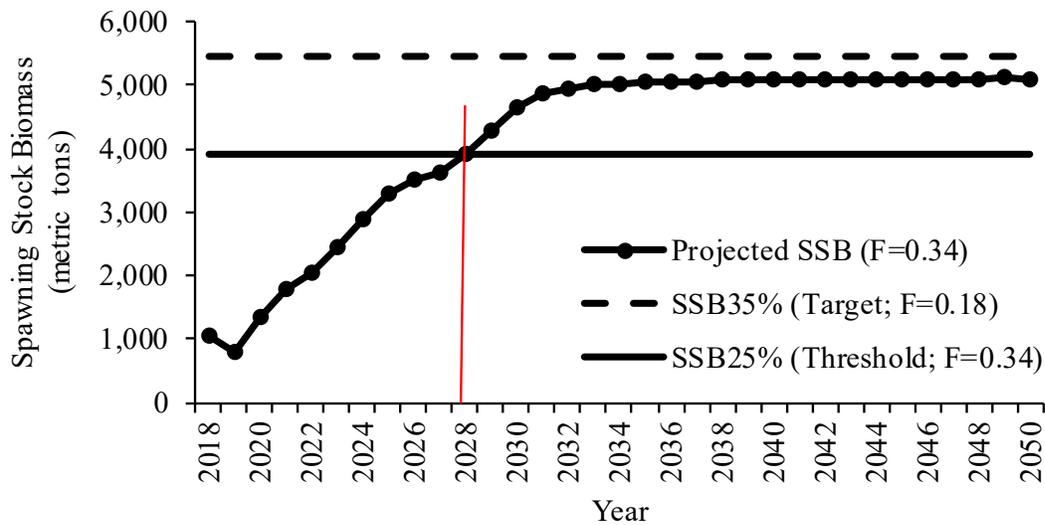


Figure 16. Predicted future spawning stock biomass (metric tons) assuming the fishing mortality value ($F_{25\%} = 0.34$; 52% reduction in total removals) necessary to end the overfished status ($SSB_{Threshold}$) by 2028. (Source: Flowers et al. 2019)

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

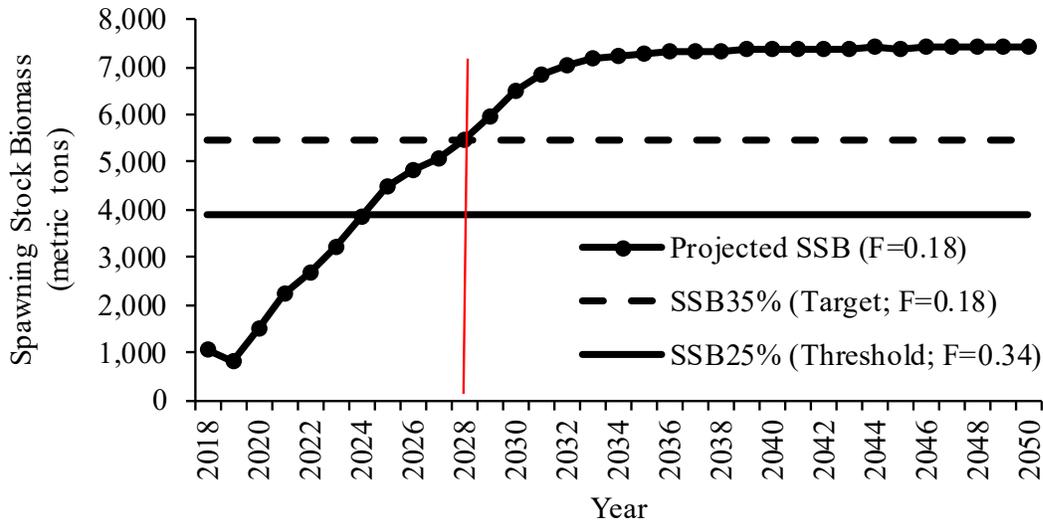


Figure 17. Predicted future spawning stock biomass (metric tons) assuming the fishing mortality value ($F_{35\%} = 0.18$; 72% reduction in total removals) necessary to reach the SSB_{Target} by 2028. (Source: Flowers et al. 2019).

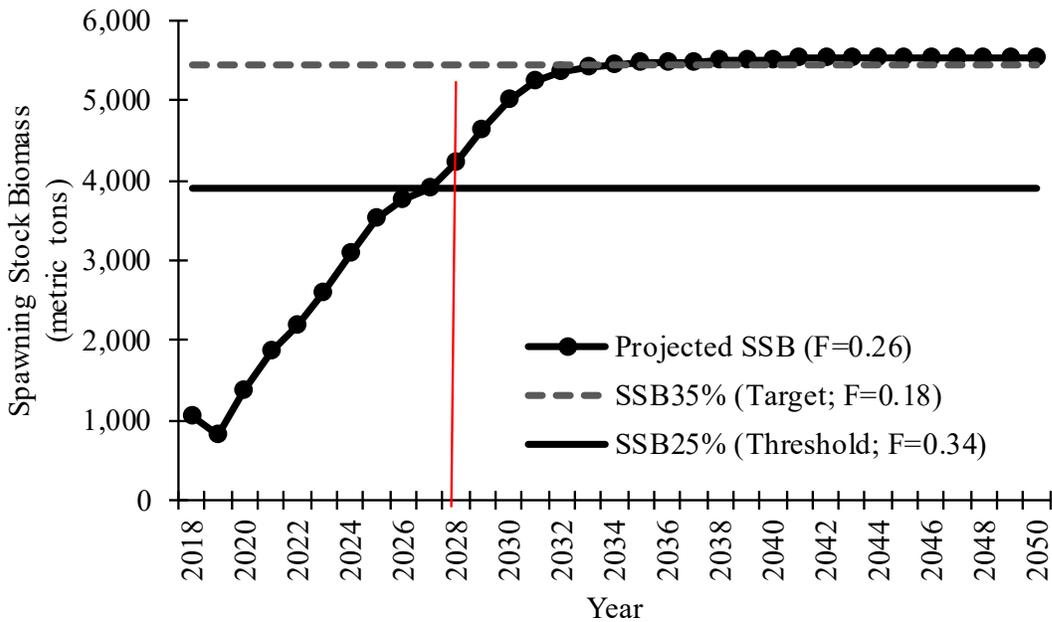


Figure 18. Predicted future spawning stock biomass (metric tons) assuming the fishing mortality value ($F = 0.26$; 62% reduction in total removals) necessary to reach between the SSB_{Target} and $SSB_{Threshold}$ by 2028.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

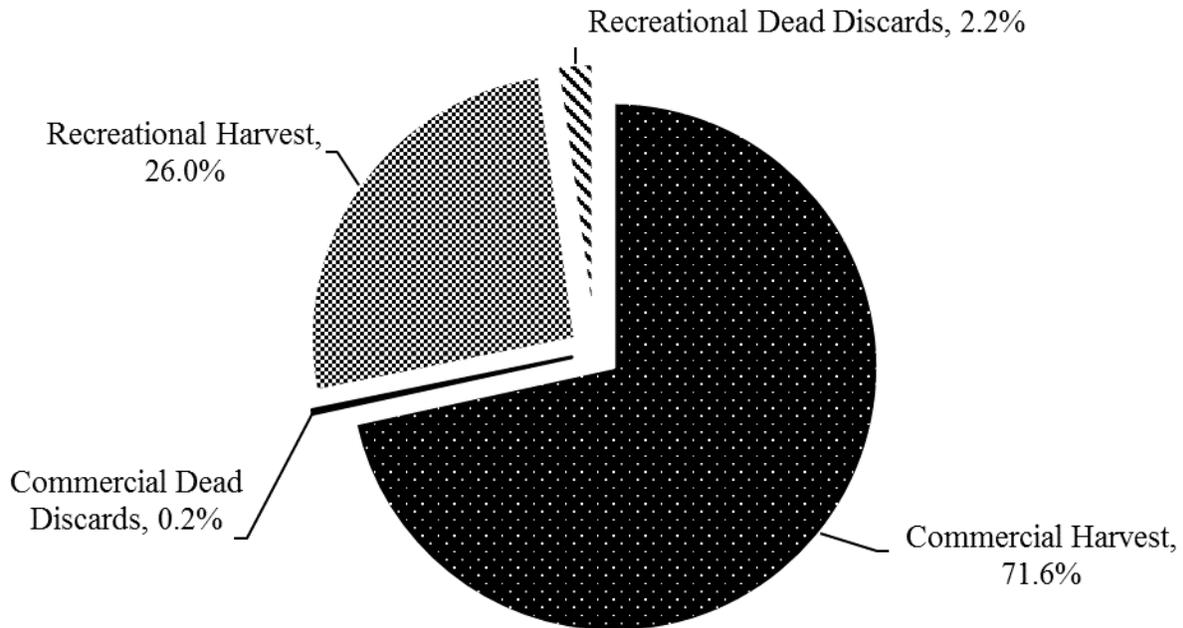


Figure 19. Breakdown of the total removals (observed harvest and dead discards) in % of pounds for the commercial and recreational (hook-and-line and gig) fisheries in North Carolina, 2017. (Source: North Carolina Trip Ticket Program and Marine Recreational Information Program).

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

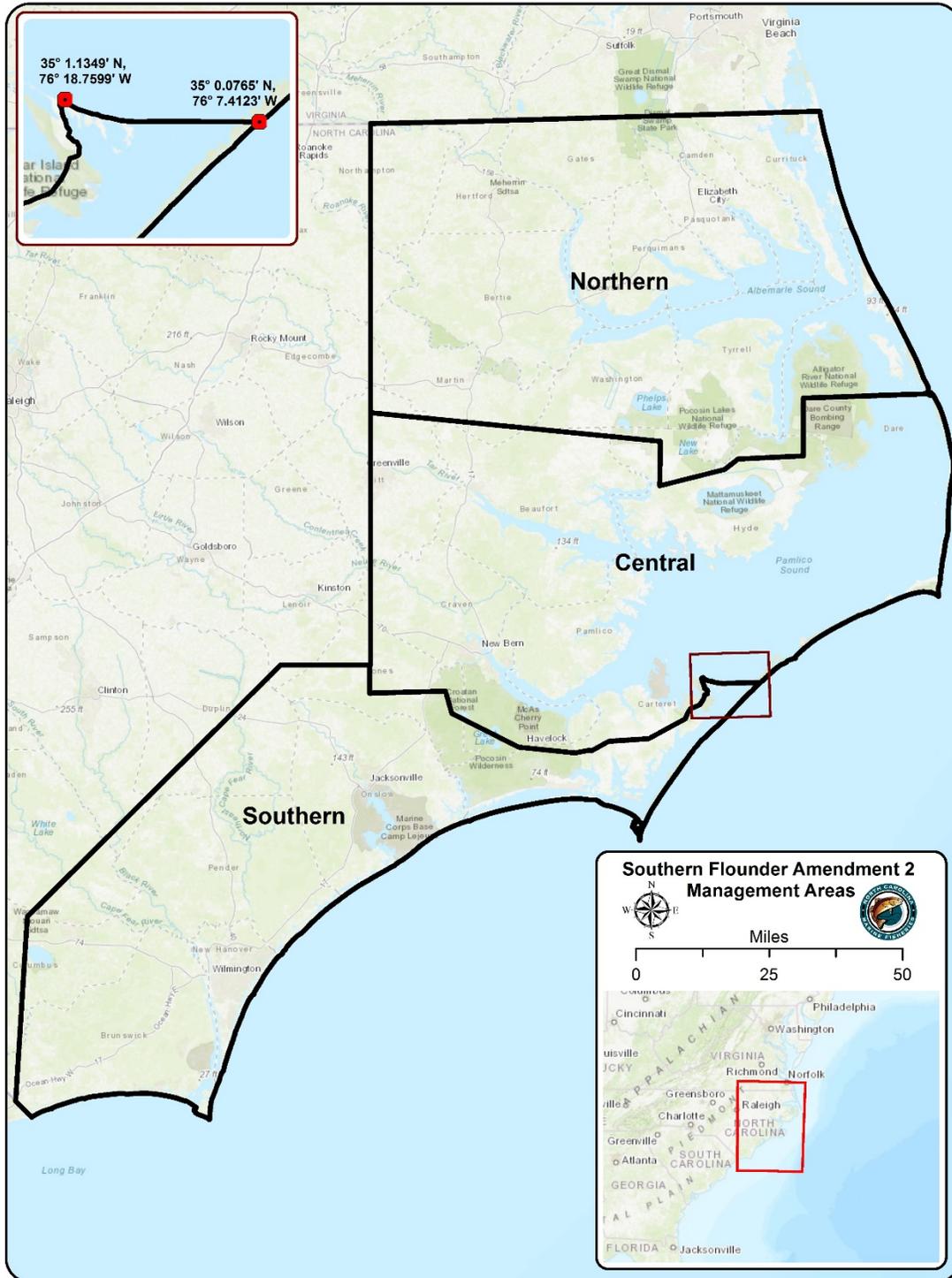


Figure 20. Southern Flounder Amendment 2 management areas for the commercial fishery, 2019.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

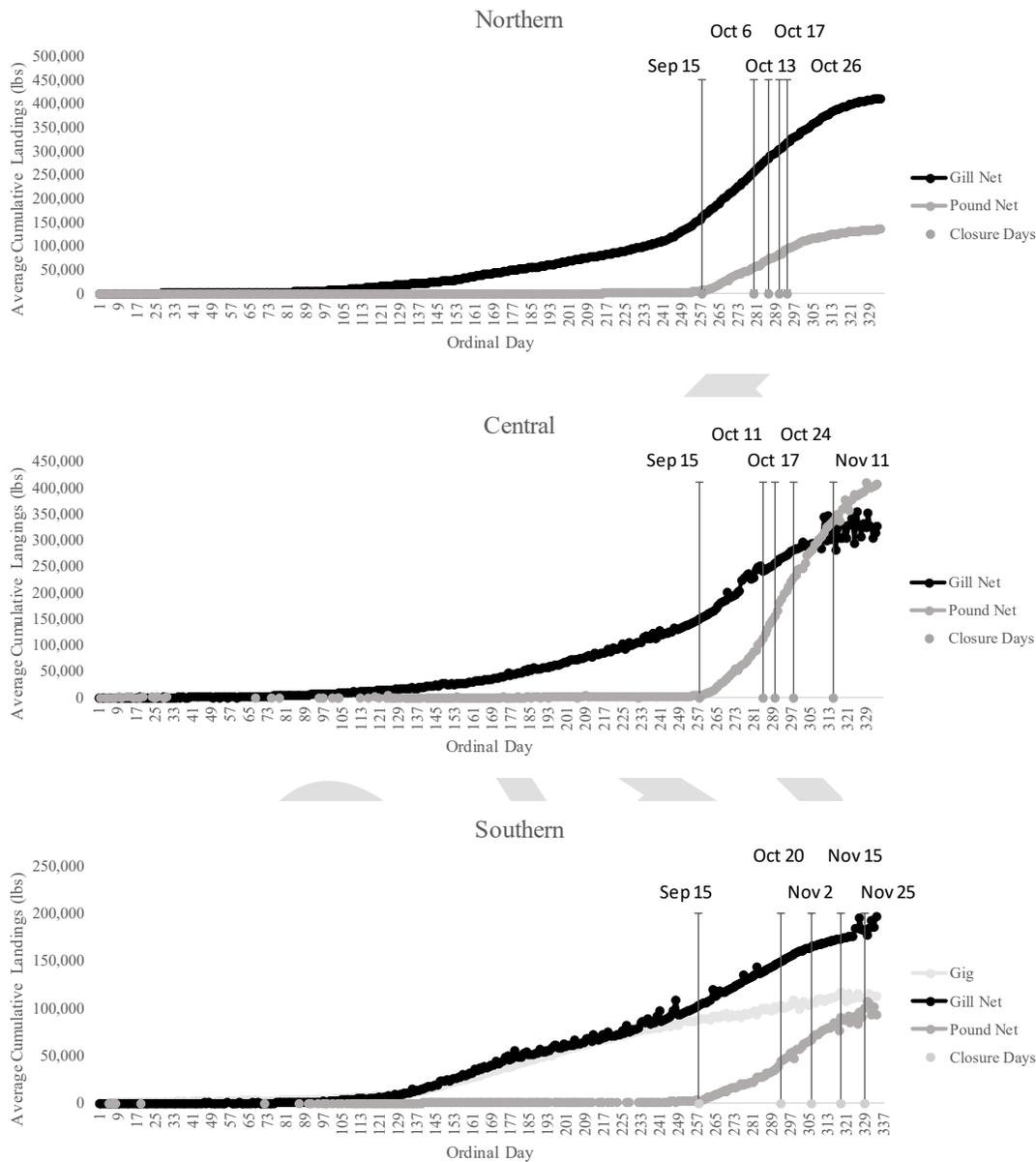


Figure 21. Cumulative commercial landings of the North Carolina southern flounder fishery in three proposed management areas by major gear type and proposed season needed to meet the threshold and target rebuilding reductions. (Source: North Carolina Trip Ticket Program). ***First vertical line indicates the opening date of Sept. 15, the second vertical line indicates the date of closure based on the overfished target (72%), the third vertical line indicates the date of closure based between the threshold and target (62%), the fourth vertical line indicates the date of closure based on the overfished threshold (52%), and the fifth vertical line indicates the date of closure based on the overfishing threshold (31%).** Note: Monitoring, reporting, and closure requirements identified through the NCDMF’s sea turtle and Atlantic sturgeon Incidental Take Permits will remain in effect and may impact dates identified in this figure.

**DRAFT DOCUMENT
SUBJECT TO CHANGE**

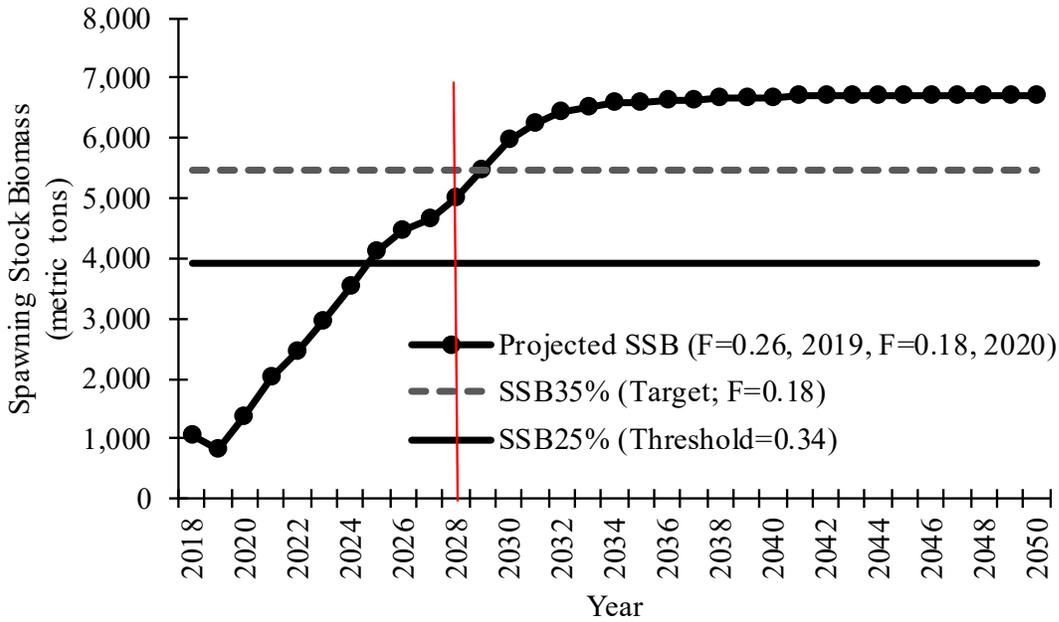


Figure 22. Predicted future spawning stock biomass (metric tons) based on the Department of Environmental Quality/NCDMF recommendation for a 62% reduction in 2019 ($F=0.26$), and a 72% reduction beginning in 2020 ($F=0.18$).

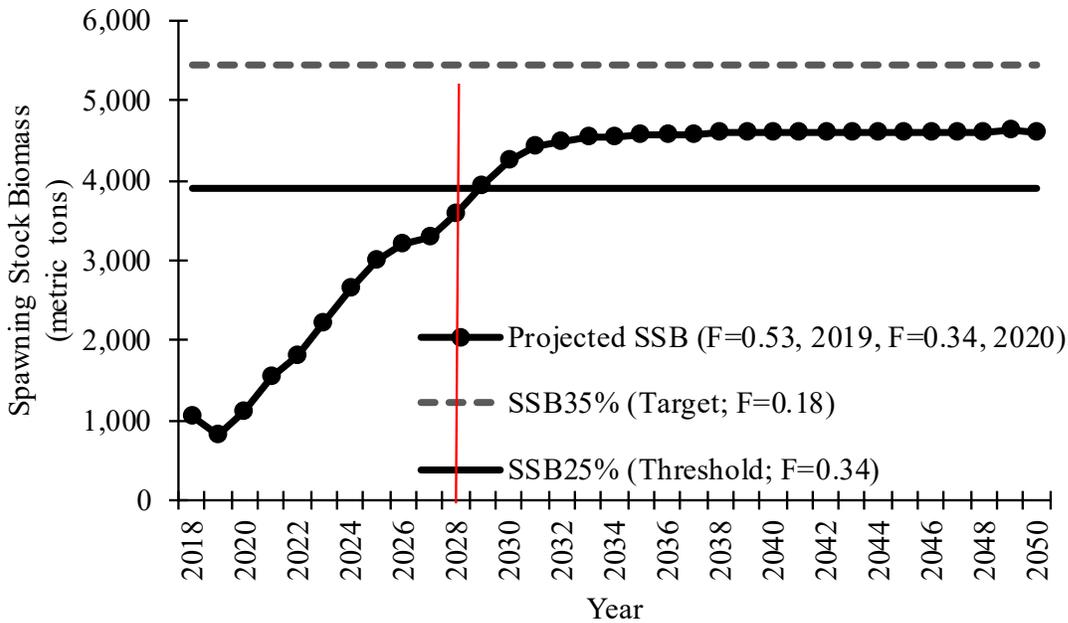


Figure 23. Predicted future spawning stock biomass (metric tons) based on the Southern Flounder FMP Advisory Committee recommendation for a 31% reduction in 2019 ($F=0.53$), and a 52% reduction starting in 2020 ($F=0.34$). (Note: SSB will not meet the threshold in 2028).



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

May 6, 2019

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Catherine Blum, Fishery Management Plan and Rulemaking Coordinator
Fisheries Management Section

SUBJECT: Rulemaking Update

Issue

Update the Marine Fisheries Commission on the status of rulemaking in support of the Periodic Review and Expiration of Existing Rules per G.S. 150B-21.3A.

Action Needed

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

Overview

This memo provides an overview for the February 2019 commission meeting on the status of rulemaking.

15A NCAC 18A Report Update

At its February 2018 meeting, the Marine Fisheries Commission gave approval to begin the report process for the 164 rules in 15A NCAC 18A .0100, .0300-.0900, and .3400, regarding shellfish sanitation and recreational water quality requirements. All rules were classified as necessary with substantive public interest and are subject to readoption. The final report was approved by the Marine Fisheries Commission at its August 2018 meeting and the Rules Review Commission at its January 2019 meeting. The report was forwarded to the Joint Legislative Administrative Procedure Oversight Committee for final determination. The committee met March 24, 2019 and the review process is now complete for these rules. The next step in the process is to set a readoption schedule. Staff will bring forward a recommendation for this at the commission's August meeting.

15A NCAC 03 Rule Readoption Update

2018-2019 Annual Rulemaking Cycle

At its May 2018 meeting, the Marine Fisheries Commission approved Notice of Text for Rulemaking to begin the readoption process for 41 rules per G.S. 150B-21.3A, Periodic Review and Expiration of Existing Rules. The rules received final approval by the Marine Fisheries Commission at its November 2018 meeting and the Rules Review Commission at its January 2019 meeting. The rules became effective April 1, 2019 and the process is complete. The rules

are included in the April 1, 2019 supplement to the "North Carolina Marine Fisheries Commission Rules May 1, 2015." A copy of the supplement is included in your briefing materials and is available on the division website. A new rulebook will be published in the spring of 2020.

2019-2020 Annual Rulemaking Cycle

At its August 2019 meeting, the Marine Fisheries Commission is scheduled to consider approval of Notice of Text for Rulemaking to begin the readoption process for the second group of rules in 15A NCAC 03. The rule package is delayed from the usual start time of May due in part to a compressed workload stemming from the 2018 hurricanes and also the division's vacant economist position, which is central to preparing the required fiscal notes for proposed rules. A handout showing the adjusted steps in the Marine Fisheries Commission's 2019-2020 annual rulemaking cycle is included in the briefing materials.

For the 2019-2020 rule package, rules proposed for readoption will include 15A NCAC 03M .0509, Tarpon. At its February 2018 meeting, the Marine Fisheries Commission voted to have the division begin the process of drafting a rule to make tarpon a no spear, no gaff and no possession fish. At its February 2019 business meeting, the commission selected as its preferred proposed management option to make it unlawful to puncture or harvest tarpon, but to still allow catch and release. The rules in this package are intended to become effective May 1, 2020.

Background on the Periodic Review and Expiration of Existing Rules

Session Law 2013-413, the Regulatory Reform Act of 2013, implemented requirements known as the "Periodic Review and Expiration of Existing Rules." These requirements are codified in a new section of Article 2A of Chapter 150B of the General Statutes in 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 review has two parts. The first is a report phase, which has concluded, followed by the readoption of rules. An evaluation of the rules under the authority of the Marine Fisheries Commission was undertaken in two lots (see Figure 1.) The Marine Fisheries Commission has 211 rules in Chapter 03 (Marine Fisheries), of which 172 are subject to readoption, and 164 rules in Chapter 18A (Shellfish Sanitation.) The Marine Fisheries Commission is the body with the authority for the approval steps prescribed in the process.

| Rules | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|----------------------------------|--------|-----------------------|-----------------------|------|------|---------------------|
| Chapter 03 (172 of 211 rules) | Report | 41 Rules Readopted | Rule Readoption (131) | | | 6/30/22 deadline |
| Chapter 18A (all 164 rules) | | Report | Rule Readoption (164) | | | |

Figure 1. Marine Fisheries Commission schedule to comply with G.S. 150B-21.3A, Periodic Review and Expiration of Existing Rules.

N.C. Marine Fisheries Commission 2019-2020 Annual Rulemaking Cycle

May 2019

| Time of Year | Action |
|--------------------------|--|
| April-July 2019 | Fiscal analysis of rules prepared by DMF staff and approved by Office of State Budget and Management |
| August 2019 | MFC considers approval of Notice of Text for Rulemaking |
| Oct. 1, 2019 | Publication of proposed rules in the <i>North Carolina Register</i> |
| Oct. 16-Dec. 2, 2019 | Public comment period held |
| Wednesday, Oct. 23, 2019 | Public hearing held: 6 p.m., Division of Marine Fisheries, 5285 Highway 70 West, Morehead City, NC 28557 |
| February 2020 | MFC considers approval of permanent rules |
| March-April 2020 | Rulebook prepared |
| April 2020 | Rules reviewed by Office of Administrative Hearings Rules Review Commission |
| April 15, 2020 | Commercial license sales begin |
| May 1, 2020 | Effective date of new rules |
| May 1, 2020 | Rulebook available online |

NORTH CAROLINA
MARINE FISHERIES COMMISSION
RULES

MAY 1, 2015



SUPPLEMENT – APRIL 1, 2019

MARINE FISHERIES COMMISSION
Rob Bizzell, Chairman

DEPARTMENT OF ENVIRONMENTAL QUALITY
Michael S. Regan, Secretary

DIVISION OF MARINE FISHERIES
Stephen W. Murphey, Director
<http://portal.ncdenr.org/web/mf>

MARINE FISHERIES COMMISSION

Rob Bizzell, *Chairman/Recreational Fisherman*

r.bizzell.mfc@ncdenr.gov

252-521-1306

Chuck Laughridge, *Vice-Chairman/Recreational Fisherman*

c.laughridge.mfc@ncdenr.gov

252-532-3983

Mike Blanton, *Commercial Fisherman*

m.blanton.mfc@ncdenr.gov

252-619-2694

Cameron Boltes, *Recreational Industry*

c.boltes.mfc@ncdenr.gov

252-714-2720

Doug Cross, *Commercial Industry*

d.cross.mfc@ncdenr.gov

252-636-7559

Tom Hendrickson, *At-large*

t.hendrickson.mfc@ncdenr.gov

Pete Kornegay, *Scientist*

j.kornegay.mfc@ncdenr.gov

252-338-3607

Brad Koury, *At-large*

b.koury.mfc@ncdenr.gov

336-263-9018

Sam Romano, *Commercial Fisherman*

s.romano.mfc@ncdenr.gov

910-547-6455

**NORTH CAROLINA ADMINISTRATIVE CODE
TITLE 15A – ENVIRONMENTAL QUALITY
CHAPTER 03 – MARINE FISHERIES**

THE FOLLOWING RULES ARE AMENDED OR READOPTED
EFFECTIVE APRIL 1, 2016; MAY 1, 2017; OR APRIL 1, 2019.

| | PAGE |
|--|-------------|
| SUBCHAPTER 03H – SCOPE OF MANAGEMENT | |
| SECTION .0100 – SCOPE OF MANAGEMENT | |
| 15A NCAC 03H .0103 PROCLAMATIONS, GENERAL | 1 |
| SUBCHAPTER 03I – GENERAL RULES | |
| SECTION .0100 – GENERAL RULES | |
| 15A NCAC 03I .0113 BIOLOGICAL SAMPLING [*] | 1 |
| 15A NCAC 03I .0120 POSSESSION OR TRANSPORTATION LIMITS THROUGH STATE WATERS; SALE OF NATIVE SPECIES | 1 |
| [*] Only the history note of the rule was updated; the rule text is unchanged. | |
| SUBCHAPTER 03J – NETS, POTS, DREDGES, AND OTHER FISHING DEVICES | |
| SECTION .0100 – NET RULES, GENERAL | |
| 15A NCAC 03J .0102 NETS OR NET STAKES | 2 |
| 15A NCAC 03J .0103 GILL NETS, SEINES, IDENTIFICATION, RESTRICTIONS | 2 |
| 15A NCAC 03J .0104 TRAWL NETS | 3 |
| 15A NCAC 03J .0108 NETS PULLED BY MORE THAN ONE VESSEL | 4 |
| SECTION .0200 – NET RULES, SPECIFIC AREAS | |
| 15A NCAC 03J .0203 CHOWAN RIVER AND MEHERRIN RIVER | 4 |
| 15A NCAC 03J .0204 CURRITUCK SOUND AND ITS TRIBUTARIES | 4 |
| 15A NCAC 03J .0206 SOUTHPORT BOAT HARBOR | 5 |
| 15A NCAC 03J .0207 NUCLEAR PLANT INTAKE CANAL | 5 |
| 15A NCAC 03J .0209 ALBEMARLE SOUND AND CHOWAN RIVER RIVER HERRING MANAGEMENT AREAS | 5 |
| SECTION .0300 – POTS, DREDGES, AND OTHER FISHING DEVICES | |
| 15A NCAC 03J .0303 DREDGES AND MECHANICAL METHODS PROHIBITED | 5 |
| 15A NCAC 03J .0304 ELECTRICAL FISHING DEVICE IN CAPE FEAR RIVER | 5 |
| 15A NCAC 03J .0306 HOOK AND LINE | 6 |
| SUBCHAPTER 03K – OYSTERS, CLAMS, SCALLOPS AND MUSSELS | |
| SECTION .0100 – SHELLFISH, GENERAL | |
| 15A NCAC 03K .0110 PUBLIC HEALTH AND CONTROL OF OYSTERS, CLAMS, SCALLOPS, AND MUSSELS | 6 |
| SECTION .0200 – OYSTERS | |
| 15A NCAC 03K .0201 OYSTER HARVEST MANAGEMENT | 7 |
| 15A NCAC 03K .0202 CULLING REQUIREMENTS FOR OYSTERS | 7 |

SECTION .0300 – HARD CLAMS (MERCENARIA)

15A NCAC 03K .0302 MECHANICAL HARVEST OF CLAMS FROM PUBLIC BOTTOM 7

SECTION .0400 – RANGIA CLAMS

15A NCAC 03K .0402 SIZE AND HARVEST LIMITS..... 8
15A NCAC 03K .0403 DISPOSITION OF MEATS 8
15A NCAC 03K .0404 DREDGES AND MECHANICAL METHODS PROHIBITED AND OPEN
SEASON..... 8
15A NCAC 03K .0405 OYSTERS, HARD CLAMS, OR MUSSELS PROHIBITED..... 9

SECTION .0500 – SCALLOPS

15A NCAC 03K .0501 BAY SCALLOP HARVEST MANAGEMENT 9
15A NCAC 03K .0502 TAKING BAY SCALLOPS AT NIGHT AND ON WEEKENDS 9
15A NCAC 03K .0503 BAY SCALLOP DREDGE PROHIBITED 9
15A NCAC 03K .0504 CALICO SCALLOP HARVEST MANAGEMENT 9
15A NCAC 03K .0507 MARKETING SCALLOPS TAKEN FROM SHELLFISH LEASES OR
FRANCHISES 10
15A NCAC 03K .0508 SCALLOP AQUACULTURE HARVEST EXEMPTIONS 10

SUBCHAPTER 03L – SHRIMP, CRABS, AND LOBSTER

SECTION .0100 – SHRIMP

15A NCAC 03L .0102 WEEKEND SHRIMPING PROHIBITED 10

SECTION .0200 – CRABS

15A NCAC 03L .0208 STONE CRABS 10

SUBCHAPTER 03M – FINFISH

SECTION .0100 – FINFISH, GENERAL

15A NCAC 03M .0101 MUTILATED FINFISH 11
15A NCAC 03M .0102 UNMARKETABLE FINFISH 11
15A NCAC 03M .0103 MINIMUM SIZE LIMITS..... 11

SECTION .0500 – OTHER FINFISH

15A NCAC 03M .0501 RED DRUM 12
15A NCAC 03M .0502 MULLET 12
15A NCAC 03M .0506 SNAPPER GROUPER COMPLEX 12
15A NCAC 03M .0507 BILLFISH..... 13
15A NCAC 03M .0510 AMERICAN EEL..... 13
15A NCAC 03M .0513 RIVER HERRING..... 13
15A NCAC 03M .0515 DOLPHIN..... 14
15A NCAC 03M .0517 WAHOO..... 14
15A NCAC 03M .0518 KINGFISHES (SEA MULLET)..... 14
15A NCAC 03M .0520 TUNA 14
15A NCAC 03M .0521 SHEEPSHEAD..... 15
15A NCAC 03M .0522 SPOTTED SEATROUT 15

SUBCHAPTER 03O – LICENSES, LEASES, FRANCHISES, AND PERMITS

SECTION .0100 – LICENSES

15A NCAC 03O .0106 DISPLAY OF LICENSES AND REGISTRATIONS 15
15A NCAC 03O .0112 FOR-HIRE LICENSE REQUIREMENTS 15
15A NCAC 03O .0114 SUSPENSION, REVOCATION, AND REISSUANCE OF LICENSES..... 16

SECTION .0200 – LEASES AND FRANCHISES

15A NCAC 03O .0201 STANDARDS AND REQUIREMENTS FOR SHELLFISH BOTTOM LEASES AND FRANCHISES AND WATER COLUMN LEASES 17

15A NCAC 03O .0208 TERMINATION OF SHELLFISH BOTTOM LEASES AND FRANCHISES AND WATER COLUMN LEASES 18

SECTION .0500 – PERMITS

15A NCAC 03O .0501 PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS 19

15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC 20

SUBCHAPTER 03P – HEARING PROCEDURES

SECTION .0100 – HEARING PROCEDURES

15A NCAC 03P .0101 LICENSE, PERMIT, OR CERTIFICATE DENIAL: REQUEST FOR REVIEW 24

SUBCHAPTER 03R – DESCRIPTIVE BOUNDARIES

SECTION .0100 – DESCRIPTIVE BOUNDARIES

15A NCAC 03R .0103 PRIMARY NURSERY AREAS 24

15A NCAC 03R .0108 MECHANICAL METHODS PROHIBITED TO TAKE OYSTERS 39

15A NCAC 03R .0112 ATTENDED GILL NET AREAS 41

INDEX 43

**NORTH CAROLINA ADMINISTRATIVE CODE
TITLE 15A – ENVIRONMENTAL QUALITY
CHAPTER 03 – MARINE FISHERIES**

SUBCHAPTER 03H – SCOPE OF MANAGEMENT

SECTION .0100 – SCOPE OF MANAGEMENT

15A NCAC 03H .0103 PROCLAMATIONS, GENERAL

(a) It is unlawful to violate the provisions of a proclamation issued pursuant to a rule of the Marine Fisheries Commission, as provided in G.S. 113-221.1.

(b) If specific variable conditions are not set forth in a rule of the Marine Fisheries Commission that grants proclamation authority to the Fisheries Director, the Fisheries Director shall consider the following variable conditions in exercising proclamation authority:

- (1) compliance with changes mandated by the Fisheries Reform Act and its amendments;
- (2) biological impacts;
- (3) environmental conditions;
- (4) compliance with Fishery Management Plans;
- (5) user conflicts;
- (6) bycatch issues;
- (7) variable spatial distributions; and
- (8) protection of public health related to the public health programs that fall under the authority of the Marine Fisheries Commission.

History Note: Authority G.S. 113-134; 113-135; 113-182; 113-221.1; 113-221.2; 113-221.3; 143B-289.52; Eff. January 1, 1991; Amended Eff. March 1, 1994; September 1, 1991; Temporary Amendment Eff. July 1, 1999; Amended Eff. May 1, 2017; April 1, 2011; August 1, 2000.

SUBCHAPTER 03I – GENERAL RULES

SECTION .0100 – GENERAL RULES

15A NCAC 03I .0113 BIOLOGICAL SAMPLING

It is unlawful for any licensee under Chapter 113, Subchapter IV, of the General Statutes to refuse to allow the Fisheries Director or his 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 fish in the licensee's possession. Such data shall include, but is not limited to, species identification, length, weight, age, sex, number, area of catch, harvest method, and quantity of catch.

History Note: Authority G.S. 113-134; 113-170.3; 113-170.4; 113-174.1; 113-182; Eff. October 1, 1992; Recodified from 15A NCAC 3I .0013 Eff. December 17, 1996.

15A NCAC 03I .0120 POSSESSION OR TRANSPORTATION LIMITS THROUGH STATE WATERS; SALE OF NATIVE SPECIES

(a) It shall be unlawful to possess or transport through State coastal fishing waters any species of fish that is subject to State season, size, or harvest restrictions, regardless whether the species was taken in State or federal waters, unless all fish taken are in compliance with the restrictions for the waterbody or area being fished. If State season, size, or harvest restrictions differ from comparable restrictions pursuant to a fishery management plan adopted by the Atlantic States Marine Fisheries Commission or pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, or if there are no corresponding federal regulations, the State restrictions shall apply during such periods of possession or transportation.

(b) It shall be unlawful to import native species of fish for sale in the State that do not meet size limits, except as provided in 15A NCAC 03K .0202, .0207, .0305, and 03M .0503.

History Note: Authority G.S. 113-134; 113-170; 113-170.4; 113-170.5; 113-182; 113-182.1; 113-252; 143B-289.52; Temporary Adoption Eff. July 1, 1999;

Eff. August 1, 2000;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. September 1, 2005; April 1, 2003;
Readopted Eff. April 1, 2019.

SUBCHAPTER 03J – NETS, POTS, DREDGES, AND OTHER FISHING DEVICES

SECTION .0100 – NET RULES, GENERAL

15A NCAC 03J .0102 NETS OR NET STAKES

It shall be unlawful to use nets, or net stakes of metallic material, in any of the following Internal Coastal Waters:

- (1) within 150 yards of any railroad or highway bridge crossing the Northeast Cape Fear River, New River, White Oak River, Trent River, Neuse River, Pamlico River, Roanoke River, and Alligator River; and
- (2) within 300 yards of any highway bridge crossing Albemarle Sound, Chowan River, Croatan Sound, Currituck Sound, and Roanoke Sound.

History Note: Authority G.S. 113-132; 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Readopted Eff. April 1, 2019.

15A NCAC 03J .0103 GILL NETS, SEINES, IDENTIFICATION, RESTRICTIONS

(a) It is unlawful to use gill nets:

- (1) with a mesh length less than two and one-half inches; and
- (2) in Internal Coastal Waters from April 15 through December 15, with a mesh length five inches or greater and less than five and one-half inches.

(b) The Fisheries Director may, by proclamation, limit or prohibit the use of gill nets or seines in Coastal Fishing Waters, or any portion thereof, or impose any or all of the following restrictions on gill net or seine fishing operations:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods, including:
 - (A) gill net mesh length, but the maximum length specified shall not exceed six and one-half inches in Internal Coastal Waters; and
 - (B) net number and length, but for gill nets with a mesh length four inches or greater, the maximum length specified shall not exceed 2,000 yards per vessel in Internal Coastal Waters regardless of the number of individuals involved; and
- (4) specify season.

(c) It is unlawful to use fixed or stationary gill nets in the Atlantic Ocean, drift gill nets in the Atlantic Ocean for recreational purposes, or any gill nets in Internal Coastal Waters unless nets are marked by attaching to them at each end two separate yellow buoys which shall be of solid foam or other solid buoyant material no less than five inches in diameter and no less than five inches in length. Gill nets that are not connected together at the top line are considered as individual nets, requiring two buoys at each end of each individual net. Gill nets connected together at the top line are considered as a continuous net requiring two buoys at each end of the continuous net. Any other marking buoys on gill nets used for recreational purposes shall be yellow except one additional buoy, any shade of hot pink in color, constructed as specified in this Paragraph, shall be added at each end of each individual net. Any other marking buoys on gill nets used in commercial fishing operations shall be yellow except that one additional identification buoy of any color or any combination of colors, except any shade of hot pink, may be used at either or both ends. The owner shall be identified on a buoy on each end either by using engraved buoys or by attaching engraved metal or plastic tags to the buoys. Such identification shall include owner's last name and initials and if a vessel is used, one of the following:

- (1) owner's N.C. motor boat registration number; or
- (2) owner's U.S. vessel documentation name.

(d) It is unlawful to use gill nets:

- (1) within 200 yards of any flounder or other finfish pound net set with lead and either pound or heart in use, except from August 15 through December 31 in all Coastal Fishing Waters of the Albemarle Sound, including its tributaries to the boundaries between Coastal and Joint Fishing Waters, west of a line beginning at a point 36° 04.5184' N - 75° 47.9095' W on Powell Point; running southerly to a point 35° 57.2681' N - 75° 48.3999' W on Caroon Point, it is unlawful to use gill nets within 500 yards of any pound net set with lead and either pound or heart in use; and
- (2) from March 1 through October 31 in the Intracoastal Waterway within 150 yards of any railroad or highway bridge.

- (e) It is unlawful to use gill nets within 100 feet either side of the center line of the Intracoastal Waterway Channel south of the entrance to the Alligator-Pungo River Canal near Beacon "54" in Alligator River to the South Carolina line, unless such net is used in accordance with the following conditions:
- (1) no more than two gill nets per vessel may be used at any one time;
 - (2) any net used must be attended by the fisherman from a vessel who shall at no time be more than 100 yards from either net; and
 - (3) any individual setting such nets shall remove them, when necessary, in sufficient time to permit unrestricted vessel navigation.
- (f) It is unlawful to use runaround, drift, or other non-stationary gill nets, except as provided in Paragraph (e) of this Rule:
- (1) to block more than two-thirds of any natural or manmade waterway, sound, bay, creek, inlet, or any other body of water; or
 - (2) in a location where it will interfere with navigation.
- (g) It is unlawful to use unattended gill nets with a mesh length less than five inches in a commercial fishing operation in the gill net attended areas designated in 15A NCAC 03R .0112(a).
- (h) It is unlawful to use unattended gill nets with a mesh length less than five inches in a commercial fishing operation from May 1 through November 30 in the Internal Coastal Waters and Joint Fishing Waters of the state designated in 15A NCAC 03R .0112(b).
- (i) It is unlawful for any portion of a gill net with a mesh length five inches or greater to be within 10 feet of any point on the shoreline while set or deployed, unless the net is attended from June through October in Internal Coastal Waters.
- (j) For the purpose of this Rule and 15A NCAC 03R .0112, "shoreline" is defined as the mean high water line or marsh line, whichever is more seaward.

History Note: Authority G.S. 113-134; 113-173; 113-182; 113-221.1; 143B-289.52; Eff. January 1, 1991; Amended Eff. August 1, 1998; March 1, 1996; March 1, 1994; July 1, 1993; September 1, 1991; Temporary Amendment Eff. October 2, 1999; July 1, 1999; October 22, 1998; Amended Eff. April 1, 2001; Temporary Amendment Eff. May 1, 2001; Amended Eff. April 1, 2016; April 1, 2009; December 1, 2007; September 1, 2005; August 1, 2004; August 1, 2002.

15A NCAC 03J .0104 TRAWL NETS

- (a) It is unlawful to possess aboard a vessel while using a trawl net in Internal Coastal Waters more than 500 pounds of finfish from December 1 through March 1, and 1,000 pounds of finfish from March 2 through November 30.
- (b) It is unlawful to use trawl nets:
- (1) in Internal Coastal Waters from 9:00 p.m. on Friday through 5:00 p.m. on Sunday, except:
 - (A) from December 1 through March 1 from one hour after sunset on Friday to one hour before sunrise on Monday in the areas listed in Subparagraph (b)(5) of this Rule; or
 - (B) for a holder of a Permit for Weekend Trawling for Live Shrimp in accordance with 15A NCAC 03O .0503;
 - (2) for the taking of oysters;
 - (3) in Albemarle Sound, Currituck Sound, and their tributaries, west of a line beginning on the south shore of Long Point at a point 36° 02.4910' N – 75° 44.2140' W; running southerly to the north shore on Roanoke Island to a point 35° 56.3302' N – 75° 43.1409' W; running northwesterly to Caroon Point to a point 35° 57.2255' N – 75° 48.3324' W;
 - (4) in the areas described in 15A NCAC 03R .0106, except that the Fisheries Director may, by proclamation, open the area designated in Item (1) of 15A NCAC 03R .0106 to peeler crab trawling;
 - (5) from December 1 through March 1 from one hour after sunset to one hour before sunrise in the following areas:
 - (A) in Pungo River, north of a line beginning on Currituck Point at a point 35° 24.5833' N – 76° 32.3166' W; running southwesterly to Wades Point to a point 35° 23.3062' N – 76° 34.5135' W;
 - (B) in Pamlico River, west of a line beginning on Wades Point at a point 35° 23.3062' N – 76° 34.5135' W; running southwesterly to Fulford Point to a point 35° 19.8667' N – 76° 35.9333' W;
 - (C) in Bay River, west of a line beginning on Bay Point at a point 35° 11.0858' N – 76° 31.6155' W; running southerly to Maw Point to a point 35° 09.0214' N – 76° 32.2593' W;
 - (D) in Neuse River, west of a line beginning on the Minnesott side of the Neuse River Ferry at a point 34° 57.9116' N – 76° 48.2240' W; running southerly to the Cherry Branch side of the Neuse River Ferry to a point 34° 56.3658' N – 76° 48.7110' W; and
 - (E) in New River, all waters upstream of the N.C. Highway 172 Bridge when opened by proclamation; and
 - (6) in designated pot areas opened to the use of pots by 15A NCAC 03J .0301(a)(2) and described in 15A NCAC 03R .0107(a)(5), (a)(6), (a)(7), (a)(8), and (a)(9) within an area bound by the shoreline to the depth of six feet.

- (c) Mesh sizes for shrimp and crab trawl nets shall meet the requirements of 15A NCAC 03L .0103 and .0202.
- (d) The Fisheries Director may, with prior consent of the Marine Fisheries Commission, by proclamation, require bycatch reduction devices or codend modifications in trawl nets to reduce the catch of finfish that do not meet size limits or are unmarketable as individual foodfish by reason of size.
- (e) It is unlawful to use shrimp trawl nets for recreational purposes unless the trawl net is marked by attaching to the codend (tailbag) one floating buoy, any shade of hot pink in color, which shall be of solid foam or other solid buoyant material no less than five inches in diameter and no less than five inches in length. The owner shall be identified on the buoy by using an engraved buoy or by attaching engraved metal or plastic tags to the buoy. Such identification shall include owner's last name and initials and, if a vessel is used, one of the following:
- (1) gear owner's current motor boat registration number; or
 - (2) owner's U.S. vessel documentation name.
- (f) It is unlawful to use shrimp trawl nets for the taking of blue crabs in Internal Coastal Waters, except that it shall be permissible to take or possess blue crabs incidental to shrimp trawling in accordance with the following limitations:
- (1) for individuals using shrimp trawl nets authorized by a Recreational Commercial Gear License, 50 blue crabs per day, not to exceed 100 blue crabs if two or more Recreational Commercial Gear License holders are on board the same vessel; and
 - (2) for commercial operations, crabs may be taken incidental to lawful shrimp trawl net operations provided that the weight of the crabs shall not exceed the greater of:
 - (A) 50 percent of the total weight of the combined crab and shrimp catch; or
 - (B) 300 pounds.
- (g) The Fisheries Director may, by proclamation, close any area to trawling for specific time periods in order to secure compliance with this Rule.

History Note: Authority G.S. 113-134; 113-173; 113-182; 113-221.1; 143B-289.52;
 Eff. February 1, 1991;
 Amended Eff. August 1, 1998; May 1, 1997; March 1, 1994; February 1, 1992;
 Temporary Amendment Eff. July 1, 1999;
 Amended Eff. May 1, 2017; April 1, 2014; April 1, 2009; September 1, 2005; August 1, 2004; August 1, 2000.

15A NCAC 03J .0108 NETS PULLED BY MORE THAN ONE VESSEL

It shall be unlawful to pull or tow a net with more than one vessel, except in long haul operations.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
 Eff. January 1, 1991;
 Readopted Eff. April 1, 2019.

SECTION .0200 – NET RULES, SPECIFIC AREAS

15A NCAC 03J .0203 CHOWAN RIVER AND MEHERRIN RIVER

- (a) In the Chowan River and the Meherrin River, it shall be unlawful to do any of the following:
- (1) set a pound net within 150 yards of the mouth of any tributary; and
 - (2) set a trotline within 100 yards of a pound net from February 1 through May 31.
- (b) In the Chowan River, it shall be unlawful to do any of the following:
- (1) anchor the lead line of any net closer than 50 feet from shore;
 - (2) set a pound net within 200 yards parallel to any other pound net in the Chowan River, in accordance with Rule .0502 of this Subchapter; and
 - (3) use a seine within 1,000 yards of the mouth of any tributary.

History Note: Authority G.S. 113-132; 113-134; 113-182; 143B-289.52;
 Eff. January 1, 1991;
 Amended Eff. September 1, 1991;
 Readopted Eff. April 1, 2019.

15A NCAC 03J .0204 CURRITUCK SOUND AND ITS TRIBUTARIES

In the Internal Coastal Waters of Currituck Sound and its tributaries, it shall be unlawful to do any of the following:

- (1) conduct long haul operations, as defined in 15A NCAC 03I .0101; and

- (2) use a seine that is more than 900 yards in length or that has a mesh length of less than three inches.

History Note: Authority G.S. 113-132; 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. September 1, 1991;
Readopted Eff. April 1, 2019.

15A NCAC 03J .0206 SOUTHPORT BOAT HARBOR

It shall be unlawful to use commercial fishing gear in the Southport Boat Harbor, Brunswick County, north of a line beginning at a point on the west side of the mouth of the harbor 33° 54.9656' N – 78° 01.4477' W, running easterly to a point on the east side of the mouth of the harbor 33° 54.9656' N – 78° 01.3797' W.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. August 1, 2004;
Readopted Eff. April 1, 2019.

15A NCAC 03J .0207 NUCLEAR PLANT INTAKE CANAL

It shall be unlawful to use any commercial fishing equipment in a nuclear plant intake canal between the fish diversion screen and the nuclear plant.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. May 1, 2015;
Readopted Eff. April 1, 2019.

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

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

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Temporary Adoption Eff. May 1, 2000;
Eff. April 1, 2001;
Amended Eff. May 1, 2015; June 1, 2013; December 1, 2007;
Readopted Eff. April 1, 2019.

SECTION .0300 – POTS, DREDGES, AND OTHER FISHING DEVICES

15A NCAC 03J .0303 DREDGES AND MECHANICAL METHODS PROHIBITED

- (a) It shall be unlawful to use any dredge weighing more than 100 pounds, except in the Atlantic Ocean.
- (b) It shall be unlawful to use more than one dredge per vessel to take oysters or crabs or to use any dredges or mechanical methods between sunset and sunrise.
- (c) It shall be unlawful to possess oysters aboard a vessel with a dredge weighing more than 100 pounds on board.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. March 1, 1994; January 1, 1991;
Readopted Eff. April 1, 2019.

15A NCAC 03J .0304 ELECTRICAL FISHING DEVICE IN CAPE FEAR RIVER

It shall be unlawful to take catfish by the use of a hand-operated device generating pulsating electrical current in the Internal Coastal Fishing Waters of the Cape Fear River except:

- (1) from 800 feet downstream of Lock and Dam No. 1 in Bladen County to where the Black River joins the Cape Fear River; and
- (2) from July 1 through March 1.

*History Note: Authority G.S. 113-132; 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. July 1, 2008;
Readopted Eff. April 1, 2019.*

15A NCAC 03J .0306 HOOK AND LINE

It shall be unlawful to use any hook larger than 4/0 from July 1 through September 30 in the Internal Coastal Waters of Pamlico Sound and its tributaries south of the Albemarle Sound Management Area as defined in 15A NCAC 03R .0201 and north of a line beginning at a point 34° 59.7942' N – 76° 14.6514' W on Camp Point, running easterly to a point 34° 58.7853' N – 76° 09.8922' W on Core Banks, while using natural bait from 7:00 p.m. to 7:00 a.m. unless the terminal tackle consists of:

- (1) a "circle hook", which for the purpose of this Rule shall mean a hook with the point of the hook directed perpendicularly back toward the shank and with the barb either compressed or removed; and
- (2) a fixed sinker not less than two ounces in weight, secured not more than six inches from the fixed weight to the circle hook.

*History Note: Authority G.S. 113-132; 113-134; 113-182; 143B-289.52;
Eff. April 1, 2009;
Readopted Eff. April 1, 2019.*

SUBCHAPTER 03K – OYSTERS, CLAMS, SCALLOPS AND MUSSELS

SECTION .0100 – SHELLFISH, GENERAL

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 dealers, as defined in 15A NCAC 18A .0301, and to ensure that shellfish have not been adulterated or mislabeled 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
 - (A) oysters;
 - (B) clams;
 - (C) scallops; or
 - (D) mussels;
- (2) areas used to store shellfish;
- (3) means and methods to take shellfish;
- (4) vessels used to take shellfish; or
- (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 123.11;
- (4) specify Hazard Analysis Critical Control Point (HACCP) requirements set forth in 21 CFR Part:
 - (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 can be found at http://www.ecfr.gov/cgi-bin/text-idx?SID=f4cdd666e75f54ccda1d9938f4edd9ab&mc=true&tpl=/ecfrbrowse/Title21/21tab_02.tpl, free of charge.

(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.

History Note: Authority G.S. 113-134; 113-182; 113-201; 113-221.1; 113-221.2; 143B-289.52;
Eff. April 1, 2014;
Amended Eff. May 1, 2017.

SECTION .0200 – OYSTERS

15A NCAC 03K .0201 OYSTER HARVEST MANAGEMENT

(a) It is unlawful to take or possess oysters from public bottom except from October 15 through March 31.

(b) The Fisheries Director may, by proclamation, impose any of the following restrictions on the taking of oysters:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods;
- (4) specify season within the period set forth in Paragraph (a) of this Rule;
- (5) specify size, but the minimum size limit specified shall not be less than three inches, except the minimum size limit specified shall not be less than two and one-half inches to prevent loss of oysters due to predators, pests, or infectious oyster diseases; and
- (6) specify quantity, but the quantity shall not exceed possession of more than 20 standard U.S. bushels in a commercial fishing operation per day.

History Note: Authority G.S. 113-134; 113-182; 113-201; 113-221.1; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. May 1, 2017; October 1, 2008; March 1, 1996; September 1, 1991.

15A NCAC 03K .0202 CULLING REQUIREMENTS FOR OYSTERS

(a) It is unlawful to possess oysters which have accumulated dead shell, accumulated oyster cultch material, a shell length less than that specified by proclamation issued under the authority of Rule .0201 of this Section, or any combination thereof that exceeds a five-percent tolerance limit by volume. In determining whether the tolerance limit is exceeded, the Fisheries Director or his agents may grade all, 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 oysters as authorized by law.

(b) All oysters shall be culled where harvested and all oysters of less than legal size, accumulated dead shell, and cultch material shall be immediately returned to the bottom from which it was taken.

(c) This Rule shall not apply to oysters imported from out-of-state solely for shucking by shucking and packing plants permitted by the Division of Marine Fisheries.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. March 1, 1996; September 1, 1991;
Temporary Amendment Eff. July 1, 1999;
Amended Eff. May 1, 2017; August 1, 2000.

SECTION .0300 – HARD CLAMS (MERCENARIA)

15A NCAC 03K .0302 MECHANICAL HARVEST OF CLAMS FROM PUBLIC BOTTOM

(a) It is unlawful to take, buy, sell, or possess any clams taken by mechanical methods as defined in 15A NCAC 03I .0101, “mechanical methods for clamming,” from public bottom unless the season is open.

(b) The Fisheries Director may, by proclamation, open and close the season for the taking of clams by mechanical methods from public bottom at any time in the Atlantic Ocean and only from December 1 through March 31 in Internal Coastal Waters.

(c) The Fisheries Director may, by proclamation, open to the taking of clams by mechanical methods from public bottom during open seasons only areas that were opened at any time from January 1979 through September 1988 in:

- (1) Newport, North, White Oak, and New rivers;
- (2) Core and Bogue sounds;
- (3) the Intracoastal Waterway north of "BC" Marker at Topsail Beach; and
- (4) the Atlantic Ocean.

Other areas opened for purposes as set out in 15A NCAC 03K .0301(b) shall open only for those purposes. A list of areas as described in this Paragraph is available upon request at the Division of Marine Fisheries, 3441 Arendell Street, P.O. Box 769, Morehead City, NC 28557.

(d) The Fisheries Director may, by proclamation, impose any of the following additional restrictions for the taking of clams by mechanical methods from public bottom during open seasons:

- (1) specify time;
- (2) specify means and methods;
- (3) specify size; and
- (4) specify quantity.

History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;
Eff. January 1, 1991;
Temporary Amendment Eff. October 1, 2001;
Amended Eff. May 1, 2017; April 1, 2003.

SECTION .0400 – RANGIA CLAMS

15A NCAC 03K .0402 SIZE AND HARVEST LIMITS

Size and harvest limits applicable to hard clams in Rule .0301 of this Subchapter shall not apply to Rangia clams.

History Note: Authority G.S. 113-134; 113-182; 113-201; 113-202; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. August 1, 2004;
Readopted Eff. April 1, 2019.

15A NCAC 03K .0403 DISPOSITION OF MEATS

It shall be unlawful to dispose of meats from Rangia clams taken from prohibited (polluted) waters by a method that will result in human consumption or create risk of human consumption.

History Note: Authority G.S. 113-134; 113-182; 113-201; 113-202; 143B-298.52;
Eff. January 1, 1991;
Amended Eff. August 1, 2004;
Readopted Eff. April 1, 2019.

15A NCAC 03K .0404 DREDGES AND MECHANICAL METHODS PROHIBITED AND OPEN SEASON

It shall be unlawful to use mechanical methods for oystering or clamming to take Rangia clams or their shells:

- (1) within 100 feet of any pier;
- (2) within any established bed of submerged aquatic vegetation as defined in 15A NCAC 03I .0101 or salt water cordgrass (*Spartina alterniflora*) that may exist together or separately;
- (3) in areas designated in 15A NCAC 03R .0108, except on shellfish leases and franchises with a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases and Franchises; and
- (4) in areas designated in Rule .0204 of this Subchapter and 15A NCAC 03R .0103.

Mechanical methods prohibited by this Rule shall be permitted in areas and at times specified by proclamation as authorized by Rules .0201 and .0302 of this Subchapter.

History Note: Authority G.S. 113-134; 113-182; 113-201; 143B-289.52;
Eff. August 1, 2004;
Readopted Eff. April 1, 2019.

15A NCAC 03K .0405 OYSTERS, HARD CLAMS, OR MUSSELS PROHIBITED

It shall be unlawful to possess oysters, hard clams, or mussels while taking Rangia clams or their shells from a prohibited (polluted) area.

*History Note: Authority G.S. 113-134; 113-182; 113-201; 143B-289.52;
Eff. August 1, 2004;
Readopted Eff. April 1, 2019.*

SECTION .0500 – SCALLOPS

15A NCAC 03K .0501 BAY SCALLOP HARVEST MANAGEMENT

The Fisheries Director may, by proclamation and pursuant to 15A NCAC 03H .0103, impose any of the following restrictions on the taking of bay scallops from public bottom:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods;
- (4) specify open seasons for the taking of bay scallops during the period beginning the last Monday in January and ending the last Friday in May;
- (5) specify size; and
- (6) specify quantity, but shall not exceed possession of more than 15 standard U.S. bushels per person per day or a total of 30 standard U.S. bushels in any combined commercial fishing operation per day.

*History Note: Authority G.S. 113-134; 113-182; 113-201; 113-221.1; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. May 1, 2015; February 1, 2008;
Readopted Eff. April 1, 2019.*

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

(a) It shall be unlawful to take bay scallops between sunset and sunrise or on Saturdays or Sundays, except as provided in Rule .0105 of this Subchapter.

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

*History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Temporary Amendment Eff. July 1, 1999;
Amended Eff. May 1, 2015; August 1, 2000;
Readopted Eff. April 1, 2019.*

15A NCAC 03K .0503 BAY SCALLOP DREDGE PROHIBITED

It shall be unlawful to take bay scallops with any of the following:

- (1) dredges weighing more than 50 pounds or equipped with teeth; and
- (2) any other instrument or device designed to drag the bottom to aid in the taking of bay scallops.

*History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Readopted Eff. April 1, 2019.*

15A NCAC 03K .0504 CALICO SCALLOP HARVEST MANAGEMENT

(a) It shall be unlawful to land or possess aboard a vessel calico scallops except at such times as designated by the Fisheries Director by proclamation.

(b) The Fisheries Director may, by proclamation and pursuant to 15A NCAC 03H .0103, impose any of the following restrictions on the taking of calico scallops:

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

- (4) specify season;
- (5) specify size; and
- (6) specify quantity.

*History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;
Eff. January 1, 1991;
Readopted Eff. April 1, 2019.*

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

- (a) It shall be unlawful to sell, purchase, or possess scallops during the closed season without the lease or franchise holder delivering to the purchaser or other recipient a certification, on a form provided by the Division of Marine Fisheries, that the scallops were taken from a valid shellfish lease or franchise. Certification forms shall be furnished by the Division to lease and franchise holders upon request.
- (b) It shall be unlawful for lease or franchise holders or their designees to take or possess scallops from public bottom while possessing aboard a vessel scallops taken from shellfish leases or franchises.

*History Note: Authority G.S. 113-134; 113-182; 113-201; 143B-289.52;
Eff. May 1, 2015;
Readopted Eff. April 1, 2019.*

15A NCAC 03K .0508 SCALLOP AQUACULTURE HARVEST EXEMPTIONS

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

- (1) Possession and sale of scallops by a scallop aquaculture operation shall be exempt from restrictions set forth in Rules .0501, .0504, and .0505 of this Section.
- (2) Purchase and possession of scallops from a scallop aquaculture operation shall be exempt from restrictions set forth in Rules .0501, .0504, and .0505 of this Section.
- (3) It shall be unlawful for a person to possess, sell, purchase, or transport scallops described in Sub-Items (1) and (2) of this Rule unless in compliance with all conditions of the Aquaculture Operation Permit issued pursuant to 15A NCAC 03O .0500.

*History Note: Authority G.S. 113-134; 113-182; 113-201; 143B-289.52;
Eff. May 1, 2015;
Readopted Eff. April 1, 2019.*

SUBCHAPTER 03L – SHRIMP, CRABS, AND LOBSTER

SECTION .0100 – SHRIMP

15A NCAC 03L .0102 WEEKEND SHRIMPING PROHIBITED

It is unlawful to take shrimp by any method from 9:00 p.m. on Friday through 5:00 p.m. on Sunday, except:

- (1) in the Atlantic Ocean;
- (2) with the use of fixed and channel nets, hand seines, shrimp pots, or cast nets; or
- (3) for a holder of a Permit for Weekend Trawling for Live Shrimp in accordance with 15A NCAC 03O .0503.

*History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. May 1, 2017; August 1, 2004; March 1, 1994.*

SECTION .0200 – CRABS

15A NCAC 03L .0208 STONE CRABS

- (a) It shall be unlawful to possess stone crab bodies or fail to immediately return stone crab bodies to the waters from which they are taken.
- (b) It shall be unlawful to remove, take, or possess any stone crab claws from June 15 through August 15.
- (c) It shall be unlawful to remove, take, or possess any claws from egg-bearing stone crabs.

(d) It shall be unlawful to use any device to take stone crabs that can puncture, crush, or injure the crab body, such as gigs, spears, grabs, hooks, or similar devices.

(e) It shall be unlawful to remove, take, or possess any stone crab claws that have a propodus (forearm) less than 2 ¾ inches in length, measured by a straight line from the elbow to the tip of the lower immovable finger. For the purpose of this Rule, "propodus" shall mean the largest section of the claw assembly that has both a movable and immovable finger and is located farthest from the body of the crab.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. December 1, 2006;
Readopted Eff. April 1, 2019.

SUBCHAPTER 03M – FINFISH

SECTION .0100 – FINFISH, GENERAL

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 without having head and tail attached, except:

- (1) mullet when used for bait;
- (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.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. January 1, 1991;
Temporary Amendment Eff. May 1, 2001;
Amended Eff. May 1, 2015; April 1, 2011; July 1, 2006; August 1, 2002;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0102 UNMARKETABLE FINFISH

(a) It shall be unlawful to land finfish, taken in connection with a commercial fishing operation, that are unmarketable as individual finfish by reason of size, except a quantity not exceeding 5,000 pounds per vessel per day may be sold to a dealer that is licensed under G.S. 113-169.3(f)(6), (7), or (8).

(b) Atlantic menhaden, Atlantic thread herring, gizzard shad, and pinfish are exempt from this Rule.

History Note: Authority G.S. 113-134; 113-182; 113-185; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. October 1, 2008;
Readopted April 1, 2019.

15A NCAC 03M .0103 MINIMUM SIZE LIMITS

It shall be unlawful to possess, sell, or purchase finfish under four inches in length except:

- (1) as bait in the crab pot fishery in North Carolina, if such crab pot bait is not transported west of U.S. Interstate 95 and, when transported, is accompanied by documentation showing the name and address of the shipper, the name and address of the consignee, and the total weight of the shipment;
- (2) bait in the finfish fishery with the following provisions:
 - (a) it shall be unlawful to possess more than 200 pounds of live finfish or 100 pounds of dead finfish; and
 - (b) such finfish bait is not transported outside of North Carolina;
- (3) live finfish in aquaria, provided that the finfish are not subject to other minimum size limits under the authority of Marine Fisheries Commission rules; and
- (4) Atlantic menhaden, Atlantic thread herring, gizzard shad, and pinfish.

Bait dealers who possess a valid finfish dealer license from the Division of Marine Fisheries shall be exempt from Sub-Items (2)(a) and (b) of this Rule. Tolerance of not more than five percent by number of species shall be allowed.

History Note: Authority G.S. 113-134; 113-182; 113-185; 143B-289.52;
Eff. July 1, 1993;

Amended Eff. April 1, 2014;
Readopted Eff. April 1, 2019.

SECTION .0500 – OTHER FINFISH

15A NCAC 03M .0501 RED DRUM

- (a) It shall be unlawful to remove red drum from any type of net with the aid of any boat hook, gaff, spear, gig, or similar device.
- (b) It shall be unlawful to take or possess red drum taken by any boat hook, gaff, spear, gig, or similar device.
- (c) It shall be unlawful to possess red drum less than 18 inches total length or greater than 27 inches total length.
- (d) It shall be unlawful to possess more than one red drum per person per day taken by hook and line or for recreational purposes.
- (e) Annual commercial harvest limit for red drum:
 - (1) The annual commercial harvest limit for red drum shall be 250,000 pounds.
 - (2) The annual commercial harvest limit for red drum shall be calculated from September 1 through August 31 and is allotted in two periods:
 - (A) September 1 through April 30 at 150,000 pounds; and
 - (B) May 1 through August 31 at 100,000 pounds plus any remainder from the first period allotment.
 - (3) If the harvest limit is projected to be taken in any period, the Fisheries Director shall, by proclamation, prohibit possession of red drum taken in a commercial fishing operation for the remainder of that period.
 - (4) Any commercial harvest limit that is exceeded during one year shall result in the poundage overage being deducted from the subsequent year's commercial harvest limit, and the Fisheries Director shall, by proclamation, adjust the period allotments as described in this Paragraph.

History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. March 1, 1996; October 1, 1992; September 1, 1991;
Temporary Amendment Eff. May 1, 2000; July 1, 1999; October 22, 1998;
Amended Eff. April 1, 2001;
Temporary Amendment Eff. May 1, 2001;
Amended Eff. April 1, 2009; October 1, 2008; August 1, 2002;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0502 MULLET

- (a) It shall be unlawful to possess more than 200 mullet per person per day for recreational purposes.
- (b) The Fisheries Director may, by proclamation and pursuant to 15A NCAC 03H .0103, 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.

History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. July 1, 2006;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0506 SNAPPER GROUPER COMPLEX

- (a) In the Atlantic Ocean, it shall be unlawful for an individual fishing under a Recreational Commercial Gear License with seines, shrimp trawls, pots, trotlines, or gill nets to take any species of the snapper grouper complex.
- (b) The list of species of the snapper grouper complex in the South Atlantic Fishery Management Council Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region is incorporated by reference, including subsequent amendments and editions. Copies of the plan are available at www.safmc.net and at the Division of Marine Fisheries, 3441 Arendell Street, P.O. Box 769, Morehead City, North Carolina 28557, at no cost.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. April 1, 1997; March 1, 1996; September 1, 1991;
Temporary Amendment Eff. December 23, 1996;
Amended Eff. August 1, 1998; April 1, 1997;
Temporary Amendment Eff. January 1, 2002; August 29, 2000; January 1, 2000; May 24, 1999;
Amended Eff. October 1, 2008; May 1, 2004; July 1, 2003; April 1, 2003; August 1, 2002;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0507 BILLFISH

- (a) It shall be unlawful to take blue marlin, white marlin, roundscale spearfish, or sailfish, except by hook and line or for recreational purposes.
- (b) For blue marlin, white marlin, and roundscale spearfish, it shall be unlawful to do any of the following:
 - (1) possess blue marlin less than 99 inches in length from the lower jaw to the fork in the tail;
 - (2) possess white marlin or roundscale spearfish less than 66 inches in length from the lower jaw to the fork in the tail;
 - (3) possess more than one blue marlin, white marlin, or roundscale spearfish in the aggregate per vessel per trip; and
 - (4) sell or offer for sale blue marlin, white marlin, or roundscale spearfish.
- (c) For sailfish, it shall be unlawful to do any of the following:
 - (1) possess sailfish less than 63 inches in length from the lower jaw to the fork in the tail;
 - (2) possess more than one sailfish per person per day; and
 - (3) sell or offer for sale sailfish.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. January 1, 1991;
Amended Eff. March 1, 1996; March 1, 1994; February 1, 1992; September 1, 1991;
Temporary Amendment Eff. June 7, 1998; September 1, 1996;
Amended Eff. July 1, 1998;
Temporary Amendment Eff. July 1, 1999;
Amended Eff. August 1, 2000;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0510 AMERICAN EEL

- (a) It shall be unlawful to possess, sell, or take American eels less than nine inches in length.
- (b) It shall be unlawful to possess more than 25 American eels per person per day for recreational purposes, except the master and each mate of for-hire vessels that hold a valid for-hire license may possess 50 eels each per day.
- (c) It shall be unlawful to possess American eels from September 1 through December 31, except when taken by baited pots.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. July 1, 1993;
Temporary Amendment Eff. August 1, 2000;
Amended Eff. May 1, 2015; April 1, 2001;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0513 RIVER HERRING

It shall be unlawful to take or possess river herring from North Carolina Coastal Fishing Waters. Possession of river herring from sources other than North Carolina Coastal Fishing Waters shall be limited to fish less than or equal to six inches total length when aboard a vessel or while engaged in fishing.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. March 1, 1995;
Amended Eff. August 1, 1998;
Temporary Amendment Eff. May 1, 2000; August 1, 1999; July 1, 1999; March 1, 1999;
Amended Eff. June 13, 2016; October 1, 2008; December 1, 2007; April 1, 2001;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0515 DOLPHIN

- (a) It shall be unlawful to possess for recreational purposes any of the following:
 - (1) more than 10 dolphin per person per day taken by hook and line; and
 - (2) more than 60 dolphin per vessel per day regardless of the number of individuals on board, except headboat vessels with a valid U.S. Coast Guard Certificate of Inspection may possess 10 dolphin per paying customer.
- (b) It shall be unlawful for a commercial fishing operation without a valid federal Atlantic Dolphin/Wahoo Commercial vessel permit to do any of the following:
 - (1) take or possess more than 10 dolphin per person per day; and
 - (2) sell dolphin.

*History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Temporary Adoption Eff. July 1, 1999;
Temporary Adoption Eff. January 1, 2000;
Eff. April 1, 2001;
Amended Eff. September 1, 2005;
Readopted Eff. April 1, 2019.*

15A NCAC 03M .0517 WAHOO

- (a) It shall be unlawful to possess for recreational purposes more than two wahoo per person per day taken by hook and line.
- (b) It shall be unlawful for a commercial fishing operation to do any of the following:
 - (1) without a valid federal Atlantic Dolphin/Wahoo Commercial vessel permit:
 - (A) to take or possess more than two wahoo per person per day; and
 - (B) to sell wahoo; and
 - (2) to possess aboard a vessel or land more than 500 pounds of wahoo per trip.

*History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. September 1, 2005;
Readopted Eff. April 1, 2019.*

15A NCAC 03M .0518 KINGFISHES (SEA MULLET)

The Fisheries Director may, by proclamation and pursuant to 15A NCAC 03H .0103, impose any of the following restrictions on the taking of kingfishes:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods;
- (4) specify season;
- (5) specify size; and
- (6) specify quantity.

*History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;
Eff. October 1, 2008;
Readopted Eff. April 1, 2019.*

15A NCAC 03M .0520 TUNA

- (a) It shall be unlawful to possess for recreational purposes any of the following:
 - (1) yellowfin tuna less than 27 inches curved fork length;
 - (2) bigeye tuna less than 27 inches curved fork length; and
 - (3) more than three yellowfin tuna per person per day.
- (b) It shall be unlawful to possess in a commercial fishing operation any of the following:
 - (1) yellowfin tuna less than 27 inches curved fork length or 27 inches from the fork of the tail to the forward edge of the cut of beheaded tuna;
 - (2) bigeye tuna less than 27 inches curved fork length or 27 inches from the fork of the tail to the forward edge of the cut of beheaded tuna;
 - (3) Atlantic bluefin tuna less than 73 inches curved fork length or 54 inches pectoral fin curved fork length; and
 - (4) tuna subject to a size or harvest restriction without having the tail attached.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52;
Eff. October 1, 2008;
Amended Eff. April 1, 2011;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0521 SHEEPSHEAD

The Fisheries Director may, by proclamation and pursuant to 15A NCAC 03H .0103, impose any of the following restrictions on the taking of sheepshead:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods;
- (4) specify season;
- (5) specify size; and
- (6) specify quantity.

History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;
Eff. April 1, 2014;
Readopted Eff. April 1, 2019.

15A NCAC 03M .0522 SPOTTED SEATROUT

The Fisheries Director may, by proclamation, impose any of the following requirements on the taking of spotted seatrout:

- (1) specify time;
- (2) specify area;
- (3) specify means and methods;
- (4) specify season;
- (5) specify size; and
- (6) specify quantity.

History Note: Authority G.S. 113-134; 113-182; 113-221.1; 143B-289.52;
Eff. May 1, 2017.

SUBCHAPTER 030 – LICENSES, LEASES, FRANCHISES, AND PERMITS

SECTION .0100 – LICENSES

15A NCAC 030 .0106 DISPLAY OF LICENSES AND REGISTRATIONS

(a) It shall be unlawful:

- (1) for any person to use a vessel required to be registered under the provisions of G.S. 113-168.6 in a commercial fishing operation without a current Commercial Fishing Vessel Registration decal mounted on an exterior surface so as to be plainly visible when viewed from the port side; and
- (2) to display any Commercial Fishing Vessel Registration decal not issued for the vessel displaying it.

(b) It shall be unlawful to fail to display a Fish Dealer License required by G.S. 113-169.3 or Ocean Fishing Pier License required by G.S. 113-169.4 in prominent public view in each location subject to licensing.

(c) It shall be unlawful for any person licensed under G.S. 113-174.3 to fail to display a current for-hire vessel decal on the exterior surface of the vessel so as to be visible when viewed from the port side while engaged in for-hire recreational fishing.

History Note: Authority G.S. 113-134; 113-168.6; 113-169.3; 113-169.4; 113-174.1; 113-182; 143B-289.52;
Eff. January 1, 1991;
Temporary Amendment Eff. July 1, 1999;
Amended Eff. May 1, 2015; December 1, 2006; August 1, 2000;
Readopted Eff. April 1, 2019.

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 to fail to participate in and provide accurate information for biological sampling in accordance with 15A NCAC 03I .0113 and for survey programs administered by the Division.

(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.

*History Note: Authority G.S. 113-134; 113-168.6; 113-174.1; 113-174.3; 143B-289.52;
Eff. July 1, 2008;
Readopted Eff. April 1, 2019.*

15A NCAC 03O .0114 SUSPENSION, REVOCATION, AND REISSUANCE OF LICENSES

(a) All commercial and recreational licenses issued under Article 14A, Article 14B, and Article 25A of Chapter 113 shall be subject to suspension and revocation.

(b) A conviction resulting from being charged by an inspector under G.S. 14-32, 14-33, 14-72, or 14-399 shall be deemed a conviction for the purposes of license suspension or revocation.

(c) Upon receipt of notice of a licensee's conviction as specified in G.S. 113-171 or a conviction as specified in Paragraph (b) of this Rule, the Fisheries Director shall determine whether it is a first, second, third, fourth, or subsequent conviction. Where several convictions result from a single transaction or occurrence, the convictions shall be treated as a single conviction for the purposes of license suspension or revocation. For a second conviction, the Fisheries Director shall suspend all licenses issued to the licensee for a period of 30 days; for a third conviction, the Fisheries Director shall suspend all licenses issued to the licensee for a period of 90 days; for a fourth or subsequent conviction, the Fisheries Director shall revoke all licenses issued to the licensee, except:

- (1) for a felony conviction under G.S. 14-399, the Fisheries Director shall suspend all licenses issued to the licensee for a period of one year;
- (2) for a first conviction under G.S. 113-187(d)(1), the Fisheries Director shall suspend all licenses issued to the licensee for a period of one year; for a second or subsequent conviction under G.S. 113-187(d)(1), the Fisheries Director shall revoke all licenses issued to the licensee;
- (3) for a conviction under G.S. 14-72, 113-208, 113-209, 113-268, or 113-269, the Fisheries Director shall revoke all licenses issued to the licensee; and
- (4) for a conviction under G.S. 14-32 or 14-33, if the offense was committed against a marine fisheries inspector, the Fisheries Director shall revoke all licenses issued to the licensee and the former licensee shall not be eligible to apply for reinstatement of a revoked license or for any additional license authorized in Article 14A, Article 14B, or Article 25A of Chapter 113 for a period of two years.

(d) After the Fisheries Director determines that a conviction requires a suspension or revocation of the licenses of a licensee, the Fisheries Director shall cause the licensee to be served with written notice of suspension or revocation. If the licensee is not an individual, the written notice shall be served upon any responsible individual affiliated with the corporation, partnership, or association. The notice of suspension or revocation shall be served by an inspector or other agent of the Department or by certified mail, shall state the ground upon which it is based, and shall take effect immediately upon service. The agent of the Fisheries Director making service shall collect all license certificates and plates and other forms or records relating to the license as directed by the Fisheries Director.

(e) If a license has been suspended, the former licensee shall not be eligible to apply for reissuance of license or for any additional license authorized in Article 14A, Article 14B, or Article 25A of Chapter 113 during the suspension period. Licenses shall be returned to the licensee by the Fisheries Director or the Director's agents at the end of a period of suspension.

(f) Where a license has been revoked, the former licensee shall not be eligible to apply for reinstatement of a revoked license or for any additional license authorized in Article 14A, Article 14B and Article 25A of Chapter 113 for a period of one year, except as provided in Subparagraph (c)(4) of this Rule. For a request for reinstatement following revocation, the former licensee shall demonstrate in the request that the licensee will conduct the operations for which the license is sought in accord with all applicable laws and rules, shall submit the request in writing, and shall send the request to the Fisheries Director, Division of Marine Fisheries, 3441 Arendell Street, P.O. Box 769, Morehead City, NC 28557. Upon the application of an eligible former licensee after revocation, the Fisheries Director may issue one license sought but not another, as necessary to prevent the hazard of recurring violations of the law.

(g) A licensee shall not willfully evade the service prescribed in this Rule.

*History Note: Authority G.S. 113-168.1; 113-171; S.L. 2010-145;
Eff. October 1, 2012;
Amended Eff. May 1, 2017.*

SECTION .0200 – LEASES AND FRANCHISES

15A NCAC 030 .0201 STANDARDS AND REQUIREMENTS FOR SHELLFISH BOTTOM LEASES AND FRANCHISES AND WATER COLUMN LEASES

- (a) 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 cultivation purposes:
- (1) the proposed 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 lease area shall not be closer than 100 feet to a developed shoreline, 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; and
 - (3) the proposed lease area shall not be less than one-half acre and shall not exceed 10 acres.
- (b) To be suitable for leasing for aquaculture purposes, water columns superjacent to leased bottom shall meet the standards in G.S. 113-202.1 and water columns superjacent to franchises recognized pursuant to G.S. 113-206 shall meet the standards in G.S. 113-202.2.
- (c) Franchises recognized pursuant to G.S. 113-206 and shellfish bottom leases 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) Water column leases 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 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.
- (e) The following standards shall be applied to determine compliance with Paragraphs (c) and (d) of this Rule:
- (1) Only shellfish marketed, planted, or produced as defined in 15A NCAC 031 .0101 as the fishing activities "shellfish marketing from leases and franchises," "shellfish planting effort on leases and franchises," or "shellfish production on leases and franchises" shall be included in the lease and franchise reports required by Rule .0207 of this Section.
 - (2) If more than one 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 lease or franchise. Shellfish transplanted between leases or franchises shall be credited as planting effort on only one lease or franchise.
 - (3) Production and marketing information and planting effort information shall be compiled and averaged separately to assess compliance with the requirements of this Rule. The lease or franchise shall meet both the production requirement and the planting effort requirement within the dates set forth in G.S. 113-202.1 and 202.2 to be deemed in compliance for shellfish bottom leases. The lease or franchise shall meet either the production requirement or the planting effort requirement within the dates set forth in G.S. 113-202.1 and 202.2 to be deemed in compliance for water column leases.
 - (4) All bushel measurements shall be in standard U.S. bushels.
 - (5) 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 rate averages shall be computed irrespective of transfer of the lease or franchise. The production and marketing rates shall be averaged for the following situations using the time periods described:
 - (A) for an initial 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 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 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 bottom lease or franchise issued an extension period under Rule .0208 of this Section, over the most recent five-year period.

(7) In the event that a portion of an existing lease or franchise is obtained by a new owner, 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) Persons holding five or more acres under all shellfish bottom leases and franchises combined shall meet the requirements established in Paragraph (c) of this Rule before submitting an application for additional shellfish lease acreage to the Division of Marine Fisheries.

History Note: Authority G.S. 113-134; 113-201; 113-202; 113-202.1; 113-202.2; 113-206; 143B-289.52; Eff. January 1, 1991; Amended Eff. May 1, 1997; March 1, 1995; March 1, 1994; September 1, 1991; Temporary Amendment Eff. October 1, 2001; Amended Eff. May 1, 2017; October 1, 2008; April 1, 2003.

15A NCAC 030 .0208 TERMINATION OF SHELLFISH BOTTOM LEASES AND FRANCHISES AND WATER COLUMN LEASES

(a) Procedures for termination of shellfish leaseholds are provided in G.S. 113-202. An appeal of the Secretary’s decision to terminate a leasehold is governed by G.S. 150B-23.

(b) Substantial breach of compliance with the provisions of rules of the Marine Fisheries Commission governing use of the leasehold includes the following, except as provided in Paragraph (c) of this Rule:

- (1) failure to meet shellfish production and marketing requirements for bottom leases or franchises in accordance with Rule .0201 of this Section;
- (2) failure to maintain a planting effort of cultch or seed shellfish for bottom leases or franchises in accordance with Rule .0201 of this Section;
- (3) failure either to meet shellfish production and marketing requirements or to maintain a planting effort of cultch or seed shellfish for water column leases in accordance with Rule .0201 of this Section;
- (4) the Fisheries Director has cause to believe the holder of private shellfish bottom or franchise rights has encroached or usurped the legal rights of the public to access public trust resources in navigable waters, in accordance with G.S. 113-205 and Rule .0204 of this Section; and
- (5) the Attorney General initiates action for the purpose of vacating or annulling letters patent granted by the State, in accordance with G.S. 146-63.

(c) Consistent with G.S. 113-202(11) and 113-201(b), a leaseholder that failed to meet requirements in G.S. 113-202, 15A NCAC 030 .0201 or this Rule may be granted a single extension period of no more than two years per contract period upon a showing of hardship by written notice to the Fisheries Director prior to the expiration of the lease term that one of the following occurrences caused or will cause the leaseholder to fail to meet lease requirements:

- (1) death, illness, or incapacity of the leaseholder or his immediate family as defined in G.S. 113-168 that prevented or will prevent the leaseholder from working the lease;
- (2) damage to the lease from hurricanes, tropical storms, or other severe weather events recognized by the National Weather Service;
- (3) shellfish mortality caused by disease, natural predators, or parasites; or
- (4) damage to the lease from a manmade disaster that triggers a state emergency declaration or federal emergency declaration.

(d) In the case of hardship as described in Subparagraph (c)(1) of this Rule, the notice shall state the name of the leaseholder or immediate family member and either the date of death or the date and nature of the illness or incapacity. Written notice and supporting documentation shall be addressed to the Director of the Division of Marine Fisheries, 3441 Arendell St., P.O. Box 769, Morehead City, NC 28557.

History Note: Authority G.S. 113-134; 113-201; 113-202; 113-202.1; 113-202.2; 113-205; 143B-289.52; Eff. January 1, 1991; Amended Eff. May 1, 1997; March 1, 1995; March 1, 1994; October 1, 1992; September 1, 1991; Temporary Amendment Eff. January 1, 2002; October 1, 2001; Amended Eff. May 1, 2017; April 1, 2003.

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) Permit to Transplant Oysters from Seed Oyster Management Areas;
- (4) Permit to Transplant Prohibited (Polluted) Shellfish; or

- (5) 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;
- (2) Permit to Harvest Rangia Clams from Prohibited (Polluted) Areas;
- (3) Permit to Transplant Oysters from Seed Oyster Management Areas; or
- (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, 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.

History Note: Authority G.S. 113-134; 113-169.1; 113-169.2; 113-169.3; 113-182; 113-210; 143B-289.52; Temporary Adoption Eff. September 1, 2000; May 1, 2000; Eff. April 1, 2001; Temporary Amendment Eff. October 1, 2001; Amended Eff. May 1, 2017; May 1, 2015; April 1, 2011; April 1, 2009; July 1, 2008; December 1, 2007; September 1, 2005; April 1, 2003; August 1, 2002; Readopted Eff. April 1, 2019.

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) Aquaculture Operation Permits and Aquaculture Collection Permits shall be issued or renewed on a calendar year basis.
 - (5) 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.asmfmc.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) 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 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.

History Note: Authority G.S. 113-134; 113-169.1; 113-169.2; 113-169.3; 113-182; 113-210; 143B-289.52; Temporary Adoption Eff. September 1, 2000; August 1, 2000; May 1, 2000; Eff. April 1, 2001; Amended Eff. May 1, 2017; May 1, 2015; April 1, 2014; April 1, 2009; July 1, 2008; January 1, 2008; September 1, 2005; October 1, 2004; August 1, 2004; August 1, 2002; Readopted Eff. April 1, 2019.

SUBCHAPTER 03P – HEARING PROCEDURES

SECTION .0100 – HEARING PROCEDURES

15A NCAC 03P .0101 LICENSE, PERMIT, OR CERTIFICATE DENIAL: REQUEST FOR REVIEW

- (a) For the purpose of this Rule and in accordance with G.S. 150B-2, "license" includes "permit" as well as "certification" and "certificate of compliance."
- (b) Except in cases where G.S. 113-171 is applicable, before the Division may commence proceedings for suspension, revocation, annulment, withdrawal, recall, cancellation, or amendment of a license, notice shall be given to the license holder that:
 - (1) the license holder has a right, through filing a request for a contested case hearing in the Office of Administrative Hearings, to a hearing before an administrative law judge and a final agency decision by the Marine Fisheries Commission; and
 - (2) the license holder may request an opportunity to show compliance with all requirements for retention of the license by submitting a statement in writing to the personnel designated in the notice to commence proceedings.
- (c) Any statements submitted by the license holder to show compliance with all requirements for retention of the license shall be postmarked within 15 days of receipt of the notice to commence proceedings. Statements and any supporting documentation shall be addressed to the personnel designated in the notice and mailed to the Division of Marine Fisheries, 3441 Arendell Street, P.O. Box 769, Morehead City, NC 28557.
- (d) Upon receipt of a statement and any supporting documentation from the license holder, the Division shall review the statement and, within 15 days, shall notify the license holder in writing with the Division's determination whether the license holder demonstrated compliance with all requirements for retention of the license. In making this determination, the Division may consider criteria including material changes made enabling the license holder to conduct the operations for which the license is held in accord with all applicable laws and rules and processing errors made by the Division.
- (e) The Division shall order summary suspension of a license if it finds that the public health, safety, or welfare requires emergency action. Upon such determination, the Fisheries Director shall issue an order giving the reasons for the emergency action. The effective date of the order shall be the date specified on the order or the date of service of a certified copy of the order at the last known address of the license holder, whichever is later.

*History Note: Authority G.S. 113-134; 113-171; 113-221.2; 150B-3; 150B-23;
Eff. January 1, 1991;
Amended Eff. May 1, 2017; August 1, 1999.*

SUBCHAPTER 03R – DESCRIPTIVE BOUNDARIES

SECTION .0100 – DESCRIPTIVE BOUNDARIES

15A NCAC 03R .0103 PRIMARY NURSERY AREAS

The primary nursery areas referenced in 15A NCAC 03N .0104 are delineated in the following coastal water areas:

- (1) In the Roanoke Sound Area:
 - (a) Shallowbag Bay:
 - (i) Dough Creek - northeast of a line beginning on the west shore at a point 35° 54.5396' N - 75° 39.9681' W; running northeasterly to the east shore to a point 35° 54.4615' N - 75° 40.1598' W; and west of a line that crosses a canal on the east side of Dough Creek beginning on the north shore at a point 35° 54.7103' N - 75° 40.0951' W; running southerly to the south shore to a point 35° 54.6847' N - 75° 40.0882' W; and
 - (ii) Scarborough Creek - south of a line beginning on the west shore at a point 35° 53.9801' N - 75° 39.5985' W; running northeasterly to the east shore to a point 35° 54.0372' N - 75° 39.5558' W; and
 - (b) Broad Creek - all waters north of a line beginning on the west shore at a point 35° 51.9287' N - 75° 38.3377' W; running northeasterly to the east shore to a point 35° 52.0115' N - 75° 38.1792' W; and west and south of a line beginning on the north shore at a point 35° 53.3655' N - 75° 38.0254' W; running southeasterly to the south shore to a point 35° 53.3474' N - 75° 37.9430' W;
- (2) In the Northern Pamlico Sound Area:
 - (a) Long Shoal River:
 - (i) Long Shoal River - northwest of a line beginning on the north shore at a point 35° 38.0175' N - 75° 52.9270' W; running southwesterly to the south shore to a point 35° 37.8369' N - 75° 53.1060' W;
 - (ii) Deep Creek - southeast of a line beginning on the north shore at a point 35° 37.7346' N - 75° 52.1383' W; running southwesterly to the south shore to a point 35° 37.6673' N - 75° 52.2997' W;
 - (iii) Broad Creek - west of a line beginning on the north shore at a point 35° 35.9820' N - 75° 53.6789' W; running southerly to the south shore to a point 35° 35.7093' N - 75° 53.7335' W;

- (iv) Muddy Creek - east of a line beginning on the north shore at a point 35° 36.4566' N - 75° 52.1460' W; running southerly to the south shore to a point 35° 36.2828' N - 75° 52.1640' W;
- (v) Pains Bay - north of a line beginning on the west shore at a point 35° 35.4517' N - 75° 49.1414' W; running easterly to the east shore to a point 35° 35.4261' N - 75° 48.8029' W;
- (vi) Otter Creek - southwest of a line beginning on the west shore at a point 35° 33.2597' N - 75° 55.2129' W; running easterly to the east shore to a point 35° 33.1995' N - 75° 54.8949' W; and
- (vii) Clark Creek - northeast of a line beginning on the north shore at a point 35° 35.7776' N - 75° 51.4652' W; running southeasterly to the south shore to a point 35° 35.7128' N - 75° 51.4188' W;
- (b) Far Creek - west of a line beginning on the north shore at a point 35° 30.9782' N - 75° 57.7611' W; running southerly to Gibbs Point to a point 35° 30.1375' N - 75° 57.8108' W;
- (c) Middletown Creek - west of a line beginning on the north shore at a point 35° 28.4868' N - 75° 59.8186' W; running southwesterly to the south shore to a point 35° 28.1919' N - 76° 00.0216' W;
- (d) Wysocking Bay:
 - (i) Lone Tree Creek - east of a line beginning on the north shore at a point 35° 25.6048' N - 76° 02.3577' W; running southeasterly to the south shore to a point 35° 25.1189' N - 76° 02.0499' W;
 - (ii) Wysocking Bay - north of a line beginning on the west shore at a point 35° 25.7793' N - 76° 03.5773' W; running northeasterly to the east shore to a point 35° 25.9585' N - 76° 02.9055' W;
 - (iii) Douglas Bay - northwest of a line beginning on Mackey Point at a point 35° 25.2627' N - 76° 03.1702' W; running southwesterly to the south shore to a point 35° 24.8225' N - 76° 03.6353' W; and
 - (iv) Tributaries west of Brown Island - west of a line beginning on Brown Island at a point 35° 24.3606' N - 76° 04.4557' W; running southerly to the north shore of Brown Island to a point 35° 24.2081' N - 76° 04.4622' W; and northwest of a line beginning on the south shore of Brown Island at a point 35° 23.8255' N - 76° 04.4761' W; running southwesterly to a point 35° 23.6543' N - 76° 04.8630' W;
- (e) East Bluff Bay - Harbor Creek east of a line beginning on the north shore at a point 35° 21.5762' N - 76° 07.8755' W; running southerly to a point 35° 21.4640' N - 76° 07.8750' W; running easterly to the south shore to a point 35° 21.4332' N - 76° 07.7211' W;
- (f) Cuning Harbor tributaries - north of a line beginning on the west shore at a point 35° 20.7567' N - 76° 12.6379' W; running easterly to the east shore to a point 35° 20.7281' N - 76° 12.2292' W;
- (g) Juniper Bay:
 - (i) Upper Juniper Bay - north of a line beginning on the west shore at a point 35° 23.1687' N - 76° 15.1921' W; running easterly to the east shore to a point 35° 23.1640' N - 76° 14.9892' W;
 - (ii) Rattlesnake Creek - west of a line beginning on the north shore at a point 35° 22.9453' N - 76° 15.2748' W, running southerly to the south shore to a point 35° 22.8638' N - 76° 15.3461' W;
 - (iii) Buck Creek - north of a line beginning on the west shore at a point 35° 21.5220' N - 76° 13.8865' W; running southeasterly to the east shore to a point 35° 21.3593' N - 76° 13.7039' W;
 - (iv) Laurel Creek - east of a line beginning on the north shore at a point 35° 20.6693' N - 76° 13.3177' W; running southerly to the south shore to a point 35° 20.6082' N - 76° 13.3305' W; and
 - (v) Old Haulover - west of a line beginning on the north shore at a point 35° 22.0186' N - 76° 15.6736' W; running southerly to the south shore to a point 35° 21.9708' N - 76° 15.6825' W;
- (h) Swanquarter Bay:
 - (i) Upper Swanquarter Bay - north of a line beginning on the west shore at a point 35° 23.5651' N - 76° 20.6715' W; running easterly to the east shore to a point 35° 23.6988' N - 76° 20.0025' W;
 - (ii) Oyster Creek - east of a line beginning on the north shore at a point 35° 23.1214' N - 76° 19.0026' W; running southeasterly to the south shore to a point 35° 23.0117' N - 76° 18.9591' W; and
 - (iii) Caffee Bay:
 - (A) Unnamed tributary - north of a line beginning on the west shore at a point 35° 22.1604' N - 76° 18.9140' W; running easterly to the east shore to a point 35° 22.1063' N - 76° 18.7500' W;
 - (B) Unnamed tributary - north of a line beginning on the west shore at a point 35° 22.1573' N - 76° 18.5101' W; running easterly to the east shore to a point 35° 22.1079' N - 76° 18.1562' W; and
 - (C) Upper Caffee Bay (Haulover) - east of a line beginning on the north shore at a point 35° 21.8499' N - 76° 17.5199' W; running southerly to the south shore to a point 35° 21.5451' N - 76° 17.4966' W;

- (i) Rose Bay:
 - (i) Rose Bay - north of a line beginning on the west shore at a point 35° 26.6543' N - 76° 25.3992' W; running easterly to Channel Marker "6"; running northeasterly to Watch Point to a point 35° 26.8515' N - 76° 25.0055' W;
 - (ii) Island Point Creek - west of a line beginning on the north shore at a point 35° 26.0413' N - 76° 25.0452' W; running southeasterly to the south shore to a point 35° 25.9295' N - 76° 24.9882' W;
 - (iii) Tooley Creek - west of a line beginning on the north shore at a point 35° 25.4937' N - 76° 25.5324' W; running southerly to the south shore to a point 35° 25.1819' N - 76° 25.5776' W;
 - (iv) Broad Creek - east of a line beginning on the north shore at a point 35° 24.4620' N - 76° 23.3398' W; running southwesterly to the south shore to a point 35° 24.2352' N - 76° 23.5158' W;
 - (v) Lightwood Snag Bay - northwest of a line beginning on the north shore at a point 35° 24.3340' N - 76° 25.9680' W; running southwesterly to a point 35° 24.2610' N - 76° 26.1800' W; running southwesterly to a point on the shore 35° 23.9270' N - 76° 26.3300' W;
 - (vi) Deep Bay:
 - (A) Old Haulover - north of a line beginning on the west shore at a point 35° 23.2140' N - 76° 22.8560' W; running easterly to the east shore to a point 35° 23.2124' N - 76° 22.7340' W; and
 - (B) Drum Cove (Stinking Creek) - south of a line beginning on the west shore at a point 35° 22.5212' N - 76° 24.7321' W; running southeasterly to the east shore to a point 35° 22.4282' N - 76° 24.5147' W; and
 - (vii) Eastern tributaries (Cedar Hammock and Long Creek) - east of a line beginning on the north shore at a point 35° 24.9119' N - 76° 23.1587' W; running southerly to the south shore to a point 35° 24.6700' N - 76° 23.2171' W;
- (j) Spencer Bay:
 - (i) Germantown Bay:
 - (A) Ditch Creek - northwest of a line beginning on the north shore at a point 35° 24.1874' N - 76° 27.8527' W; running southwesterly to the south shore to a point 35° 24.0937' N - 76° 27.9348' W;
 - (B) Jenette Creek - northwest of a line beginning on the north shore at a point 35° 24.5054' N - 76° 27.6258' W; running southwesterly to the south shore to a point 35° 24.4642' N - 76° 27.6659' W;
 - (C) Headwaters of Germantown Bay - north of a line beginning on the west shore at a point 35° 24.8345' N - 76° 27.2605' W; running southeasterly to the east shore to a point 35° 24.6210' N - 76° 26.9221' W; and
 - (D) Swan Creek - southeast of a line beginning on the north shore at a point 35° 24.4783' N - 76° 27.1513' W; running southwesterly to the south shore to a point 35° 24.3899' N - 76° 27.2809' W;
 - (ii) Unnamed tributary - west of a line beginning on the north shore at a point 35° 22.9741' N - 76° 28.3469' W; running southerly to the south shore to a point 35° 22.8158' N - 76° 28.3280' W;
 - (iii) Unnamed tributary - west of a line beginning on the north shore at a point 35° 23.1375' N - 76° 28.5681' W; running southerly to the south shore to a point 35° 23.0209' N - 76° 28.5060' W;
 - (iv) Unnamed tributary - southwest of a line beginning on the north shore at a point 35° 23.3775' N - 76° 28.7332' W; running southeasterly to the south shore to a point 35° 23.3297' N - 76° 28.5608' W;
 - (v) Unnamed tributaries - northwest of a line beginning on the north shore at a point 35° 23.7207' N - 76° 28.6590' W; running southwesterly to the south shore to a point 35° 23.4738' N - 76° 28.7763' W;
 - (vi) Upper Spencer Bay - northwest of a line beginning on the north shore at a point 35° 24.3129' N - 76° 28.5300' W; running southwesterly to the south shore to a point 35° 23.9681' N - 76° 28.7671' W; and
 - (vii) Spencer Creek - east of a line beginning on the north shore at a point 35° 23.9990' N - 76° 27.3702' W; running southerly to the south shore to a point 35° 23.8598' N - 76° 27.4037' W;
- (k) Long Creek - north of a line beginning on the west shore at a point 35° 22.4678' N - 76° 28.7868' W; running southeasterly to the east shore to a point 35° 22.3810' N - 76° 28.7064' W;
- (l) Willow Creek - east of a line beginning on the north shore at a point 35° 23.1370' N - 76° 29.8829' W; running southeasterly to the south shore to a point 35° 22.9353' N - 76° 29.7215' W;

- (m) Abels Bay - north and east of a line beginning on the west shore at a point 35° 24.1072' N - 76° 30.3848' W; running southeasterly to the east shore to a point 35° 23.9898' N - 76° 30.1178' W; thence running southerly to the south shore to a point 35° 23.6947' N - 76° 30.1900' W; and
 - (n) Crooked Creek - north of a line beginning on the west shore at a point 35° 24.4138' N - 76° 32.2124' W; running easterly to the east shore to a point 35° 24.3842' N - 76° 32.0419' W;
- (3) In the Pungo River Area:
- (a) Fortescue Creek:
 - (i) Headwaters of Fortescue Creek - southeast of a line beginning on the south shore at a point 35° 25.5379' N - 76° 30.6923' W; running easterly to the north shore to a point 35° 25.5008' N - 76° 30.5537' W;
 - (ii) Warner Creek - north of a line beginning on the west shore at a point 35° 26.2778' N - 76° 31.5463' W; running easterly to the east shore to a point 35° 26.3215' N - 76° 31.4522' W;
 - (iii) Island Creek - north of a line beginning on the west shore at a point 35° 26.1342' N - 76° 32.3883' W; running easterly to the east shore to a point 35° 26.1203' N - 76° 32.2603' W;
 - (iv) Dixon Creek - south of a line beginning on the west shore at a point 35° 25.5766' N - 76° 31.8489' W; running easterly to the east shore to a point 35° 25.5865' N - 76° 31.6960' W;
 - (v) Pasture Creek - north of a line beginning on the west shore at a point 35° 25.9437' N - 76° 31.8468' W; running southwesterly to the east shore to a point 35° 25.9918' N - 76° 31.7224' W;
 - (vi) Cox, Snell, and Seer Creeks - northeast of a line beginning on the west shore at a point 35° 26.0496' N - 76° 31.2087' W; running southeasterly to the east shore to a point 35° 25.8497' N - 76° 30.8828' W;
 - (vii) Unnamed tributary on the north side of Fortescue Creek - northeast of a line beginning on the west shore at a point 35° 25.7722' N - 76° 30.7825' W; running southeasterly to the east shore to a point 35° 25.7374' N - 76° 30.7102' W; and
 - (viii) Runway Creek - northeast of a line beginning on the west shore at a point 35° 25.6547' N - 76° 30.6637' W; running easterly to the east shore to a point 35° 25.6113' N - 76° 30.5714' W;
 - (b) Slade Creek:
 - (i) Upper Slade Creek - south of a line beginning on the north shore at a point 35° 27.9168' N - 76° 30.5189' W; running westerly to the south shore to a point 35° 27.9532' N - 76° 30.7140' W;
 - (ii) Jarvis Creek - northeast of a line beginning on the west shore at a point 35° 28.2450' N - 76° 30.8921' W; running southeasterly to the east shore to a point 35° 28.2240' N - 76° 30.8200' W;
 - (iii) Jones Creek - south of a line beginning on the west shore at a point 35° 28.0077' N - 76° 30.9337' W; running southeasterly to the east shore to a point 35° 27.9430' N - 76° 30.8938' W;
 - (iv) Becky Creek - north of a line beginning on the west shore at a point 35° 28.6081' N - 76° 31.6886' W; running northeasterly to the east shore to a point 35° 28.6297' N - 76° 31.6073' W;
 - (v) Neal Creek - north of a line beginning on the west shore at a point 35° 28.7797' N - 76° 31.8657' W; running northeasterly to the east shore to a point 35° 28.8084' N - 76° 31.7727' W;
 - (vi) Wood Creek - north of a line beginning on the west shore at a point 35° 28.5788' N - 76° 32.4163' W; running northeasterly to the east shore to a point 35° 28.6464' N - 76° 32.3339' W;
 - (vii) Spellman Creek - north of a line beginning on the east shore at a point 35° 28.2233' N - 76° 32.6827' W; running southwesterly to the west shore to a point 35° 28.2567' N - 76° 32.6533' W;
 - (viii) Speer Creek - east of a line beginning on the north shore at a point 35° 27.9680' N - 76° 32.3593' W; running southerly to the south shore to a point 35° 27.9216' N - 76° 32.3862' W;
 - (ix) Church Creek and Speer Gut - east of a line beginning on the north shore at a point 35° 27.5910' N - 76° 32.7412' W; running southwesterly to the south shore to a point 35° 27.5282' N - 76° 32.8227' W; and
 - (x) Allison and Foreman Creek - south of a line beginning on Parmalee Point at a point 35° 27.2812' N - 76° 33.0634' W; running southwesterly to the west shore to a point 35° 27.2418' N - 76° 33.1451' W;
 - (c) Flax Pond - west of a line beginning the north shore at a point 35° 32.0297' N - 76° 33.0389' W; running southwesterly to the south shore to a point 35° 31.9212' N - 76° 33.2061' W; and
 - (d) Battalina and Tooleys creeks - northwest of a line beginning on the north shore at a point 35° 32.3914' N - 76° 36.1548' W; running southwesterly to the south shore to a point 35° 32.0627' N - 76° 36.3769' W;
- (4) In the Pamlico River Area:
- (a) North Creek:

- (i) North Creek - north of a line beginning on the west shore at a point 35° 25.6764' N - 76° 39.9970' W; running northeasterly to the east shore to a point 35° 25.5870' N - 76° 40.0806' W;
- (ii) East Fork:
 - (A) Northeast of a line beginning on the west shore at a point 35° 25.8000' N - 76° 39.2679' W; running southeasterly to the east shore to a point 35° 25.6914' N - 76° 39.1374' W; and
 - (B) Unnamed tributary of East Fork - northwest of a line beginning on the north shore at a point 35° 25.6950' N - 76° 39.4337' W; running southwesterly to the south shore to a point 35° 25.6445' N - 76° 39.4698' W;
- (iii) Frying Pan Creek - east of a line beginning on the north shore at a point 35° 24.9881' N - 76° 39.5948' W; running southwesterly to Chambers Point to a point 35° 24.8508' N - 76° 39.6811' W; and
- (iv) Little Ease Creek - west of a line beginning on the north shore at a point 35° 25.1463' N - 76° 40.3490' W; running southwesterly to Cousin Point to a point 35° 25.0075' N - 76° 40.4159' W;
- (b) Goose Creek:
 - (i) Hatter Creek - west of a line beginning on the north shore at a point 35° 19.9593' N - 76° 37.5992' W; running southerly to the south shore to a point 35° 19.9000' N - 76° 37.5904' W;
 - (ii) Upper Spring Creek:
 - (A) Headwaters of Upper Spring Creek - east of a line beginning on the north shore at a point 35° 16.3636' N - 76° 36.0568' W; running southeasterly to the south shore to a point 35° 16.1857' N - 76° 36.0111' W; and
 - (B) Unnamed tributary - north of a line beginning on the west shore at a point 35° 16.8386' N - 76° 36.4447' W; running easterly to the east shore to a point 35° 16.8222' N - 76° 36.3811' W;
 - (iii) Eastham Creek - east of a line beginning on the north shore at a point 35° 17.7423' N - 76° 36.5164' W; running southeasterly to the south shore to a point 35° 17.5444' N - 76° 36.3963' W;
 - (iv) Mud Gut - northeast of a line beginning on the north shore at a point 35° 17.8754' N - 76° 36.7704' W; running southeasterly to the south shore to a point 35° 17.8166' N - 76° 36.7468' W;
 - (v) Wilkerson Creek - east of a line beginning on the north shore at a point 35° 18.4096' N - 76° 36.7479' W; running southwesterly to the south shore to a point 35° 18.3542' N - 76° 36.7741' W; and
 - (vi) Dixon Creek - east of a line beginning on the north shore at a point 35° 18.8893' N - 76° 36.5973' W; running southerly to the south shore to a point 35° 18.5887' N - 76° 36.7142' W; and
- (c) Oyster Creek - Middle Prong:
 - (i) Oyster Creek:
 - (A) West of a line, beginning on the north shore at a point 35° 19.4780' N - 76° 34.0131' W; running southerly to the south shore to a point 35° 19.3796' N - 76° 34.0021' W; and
 - (B) Duck Creek - south of a line beginning on the west shore at a point 35° 19.0959' N - 76° 33.2998' W; running northeasterly to the east shore to a point 35° 19.1553' N - 76° 33.2027' W;
 - (ii) James Creek - southwest of a line beginning on the north shore at a point 35° 18.6045' N - 76° 32.3233' W; running southeasterly to James Creek Point at a point 35° 18.4805' N - 76° 32.0240' W;
 - (iii) Middle Prong - south of a line beginning on the west shore at a point 35° 17.8888' N - 76° 31.9379' W; running southerly to the east shore to a point 35° 17.7323' N - 76° 31.9052' W; and
 - (iv) Clark Creek:
 - (A) Headwaters of Clark Creek (including Mouse Harbor Ditch) - southeast of a line beginning on the west shore at a point 35° 18.1028' N - 76° 31.1661' W; running northeasterly to the east shore to a point 35° 18.1907' N - 76° 31.0610' W; and
 - (B) Boat Creek - east of a line beginning on the north shore at a point 35° 18.5520' N - 76° 31.2927' W; running southerly to the south shore to a point 35° 18.4189' N - 76° 31.2660' W;
- (5) In the Western Pamlico Sound Area:
 - (a) Mouse Harbor:
 - (i) Long Creek - north of a line beginning on the west shore at a point 35° 18.4025' N - 76° 29.8139' W; running northeasterly to the east shore to a point 35° 18.4907' N - 76° 29.5652' W;
 - (ii) Lighthouse Creek - north of a line beginning on the west shore at a point 35° 18.5166' N - 76° 29.2166' W; running southeasterly to the east shore to a point 35° 18.4666' N - 76° 29.1666' W; and

- (iii) Cedar Creek and Island creeks - south of a line beginning on the west shore at a point 35° 16.9073' N - 76° 29.8667' W; running southeasterly to the east shore to a point 35° 16.6800' N - 76° 29.4500' W;
- (b) Porpoise Creek - west of a line beginning on the north shore at a point 35° 15.7263' N - 76° 29.4897' W; running southeasterly to the south shore to a point 35° 15.6335' N - 76° 29.3346' W;
- (c) Middle Bay:
 - (i) Middle Bay - west of a line beginning on the north shore at a point 35° 14.6137' N - 76° 30.8086' W; running southeasterly to the south shore to a point 35° 14.0631' N - 76° 30.5176' W; and
 - (ii) Little Oyster Creek - north of a line beginning on the west shore at a point 35° 14.4745' N - 76° 30.2111' W; running northeasterly to the east shore to a point 35° 14.5825' N - 76° 29.9144' W; and
- (d) Jones Bay, west of the IWW:
 - (i) Little Drum Creek and Little Eve Creek - south of a line beginning on the west shore at a point 35° 12.4380' N - 76° 31.7428' W; running southeasterly to the east shore to a point 35° 12.3499' N - 76° 31.2554' W;
 - (ii) Ditch Creek - south of a line beginning on the west shore at a point 35° 13.3609' N - 76° 33.6539' W; running southeasterly to the east shore to a point 35° 13.2646' N - 76° 33.1996' W;
 - (iii) Lambert Creek - west of a line beginning on the north shore at a point 35° 13.8980' N - 76° 34.3078' W; running southeasterly to the south shore to a point 35° 13.8354' N - 76° 34.2665' W;
 - (iv) Headwaters of Jones Bay, (west of the IWW) - west of a line beginning on the north shore at a point 35° 14.4684' N - 76° 35.4307' W; running southerly to the south shore to a point 35° 14.3947' N - 76° 35.4205' W;
 - (v) Bills Creek - north of a line beginning on the west shore at a point 35° 14.4162' N - 76° 34.8566' W; running northerly to the east shore to a point 35° 14.4391' N - 76° 34.7248' W;
 - (vi) Doll Creek - north of a line beginning on the west shore at a point 35° 14.3320' N - 76° 34.2935' W; running southeasterly to the east shore to a point 35° 14.2710' N - 76° 34.0406' W; and
 - (vii) Drum Creek - north of a line beginning on the west shore at a point 35° 14.1764' N - 76° 33.2632' W; running easterly to the east shore to a point 35° 14.1620' N - 76° 33.0614' W;
- (6) In the Bay River Area:
 - (a) Mason Creek - southeast of a line beginning on the north shore at a point 35° 08.2531' N - 76° 41.4897' W; running southwesterly to the west shore to a point 35° 08.1720' N - 76° 41.6340' W;
 - (b) Moore Creek - southeast of a line beginning on the north shore at a point 35° 08.9671' N - 76° 40.2017' W; running southeasterly to the south shore to a point 35° 08.8629' N - 76° 40.1598' W;
 - (c) Small tributaries from Bell Point to Ball Creek:
 - (i) Tributary west of Bell Point - south of a line beginning on the west shore at a point 35° 09.9536' N - 76° 39.3977' W; running northeasterly to the east shore to a point 35° 09.9970' N - 76° 39.3420' W;
 - (ii) Little Pasture Creek - south of a line beginning on the west shore at a point 35° 09.8944' N - 76° 39.1483' W; running southeasterly to the east shore to a point 35° 09.8417' N - 76° 39.1130' W; and
 - (iii) Rice Creek - south of a line beginning on the west shore at a point 35° 09.7616' N - 76° 38.9686' W; running southeasterly to the east shore to a point 35° 09.7378' N - 76° 38.8833' W;
 - (d) Ball and Cabin creeks - south of a line beginning on the west shore at a point 35° 09.6479' N - 76° 37.9973' W; running southeasterly to the east shore to a point 35° 09.5589' N - 76° 37.5879' W;
 - (e) Bonner Bay:
 - (i) Riggs Creek - west of a line beginning on the north shore at a point 35° 09.4050' N - 76° 36.2205' W; running southeasterly to the south shore to a point 35° 09.2298' N - 76° 36.0949' W;
 - (ii) Spring Creek - west of a line beginning on the north shore at a point 35° 08.5149' N - 76° 36.0799' W; running southerly to the south shore to a point 35° 08.3575' N - 76° 36.0713' W;
 - (iii) Bryan and Ives creeks - south of a line beginning on the west shore at a point 35° 08.3632' N - 76° 35.8653' W; running northeasterly to the east shore to a point 35° 08.4109' N - 76° 35.7075' W;
 - (iv) Long Creek Gut - north of a line beginning on the west shore at a point 35° 09.1993' N - 76° 34.8517' W; running easterly to the east shore to a point 35° 09.1987' N - 76° 34.5373' W;
 - (v) Dipping Vat Creek - east of a line beginning on the north shore at a point 35° 09.2734' N - 76° 34.3363' W; running southerly to the south shore to a point 35° 09.1212' N - 76° 34.3667' W;
 - (vi) Long Creek - east of a line beginning on the west shore at a point 35° 08.1404' N - 76° 34.5741' W; running northeasterly to the east shore to a point 35° 08.2078' N - 76° 34.4819' W; and

- (vii) Cow Gallus Creek - west of a line beginning on the north shore at a point 35° 08.5125' N - 76° 34.6417' W; running southerly to the south shore to a point 35° 08.4083' N - 76° 34.6131' W;
- (f) Rock Hole Bay - northeast of a line beginning on the west shore at a point 35° 11.6478' N - 76° 32.5840' W; running southeasterly to the east shore to a point 35° 11.2664' N - 76° 32.2160' W;
- (g) Dump Creek - north of a line beginning on the west shore at a point 35° 11.7105' N - 76° 33.4228' W; running easterly to the east shore to a point 35° 11.7174' N - 76° 33.1807' W;
- (h) Tributaries east of IWW at Gales Creek:
 - (i) Raccoon Creek - east of a line beginning on the north shore at a point 35° 12.9169' N - 76° 35.4930' W; running southeasterly to the south shore to a point 35° 12.6515' N - 76° 35.3368' W; and
 - (ii) Ditch Creek - east of a line beginning on the north shore at a point 35° 12.4460' N - 76° 35.0707' W; running southeasterly to the south shore to a point 35° 12.3495' N - 76° 34.9917' W;
- (i) Tributaries west of IWW at Gales Creek:
 - (i) Jumpover Creek - west of a line beginning on the north shore at a point 35° 13.2830' N - 76° 35.5843' W; running southerly to the south shore to a point 35° 13.2035' N - 76° 35.5844' W;
 - (ii) Gales Creek - west of a line beginning on the north shore at a point 35° 12.9653' N - 76° 35.6600' W; running southerly to the south shore to a point 35° 12.8032' N - 76° 35.6366' W; and
 - (iii) Whealton and Tar creeks - west of a line beginning on the north shore at a point 35° 12.7334' N - 76° 35.5430' W; running southeasterly to the south shore to a point 35° 12.4413' N - 76° 35.3594' W;
- (j) Chadwick and No Jacket creeks - north of a line beginning on the west shore at a point 35° 11.9511' N - 76° 35.8899' W; running northeasterly to the east shore to a point 35° 12.0599' N - 76° 35.3973' W;
- (k) Bear Creek - west of a line beginning on the north shore at a point 35° 11.7526' N - 76° 36.2721' W; running southwesterly to the south shore to a point 35° 11.5781' N - 76° 36.3366' W;
- (l) Little Bear Creek - north of a line beginning on the west shore at a point 35° 11.1000' N - 76° 36.3060' W; running northeasterly to the east shore to a point 35° 11.2742' N - 76° 35.9822' W;
- (m) Tributaries to Bay River from Petty Point to Sanders Point:
 - (i) Oyster Creek - north of a line beginning on the west shore at a point 35° 10.7971' N - 76° 36.7399' W; running northeasterly to the east shore to a point 35° 10.9493' N - 76° 36.4878' W;
 - (ii) Potter Creek - north of a line beginning on the west shore at a point 35° 10.7259' N - 76° 37.0764' W; running northeasterly to the east shore to a point 35° 10.7778' N - 76° 36.7933' W;
 - (iii) Barnes and Gascon creeks - north of a line beginning on the west shore at a point 35° 10.6396' N - 76° 37.3137' W; running northeasterly to the east shore to a point 35° 10.6929' N - 76° 37.2087' W;
 - (iv) Harris Creek - north of a line beginning on the west shore at a point 35° 10.5922' N - 76° 37.5333' W; running northeasterly to the east shore to a point 35° 10.6007' N - 76° 37.5103' W; and
 - (v) Mesic Creek - north of a line beginning on the west shore at a point 35° 10.5087' N - 76° 37.9520' W; running easterly to the east shore to a point 35° 10.4830' N - 76° 37.8477' W;
- (n) In Vandemere Creek:
 - (i) Cedar Creek - north of a line beginning on the west shore at a point 35° 11.2495' N - 76° 39.5727' W; running northeasterly to the east shore to a point 35° 11.2657' N - 76° 39.5238' W;
 - (ii) Long Creek - east of a line beginning on the north shore at a point 35° 11.4779' N - 76° 38.7790' W; running southerly to the south shore to a point 35° 11.4220' N - 76° 38.7521' W; and
 - (iii) Little Vandemere Creek - north of a line beginning on the west shore at a point 35° 12.1449' N - 76° 39.2620' W; running southeasterly to the east shore to a point 35° 12.1182' N - 76° 39.1993' W;
- (o) Smith Creek - north of a line beginning on the west shore to a point 35° 10.4058' N - 76° 40.2565' W; running northeasterly to the east shore to a point 35° 10.4703' N - 76° 40.1593' W;
- (p) Harper Creek - west of a line beginning on the north shore at a point 35° 09.2767' N - 76° 41.8489' W; running southwesterly to the south shore to a point 35° 09.1449' N - 76° 41.9137' W;
- (q) Chapel Creek - north of a line beginning on the west shore at a point 35° 08.9333' N - 76° 42.8382' W; running northeasterly to the east shore to a point 35° 08.9934' N - 76° 42.7694' W; and
- (r) Swindell Bay - south of a line beginning on the west shore at a point 35° 08.2580' N - 76° 42.9380' W; running southeasterly to the east shore to a point 35° 08.2083' N - 76° 42.8031' W;
- (7) In the Neuse River Area North Shore:
 - (a) Swan Creek - west of a line beginning on the south shore at a point 35° 06.5470' N - 76° 33.8203' W; running northeasterly to a point 35° 06.4155' N - 76° 33.9479' W; running to the south shore of Swan Island to a point 35° 06.3168' N - 76° 34.0263' W; running northeasterly to a point 35° 06.6705' N - 76° 33.7307' W, running northeasterly to the north shore to a point 35° 06.8183' N - 76° 33.5971' W;

- (b) Broad Creek:
- (i) Greens Creek - north of a line beginning on the west shore at a point 35° 06.0730' N - 76° 35.5110' W; running southeasterly to the east shore to a point 35° 05.9774' N - 76° 35.3704' W;
 - (ii) Pittman Creek - north of a line beginning on the west shore at a point 35° 05.8143' N - 76° 36.1475' W; running northeasterly to the east shore to a point 35° 05.8840' N - 76° 36.0144' W;
 - (iii) Burton Creek - west of a line beginning on the north shore at a point 35° 05.7174' N - 76° 36.4797' W; running southwesterly to the south shore to a point 35° 05.6278' N - 76° 36.5067' W;
 - (iv) All tributaries on the north shore of Broad Creek - north of a line beginning on the west shore of the western most tributary at a point 35° 05.5350' N - 76° 37.4058' W; running easterly to a point 35° 05.4752' N - 76° 36.9672' W; running to a point 35° 05.4868' N - 76° 36.9163' W; north of a line beginning on the west shore of the eastern most tributary at 35° 05.4415' N - 76° 36.7869' W, running northeasterly to a point 35° 05.4664' N - 76° 36.7540' W;
 - (v) Brown Creek - northwest of a line beginning on the west shore at a point 35° 05.5310' N - 76° 37.8132' W; running northeasterly to the east shore to a point 35° 05.5737' N - 76° 37.6908' W;
 - (vi) Broad Creek including Gideon Creek - west of a line beginning on the north shore at a point 35° 05.5310' N - 76° 37.8132' W; running southerly to the south shore to a point 35° 05.3212' N - 76° 37.8398' W;
 - (vii) Tar Creek - south of a line beginning on the west shore at a point 35° 05.2604' N - 76° 37.5093' W; running easterly to the east shore to a point 35° 05.2728' N - 76° 37.6251' W;
 - (viii) Tributary east of Tar Creek - south of a line beginning on the west shore at a point 35° 05.3047' N - 76° 37.0316' W; running easterly to the east shore to a point 35° 05.2674' N - 76° 36.8086' W;
 - (ix) Tributary east of Tar Creek - south of a line beginning on the west shore at a point 35° 05.2674' N - 76° 36.8086' W; running easterly to the east shore to a point 35° 05.2445' N - 76° 36.5416' W;
 - (x) Parris Creek - south of a line beginning on the west shore at a point 35° 05.2445' N - 76° 36.5416' W; running southeasterly to the east shore to a point 35° 05.2031' N - 76° 36.4573' W;
 - (xi) Mill Creek - south of a line beginning on the west shore at a point 35° 05.4439' N - 76° 36.0260' W; running northeasterly to the east shore to a point 35° 05.4721' N - 76° 35.8835' W; and
 - (xii) Cedar Creek - south of a line beginning on the west shore at a point 35° 05.3711' N - 76° 35.6556' W; running southeasterly to the east shore to a point 35° 05.2867' N - 76° 35.5348' W;
- (c) Orchard and Old House creeks - north of a line beginning on the west shore at a point 35° 03.3302' N - 76° 38.4478' W; running northeasterly to the east shore to a point 35° 03.6712' N - 76° 37.9040' W;
- (d) Pierce Creek - north of a line beginning on the west shore at a point 35° 02.5030' N - 76° 40.0536' W; running northeasterly to the east shore to a point 35° 02.5264' N - 76° 39.9901' W;
- (e) Whittaker Creek - north of a line beginning on the west shore at a point 35° 01.7186' N - 76° 41.1309' W; running easterly to the east shore to a point 35° 01.6702' N - 76° 40.9036' W;
- (f) Oriental:
- (i) Smith and Morris creeks - north of a line beginning on the west shore at a point 35° 02.1553' N - 76° 42.2931' W; running southeasterly to the east shore to a point 35° 02.1097' N - 76° 42.1806' W;
 - (ii) Unnamed tributary west of Dewey Point - north of a line beginning on the west shore at a point 35° 01.3704' N - 76° 42.4906' W; running northeasterly to the east shore to a point 35° 01.3530' N - 76° 42.4323' W;
 - (iii) Unnamed tributary on the south shore of Greens Creek - south of a line beginning on the west shore at a point 35° 01.4340' N - 76° 42.7920' W; running southeasterly to the east shore to a point 35° 01.4040' N - 76° 42.7320' W;
 - (iv) Unnamed tributary on the south shore of Greens Creek - south of a line beginning on the west shore at a point 35° 01.3680' N - 76° 42.4920' W; running southeasterly to the east shore to a point 35° 01.3560' N - 76° 42.4320' W;
 - (v) Greens Creek - west of a line beginning on the north shore at a point 35° 01.5985' N - 76° 42.9959' W; running southeasterly to the south shore to a point 35° 01.4759' N - 76° 42.9570' W;
 - (vi) Kershaw Creek - north of a line beginning on the west shore at a point 35° 01.5985' N - 76° 42.9959' W; running easterly to the east shore to a point 35° 01.6077' N - 76° 42.8459' W; and
 - (vii) Shop Gut Creek - west of a line beginning on the north shore at a point 35° 01.2720' N - 76° 42.1500' W; running southerly to the south shore to a point 35° 01.1700' N - 76° 42.1380' W;
- (g) Dawson Creek:

- (i) Unnamed eastern tributary of Dawson Creek - east of a line beginning on the north shore at a point 35° 00.2064' N - 76° 45.2652' W; running southeasterly to the south shore to a point 35° 00.1790' N - 76° 45.2289' W; and
 - (ii) Unnamed tributary of Dawson Creek (at mouth) - east of a line beginning on the north shore at a point 34° 59.6620' N - 76° 45.1156' W; running southerly to the south shore to a point 34° 59.6326' N - 76° 45.1177' W; and
 - (h) Beard Creek tributary - southeast of a line beginning on the north shore at a point 35° 00.3176' N - 76° 51.9098' W; running southwesterly to the southwest shore to a point 35° 00.1884' N - 76° 51.9850' W;
- (8) In the Neuse River Area South Shore:
- (a) Clubfoot Creek - south of a line beginning on the west shore at a point 34° 52.4621' N - 76° 45.9256' W; running easterly to the east shore to a point 34° 52.4661' N - 76° 45.7567' W:
 - (i) Mitchell Creek - west of a line beginning on the north shore at a point 34° 54.4176' N - 76° 45.7680' W; running southerly to the south shore to a point 34° 54.2610' N - 76° 45.8277' W; and
 - (ii) Gulden Creek - east of a line beginning on the north shore at a point 34° 54.1760' N - 76° 45.4438' W; running southerly to the south shore to a point 34° 54.0719' N - 76° 45.4888' W;
 - (b) Adams Creek:
 - (i) Godfrey Creek - south of a line beginning on the west shore at a point 34° 57.3104' N - 76° 41.1292' W; running easterly to the east shore to a point 34° 57.2655' N - 76° 41.1187' W;
 - (ii) Delamar Creek - south of a line beginning on the west shore at a point 34° 57.0475' N - 76° 40.7230' W; running southeasterly to the east shore to a point 34° 57.0313' N - 76° 40.7015' W;
 - (iii) Kellum Creek - west of a line beginning on the north shore at a point 34° 55.5240' N - 76° 39.8072' W; running southeasterly to the south shore to a point 34° 55.4356' N - 76° 39.8201' W;
 - (iv) Kearney Creek and unnamed tributary - west of a line beginning on the north shore of the north creek at a point 34° 55.1847' N - 76° 39.9686' W; running southerly to the south shore to a point 34° 54.9661' N - 76° 40.0091' W;
 - (v) Isaac Creek - south of a line beginning on the west shore at a point 34° 54.2457' N - 76° 40.1010' W; running easterly to the east shore to a point 34° 54.2630' N - 76° 40.0088' W;
 - (vi) Back Creek - southeast of a line beginning on the northeast shore at a point 34° 54.6598' N - 76° 39.5257' W; running southwesterly to the southwest shore to a point 34° 54.5366' N - 76° 39.7075' W;
 - (vii) Cedar Creek - southeast of a line beginning on the west shore at a point 34° 55.7759' N - 76° 38.6070' W; running easterly to the east shore to a point 34° 55.7751' N - 76° 38.4965' W;
 - (viii) Jonaquin Creek - northeast of a line beginning on the west shore at a point 34° 56.1192' N - 76° 38.4997' W; running easterly to the east shore to a point 34° 56.1172' N - 76° 38.4584' W;
 - (ix) Dumpling Creek - east of a line beginning on the northwest shore at a point 34° 56.9187' N - 76° 39.5559' W; running southeasterly to the southeast shore to a point 34° 56.8421' N - 76° 39.5155' W; and
 - (x) Sandy Huss Creek - northeast of a line beginning on the west shore at a point 34° 57.2348' N - 76° 39.8457' W; running southeasterly to the east shore to a point 34° 57.1638' N - 76° 39.7169' W;
 - (c) Garbacon Creek - south of a line beginning on the west shore at a point 34° 59.0044' N - 76° 38.5758' W; running easterly to the east shore to a point 34° 59.0006' N - 76° 38.4845' W;
 - (d) South River:
 - (i) Big Creek - southwest of a line beginning on the northwest shore at a point 34° 56.9502' N - 76° 35.3498' W; running southeasterly to the southeast shore to a point 34° 56.8346' N - 76° 35.2091' W; and
 - (ii) Horton Bay - north of a line beginning on the west shore at a point 34° 59.1936' N - 76° 34.7657' W; running easterly to the east shore to a point 34° 59.2023' N - 76° 34.4586' W;
 - (e) Brown Creek - south of a line beginning on the west shore at a point 34° 59.8887' N - 76° 33.5707' W; running easterly to the east shore to a point 34° 59.9440' N - 76° 33.4180' W; and
 - (f) Turnagain Bay:
 - (i) Abraham Bay - west of a line beginning on the north shore at a point 35° 00.1780' N - 76° 30.7564' W; running southerly to the south shore to a point 34° 59.8338' N - 76° 30.7128' W;
 - (ii) Broad Creek and Persons Creek - southwest of a line beginning at a point on the north shore 34° 59.1974' N - 76° 30.4118' W; running southeasterly to the south shore to a point 34° 58.9738' N - 76° 30.1168' W;

- (iii) Mulberry Point Creek - east of a line beginning on the north shore at a point 35° 00.4736' N - 76° 29.7538' W; running southerly to the south shore to a point 35° 00.3942' N - 76° 29.7082' W;
 - (iv) Tump Creek - east of a line beginning on the north shore at a point 35° 00.2035' N - 76° 29.5947' W; running southerly to the south shore to a point 35° 00.0500' N - 76° 29.4897' W;
 - (v) Tributary south of Tump Creek - east of a line beginning on the north shore at a point 34° 59.7784' N - 76° 29.3548' W; running southerly to the south shore to a point 34° 59.6830' N - 76° 29.3303' W;
 - (vi) Deep Gut - northeast of a line beginning on the north shore at a point 34° 59.6134' N - 76° 29.0376' W; running southeasterly to the south shore to a point 34° 59.4799' N - 76° 28.9362' W; and
 - (vii) Big Gut - east of a line beginning on the north shore at a point 34° 59.0816' N - 76° 28.7076' W; running southerly to the south shore to a point 34° 58.9300' N - 76° 28.7383' W;
- (9) West Bay - Long Bay Area:
- (a) Fur Creek and Henrys Creek - southwest of a line beginning on the northwest shore at a point 34° 56.5580' N - 76° 27.7065' W; running southeasterly to the southeast shore to a point 34° 56.3830' N - 76° 27.4563' W; and
 - (b) Cadduggen Creek - south of a line beginning on the west shore at a point 34° 56.5767' N - 76° 23.8711' W; running easterly to the east shore to a point 34° 56.2890' N - 76° 23.6626' W;
- (10) Core Sound Area:
- (a) Cedar Island Bay - northwest of a line beginning on the northeast shore at a point 34° 59.7770' N - 76° 17.3837' W; running southwesterly to the southwest shore to a point 34° 59.0100' N - 76° 17.9339' W;
 - (b) Lewis Creek - north of a line beginning on the west shore at a point 34° 56.8736' N - 76° 16.8740' W; running easterly to the east shore to a point 34° 56.9455' N - 76° 16.8234' W;
 - (c) Thorofare Bay:
 - (i) Merkle Hammock Creek - southwest of a line beginning on the northwest shore at a point 34° 55.4796' N - 76° 21.4463' W; running southeasterly to the southeast shore to a point 34° 55.3915' N - 76° 21.1682' W; and
 - (ii) Barry Bay - west of a line beginning on the north shore at a point 34° 54.6450' N - 76° 20.6127' W; running southerly to the south shore to a point 34° 54.4386' N - 76° 20.4912' W;
 - (d) Nelson Bay:
 - (i) Willis Creek and Fulchers Creek - west of a line beginning on the north shore of Willis Creek at a point 34° 51.1006' N - 76° 24.5996' W; running southerly to the south shore of Fulchers Creek to a point 34° 50.2861' N - 76° 24.8708' W; and
 - (ii) Lewis Creek - west of a line beginning on the north shore at a point 34° 51.9362' N - 76° 24.6322' W; running southerly to the south shore to a point 34° 51.7323' N - 76° 24.6487' W;
 - (e) Cedar Creek between Sea Level and Atlantic - west of a line beginning on the north shore at a point 34° 52.0126' N - 76° 22.7046' W; running southerly to the south shore to a point 34° 51.9902' N - 76° 22.7190' W;
 - (f) Oyster Creek, northwest of the Highway 70 Bridge; and
 - (g) Jarretts Bay Area:
 - (i) Smyrna Creek - northwest of the Highway 70 Bridge;
 - (ii) Ditch Cove and adjacent tributary - east of a line beginning on the north shore at a point 34° 48.0167' N - 76° 28.4674' W; running southerly to the south shore to a point 34° 47.6143' N - 76° 28.6473' W;
 - (iii) Broad Creek - northwest of a line beginning on the west shore at a point 34° 47.7820' N - 76° 29.2724' W; running northeasterly to the east shore to a point 34° 47.9766' N - 76° 28.9729' W;
 - (iv) Howland Creek - northwest of a line beginning on the northeast shore at a point 34° 47.5129' N - 76° 29.6217' W; running southwesterly to the southwest shore to a point 34° 47.3372' N - 76° 29.8607' W;
 - (v) Great Creek - southeast of a line beginning on the northeast shore at a point 34° 47.4279' N - 76° 28.9565' W; running southwesterly to the southwest shore to a point 34° 47.1515' N - 76° 29.2077' W;
 - (vi) Williston Creek - northwest of the Highway 70 Bridge;
 - (vii) Wade Creek - west of a line beginning on the north shore at a point 34° 46.3125' N - 76° 30.2676' W; running southerly to the south shore to a point 34° 46.1915' N - 76° 30.3593' W;
 - (viii) Jump Run - north of a line beginning on the west shore at a point 34° 45.5385' N - 76° 30.3974' W; running easterly to the east shore to a point 34° 45.5468' N - 76° 30.3485' W;

- (ix) Middens Creek - west of a line beginning on the north shore at a point 34° 45.5046' N - 76° 30.9710' W; running southerly to the south shore to a point 34° 45.4093' N - 76° 30.9584' W;
 - (x) Tusk Creek - northwest of a line beginning on the northwest shore at a point 34° 44.8049' N - 76° 30.6248' W; running southerly to the south shore to a point 34° 44.6074' N - 76° 30.7553' W; and
 - (xi) Creek west of Bells Island - west of a line beginning on the north shore at a point 34° 43.9531' N - 76° 30.4144' W; running southerly to the south shore to a point 34° 43.7825' N - 76° 30.3543' W;
- (11) Straits, North River, Newport River Area:
- (a) Straits:
 - (i) Sleepy Creek - north of a line beginning on the west shore at a point 34° 43.3925' N - 76° 31.4912' W; running easterly to the east shore to a point 34° 43.3651' N - 76° 31.3250' W;
 - (ii) Dicks Creek - north of a line beginning on the west shore at a point 34° 43.3858' N - 76° 32.9125' W; running southeasterly to the east shore to a point 34° 43.3912' N - 76° 32.8605' W; and
 - (iii) Whitehurst Creek - north of a line beginning on the west shore at a point 34° 43.5118' N - 76° 33.3392' W; running northeasterly to the east shore to a point 34° 43.5561' N - 76° 33.1869' W;
 - (b) North River, north of Highway 70 Bridge:
 - (i) Ward Creek - north of Highway 70 Bridge:
 - (A) North Leopard Creek - southeast of a line beginning on the southwest shore at a point 34° 45.9573' N - 76° 34.4208' W; running northeasterly to the northeast shore to a point 34° 46.0511' N - 76° 34.3170' W; and
 - (B) South Leopard Creek - southeast of a line beginning on the southwest shore at a point 34° 45.4930' N - 76° 34.7622' W; running northeasterly to the northeast shore to a point 34° 45.5720' N - 76° 34.6236' W; and
 - (ii) Turner Creek (Gibbs Creek) - west of a line beginning on the north shore at a point 34° 43.4693' N - 76° 37.6372' W; running southerly to the south shore to a point 34° 43.4054' N - 76° 37.6585' W; and
 - (c) Newport River - west of a line beginning on the north shore at a point 34° 46.5635' N - 76° 44.3998' W; running southerly to Lawton Point to a point 34° 45.6840' N - 76° 44.0895' W;
 - (i) Russel Creek - northeast of a line beginning on the north shore at a point 34° 45.5840' N - 76° 39.8020' W; running southeasterly to the south shore to a point 34° 45.5819' N - 76° 39.7895' W;
 - (ii) Ware Creek - northeast of a line beginning on the north shore at a point 34° 46.4576' N - 76° 40.5020' W; running southeasterly to the south shore to a point 34° 46.4125' N - 76° 40.4460' W;
 - (iii) Bell Creek - east of a line beginning on the north shore at a point 34° 47.2805' N - 76° 40.9082' W; running southerly to the south shore to a point 34° 47.0581' N - 76° 40.8854' W;
 - (iv) Eastman Creek - east of a line beginning on the north shore at a point 34° 47.8640' N - 76° 41.0671' W; running southerly to the south shore to a point 34° 47.8027' N - 76° 41.0605' W;
 - (v) Oyster Creek - north of a line beginning on the west shore at a point 34° 46.6610' N - 76° 42.5011' W; running easterly to the east shore to a point 34° 46.7161' N - 76° 42.3481' W;
 - (vi) Harlow Creek - north of a line beginning on the west shore at a point 34° 46.7138' N - 76° 43.4838' W; running northeasterly to the east shore to a point 34° 46.8490' N - 76° 43.3296' W;
 - (vii) Calico Creek - west of a line beginning on the north shore at a point 34° 43.7318' N - 76° 43.1268' W; running southerly to the south shore to a point 34° 43.6066' N - 76° 43.2040' W; and
 - (viii) Crab Point Bay - northwest of a line beginning on the northeast shore at a point 34° 44.0615' N - 76° 42.9393' W; running southwesterly to the southwest shore to a point 34° 43.9328' N - 76° 43.0721' W;
- (12) Bogue Sound - Bogue Inlet Area:
- (a) Gales Creek - north of the Highway 24 Bridge;
 - (b) Broad Creek - north of the Highway 24 Bridge;
 - (c) Sanders Creek - north of a line beginning at a point 34° 42.4694' N - 76° 58.3754' W on the west shore; running easterly to a point 34° 42.4903' N - 76° 58.1434' W on the east shore;
 - (d) Goose Creek - north of a line beginning on the west shore at a point 34° 41.8183' N - 77° 00.7208' W; running easterly to the east shore to a point 34° 41.8600' N - 77° 00.5108' W;
 - (e) Archer Creek - west of a line beginning on the north shore at a point 34° 40.4721' N - 77° 00.7577' W; running southerly to the south shore to a point 34° 40.3521' N - 77° 00.8008' W;
 - (f) White Oak River - northwest of a line beginning on the northeast shore at a point 34° 45.6730' N - 77° 07.5960' W; running southwesterly to the southwest shore to a point 34° 45.2890' N - 77° 07.7500' W;

- (i) Pettiford Creek - east of a line beginning on the north shore at a point 34° 42.8670' N - 77° 05.3990' W; running southerly to the south shore to a point 34° 42.6310' N - 77° 05.3180' W; and
- (ii) Holland Mill Creek - west of a line beginning on the north shore at a point 34° 43.8390' N - 77° 08.0090' W; running southeasterly to the south shore to a point 34° 43.4800' N - 77° 07.7650' W;
- (g) Hawkins Creek - west of a line beginning on the north shore at a point 34° 41.1210' N - 77° 07.5720' W; running southerly to the south shore to a point 34° 41.0460' N - 77° 07.5930' W;
- (h) Queen's Creek - north of state road number 1509 bridge:
 - (i) Dick's Creek - west of a line beginning on the north shore at a point 34° 39.9790' N - 77° 09.3470' W; running southeasterly to the south shore to a point 34° 39.9350' N - 77° 09.3280' W;
 - (ii) Parrot Swamp - west of a line beginning on the north shore at a point 34° 40.6170' N - 77° 09.7820' W; running southeasterly to the south shore to a point 34° 40.3660' N - 77° 09.5980' W; and
 - (iii) Hall's Creek - east of a line beginning on the north shore at a point 34° 41.0740' N - 77° 09.8640' W; running easterly to the south shore to a point 34° 41.0300' N - 77° 09.6740' W; and
- (i) Bear Creek - west of a line beginning at Willis Landing at a point 34° 38.7090' N - 77° 12.6860' W; running southeasterly to the south shore to a point 34° 38.4740' N - 77° 12.3810' W;
- (13) New River Area:
 - (a) Salliers Bay area - all waters north and northwest of the IWW beginning at a point on the shoreline 34° 37.0788' N - 77° 12.5350' W; running easterly to a point near Beacon "58" at a point 34° 37.9670' N - 77° 12.3060' W; running along the IWW near Cedar Point to a point 34° 33.1860' N - 77° 20.4370' W; running northerly to a point on the shoreline 34° 33.1063' N - 77° 20.4679' W; following the shoreline to the point of origin; including Howard Bay, Mile Hammock Bay, Salliers Bay, and Freeman Creek;
 - (b) New River Inlet area (including Hellgate Creek and Ward's Channel) - all waters south of the IWW from a point on the shoreline 34° 33.0486' N - 77° 18.6295' W; running northwesterly to a point near Beacon "65" 34° 33.0550' N - 77° 18.6380' W; running along the IWW to a point near Beacon "15" 34° 31.0630' N - 77° 22.2630' W; running southerly to a point on the shoreline 34° 30.9212' N - 77° 22.2257' W; following the shoreline across New River Inlet at the COLREGS demarcation line back to the point of origin excluding the marked New River Inlet Channel;
 - (c) New River:
 - (i) Trap's Bay - northeast of a line beginning on the west shore at a point 34° 34.0910' N - 77° 21.0010' W; running southeasterly to the east shore to a point 34° 33.8260' N - 77° 20.4060' W;
 - (ii) Courthouse Bay:
 - (A) Tributary of Courthouse Bay - southeast of a line beginning on Harvey's Point at a point 34° 35.0050' N - 77° 22.3910' W; running northeasterly to the east shore to a point 34° 35.0830' N - 77° 22.1890' W;
 - (B) Tributary of Courthouse Bay - northwest of a line beginning on the west shore at a point 34° 35.0970' N - 77° 22.6010' W; running northeasterly to the east shore to a point 34° 35.1630' N - 77° 22.5030' W; and
 - (C) Rufus Creek - east of a line beginning at a point on the north shore 34° 34.4630' N - 77° 21.6410' W; running southerly to a point near Wilken's Bluff 34° 34.3140' N - 77° 21.6620' W;
 - (iii) Wheeler Creek - south of a line beginning on the west shore at a point 34° 34.0570' N - 77° 23.3640' W; running easterly to a point near Poverty Point 34° 34.1060' N - 77° 23.2440' W;
 - (iv) Fannie Creek - south of a line beginning on the west shore at a point 34° 34.1470' N - 77° 23.6390' W; running easterly to the east shore to a point 34° 34.1300' N - 77° 23.5600' W;
 - (v) Snead's Creek - northwest of a line beginning on the west shore at a point 34° 35.2850' N - 77° 23.5500' W; running northerly to the east shore to a point 34° 35.3440' N - 77° 23.4860' W;
 - (vi) Everette Creek - south of a line beginning on the west shore at a point 34° 34.2570' N - 77° 24.8480' W; running easterly to the east shore to a point 34° 34.2380' N - 77° 24.6970' W;
 - (vii) Stone's Creek - southwest of a line beginning on the northwest shore at a point 34° 36.6170' N - 77° 26.8670' W; running southeasterly to the southeast shore to a point 34° 36.5670' N - 77° 26.8500' W;
 - (viii) Muddy Creek - north of a line beginning on the west shore 34° 36.8670' N - 77° 26.6340' W; running easterly to the east shore to a point 34° 36.8670' N - 77° 26.6170' W;
 - (ix) Mill Creek - north of a line beginning on the west shore at a point 34° 37.2350' N - 77° 25.7000' W; running easterly to the east shore to a point 34° 37.2360' N - 77° 25.6890' W;

- (x) Whitehurst Creek - west of a line beginning on the north shore at a point 34° 38.0780' N - 77° 22.6110' W; running easterly to the south shore to a point 34° 38.0720' N - 77° 22.6000' W;
- (xi) Town Creek - west of a line beginning on the north shore at a point 34° 39.6060' N - 77° 23.0690' W; running southerly to the south shore to a point 34° 39.5950' N - 77° 23.0830' W;
- (xii) Lewis Creek - southwest of a line beginning on the northwest shore at a point 34° 40.9330' N - 77° 24.5290' W; running southeasterly to the southeast shore to a point 34° 40.9190' N - 77° 24.5040' W;
- (xiii) Northeast Creek - east of a line beginning at the mouth of Scale's Creek at a point 34° 43.7350' N - 77° 24.1190' W; running southeasterly to the south shore to a point 34° 43.3950' N - 77° 23.5450' W;
- (xiv) Southwest Creek - southwest of a line beginning on the north shore at a point 34° 41.8500' N - 77° 25.6460' W; running southeasterly to the south shore to a point 34° 41.5540' N - 77° 25.2250' W; and
- (xv) Upper New River - north of a line beginning on the west shore at a point 34° 42.9770' N - 77° 25.9070' W; running easterly through a point near Beacon "53" to a point 34° 43.2600' N - 77° 25.3800' W; to the east shore to a point 34° 43.4260' N - 77° 25.0700' W; and
- (d) Chadwick Bay - all waters bounded by a line beginning on Roses Point at a point 34° 32.2240' N - 77° 22.2880' W; running easterly to a point near Marker "6" at 34° 32.4180' N - 77° 21.6080' W; then following the IWW to a point near Marker "14" at 34° 31.3220' N - 77° 22.1520' W; following the shoreline of Chadwick Bay back to the point of origin;
 - (i) Fullard Creek (including Charles Creek) - northwest of a line beginning on the north shore at a point 34° 32.2210' N - 77° 22.8080' W; running southeasterly to the south shore to a point 34° 32.0340' N - 77° 22.7160' W; and
 - (ii) Bump's Creek - north of a line beginning on the west shore at a point 34° 32.3430' N - 77° 22.4570' W; running northeasterly to the east shore to a point 34° 32.4400' N - 77° 22.3830' W;
- (14) Stump Sound Area - Stump Sound - all waters north of the IWW from a point on the shoreline 34° 31.1228' N - 77° 22.3181' W; running southerly to a point across the IWW from Beacon "15" 34° 31.1040' N - 77° 22.2960' W; running along the IWW to a point near Marker "78" 34° 25.4050' N - 77° 34.2120' W; running northerly to a point on the shoreline 34° 24.5183' N - 77° 34.9833' W; running along the shoreline to the point of origin; except 100 feet north of the IWW from a point across from Beacon "49" 34° 28.1330' N - 77° 30.5170' W to a point near Marker "78" 34° 25.4050' N - 77° 34.2120' W. All waters south of IWW from a point on the shoreline 34° 31.0550' N - 77° 22.2574' W; running northerly to a point near Beacon "15" at 34° 31.0630' N - 77° 22.2630' W; running along the IWW to a point across the IWW from Marker "78" 34° 25.3110' N - 77° 34.1710' W; running southeasterly to a point on the shoreline 34° 23.9817' N - 77° 35.0367' W; running along the shoreline to the point of origin; except 100 feet on the south side of the IWW from a point near Beacon "49" 34° 28.0820' N - 77° 30.4600' W at Morris Landing to a point across the IWW from Marker "78" 34° 25.3110' N - 77° 34.1710' W and except the dredged canals at Old Settler's Beach and the dredged channel from the IWW north of Marker "57" to the Old Settler's Beach Canals;
- (15) Topsail Sound Area:
 - (a) Virginia Creek - all waters northwest of a line beginning on the southwest shore near the mouth at a point 34° 24.8030' N - 77° 35.5960' W; running northeasterly to a point 34° 25.0333' N - 77° 35.3167' W; running easterly to intersect the nursery area line near Becky's Creek at a point 34° 25.4050' N - 77° 34.2120' W, with the exception of the natural channel as marked by the North Carolina Division of Marine Fisheries;
 - (b) Old Topsail Creek - all waters northwest of a line beginning on the northeast shore at a point 34° 21.7740' N - 77° 40.3870' W; running southwesterly to the southwest shore to a point 34° 21.4930' N - 77° 40.6900' W, with the exception of the dredged channel as marked by the North Carolina Division of Marine Fisheries;
 - (c) Topsail Sound - all waters enclosed within a line starting near Beacon "BC" at a point 34° 24.6110' N - 77° 35.7050' W; then bounded on the northeast and southeast by Bank's Channel, on the southwest by Marker "98" channel and on the northeast by the IWW; then back to the point of origin; and
 - (d) Mallard Bay Area - all waters northwest of the IWW beginning at a point on the shoreline 34° 24.0278' N - 77° 36.8498' W; running southerly to a point 34° 24.0167' N - 77° 36.7333' W near Beacon "93"; running southwesterly to a point 34° 23.8167' N - 77° 36.9667' W; running southwesterly along the marsh line to a point on the shoreline 34° 22.6168' N - 77° 38.8580' W near Beacon "96"; running along the shoreline to the point of origin;
- (16) Middle Sound Area:
 - (a) Howard Channel and Long Point Channel area - all waters southeast of the IWW beginning at a point on the shoreline 34° 20.4514' N - 77° 40.0183' W; running along the shorelines of Topsail Inlet Channel and Marker

- # 98 Channel to a point near Beacon "98" 34° 21.5670' N - 77° 40.4580' W; running along the IWW to a point on the north side of the Figure 8 Island Marina Channel to a point 34° 16.5120' N - 77° 45.4870' W; following the shoreline of Figure 8 Island Marina Channel to a point 34° 16.2628' N - 77° 44.7855' W; following the shoreline across Rich Inlet at the COLREGS demarcation line to the point of origin. [with the exception of Howard Channel from the IWW to New Topsail Inlet, Green Channel from Marker "105" to Rich's Inlet, Butler's Creek (Utley's Channel) from the IWW to Nixon's Channel, and Nixon's Channel from IWW to Rich's Inlet;]
- (b) Futch Creek - northwest of a line beginning on the north shore at Baldeagle Point at a point 34° 17.9900' N - 77° 44.4930' W; running southerly to Porter's Neck to a point 34° 18.1170' N - 77° 44.3760' W;
 - (c) Page's Creek - northwest of a line beginning on the north shore at a point 34° 16.7420' N - 77° 46.6940' W; running southwesterly to the south shore to a point 34° 16.6910' N - 77° 46.8510' W; and
 - (d) All waters bounded on the north by the Figure Eight Island Causeway, on the east by Mason's Channel, on the south by Mason's Inlet Channel and on the west by the Intracoastal Waterway, with the exception of Mason's Channel;
- (17) Greenville Sound Area:
- (a) Shell Island area - all waters bounded on the north by Mason's Inlet Channel, on the west by the IWW, on the south by Old Moores Inlet Channel and on the east by Wrightsville Beach;
 - (b) Howe Creek (Moore's Creek) - northwest of a line beginning on the north shore at a point 34° 14.9060' N - 77° 47.2180' W; running southwesterly to the south shore to a point 34° 14.8470' N - 77° 47.3810' W;
 - (c) Bradley Creek - all waters west of a line beginning on the north side of the Highway 17, 74 and 76 Bridge at a point 34° 12.9700' N - 77° 50.0260' W; running southerly to the south side of the bridge at a point 34° 12.8620' N - 77° 50.0550' W; and
 - (d) Wrightsville Beach area - all waters in an area enclosed by a line beginning across the IWW from the mouth of Bradley Creek at a point 34° 12.3530' N - 77° 49.1250' W; running easterly to a point (near the Borrow Pit) 34° 12.3820' N - 77° 48.6610' W; then bounded by Bank's Channel on the east, Shinn Creek on the south and the IWW on the west, back to point of origin;
- (18) Masonboro Sound Area:
- (a) Masonboro - Myrtle Grove Sound area (west side) - all waters west and northwest of the IWW beginning at a point on the shoreline 34° 12.7423' N - 77° 49.8391' W; running southeasterly to a point at the mouth of Bradley Creek at a point 34° 12.4130' N - 77° 49.2110' W; running along the west side of the IWW to a point opposite Beacon "161" at 34° 03.5590' N - 77° 53.4550' W; running westerly to a point on the shoreline 34° 03.5715' N - 77° 53.4979' W; running along the shoreline back to the point of origin; and
 - (b) Masonboro - Myrtle Grove Sound area (east side) - all waters south and southeast of a line beginning on the north end of Masonboro Island at a point 34° 10.9130' N - 77° 48.9550' W; running northwesterly to a point near the intersection of Shinn Creek and the IWW 34° 11.3840' N - 77° 49.5240' W; running along the east side of the IWW to a point near Marker "161" 34° 03.5270' N - 77° 53.3550' W; running southerly to a point on the shoreline 34° 03.3917' N - 77° 53.0423' W; running along the shoreline across Carolina Beach Inlet at the COLREGS demarcation line back to the point of origin (with the exception of Old Masonboro Channel and Carolina Beach Inlet Channel);
- (19) Cape Fear River Area:
- (a) Cape Fear River - all waters north of a line beginning on the west shore at a point 34° 10.4410' N - 77° 57.7400' W; running easterly through Beacon "59" to the east shore to a point 34° 10.4050' N - 77° 57.1310' W; with the exception of the maintained channel, and all waters north of a line beginning on the west shore at a point 34° 04.6040' N - 77° 56.4780' W; running easterly through Beacon "41" to the east shore to a point 34° 04.7920' N - 77° 55.4740' W; with the exception of 300 yards east and west of the main shipping channel up to Beacon "59" (mouth of Brunswick River);
 - (b) The Basin (Ft. Fisher area) - east of a line beginning on the north shore at a point 33° 57.2950' N - 77° 56.1450' W; running southeasterly to the south shore to a point 33° 57.1120' N - 77° 56.2060' W;
 - (c) Walden Creek - all waters northwest of a line beginning on the north side of county road No. 1528 bridge at a point 33° 58.2950' N - 77° 59.0280' W; running southerly to the south side of the bridge at a point 33° 58.2250' N - 77° 59.0440' W;
 - (d) Baldhead Island Creeks:
 - (i) Baldhead Creek - southeast of a line beginning on the north shore at a point 33° 51.7680' N - 77° 59.1700' W; running westerly to the south shore to a point 33° 51.7590' N - 77° 59.1850' W;
 - (ii) Cape Creek - southeast of a line beginning on the north shore at a point 33° 51.9740' N - 77° 58.3090' W; running southwesterly to the south shore to a point 33° 51.9480' N - 77° 58.3480' W;

- (iii) Bluff Island Creek (East Beach Creek) - south of a line beginning on the west shore at a point 33° 52.6740' N - 77° 58.1530' W; running easterly to the east shore to a point 33° 52.6850' N - 77° 58.0780' W; and
 - (iv) Deep Creek - south of a line on the west shore at a point 33° 52.6850' N - 77° 58.0780' W; running northeasterly to the east shore to a point 33° 52.7690' N - 77° 58.0110' W;
 - (e) Dutchman Creek - north of a line beginning on the west shore at a point 33° 55.1560' N - 78° 02.7260' W; running southeasterly to the east shore to a point 33° 55.1130' N - 78° 02.5990' W;
 - (f) Denis Creek - west of a line beginning on the north shore at a point 33° 55.0410' N - 78° 03.5180' W; running southerly to the south shore to a point 33° 55.0120' N - 78° 03.5110' W;
 - (g) Piney Point Creek - west of a line beginning on the north shore at a point 33° 54.6310' N - 78° 03.5020' W; running southerly to the south shore to a point 33° 54.6040' N - 78° 03.5010' W;
 - (h) Molasses, Coward and Smokehouse creeks - all waters bounded by the IWW and the Elizabeth River on the north and east, the Oak Island Coast Guard canal on the east, Oak Island on the south and the CP and L Discharge canal on the west; and
 - (i) Oak Island area - all waters north of the IWW from a point on the shoreline 33° 55.2827' N - 78° 03.7681' W; running southerly to a point across the IWW from Marker # 9 33° 55.2610' N - 78° 03.7630' W; running along the IWW to a point near Beacon "18" 33° 55.7410' N - 78° 10.2760' W; running northerly to a point on the shoreline 33° 55.7718' N - 78° 10.2744' W; running along the shoreline back to the point of origin; all waters south of the IWW from a point near Marker "9" 33° 55.2060' N - 78° 03.7580' W; running along the IWW to a point across the IWW from Beacon "18" 33° 55.7199' N - 78° 10.2764' W; running southerly to a point on the shoreline 33° 55.6898' N - 78° 10.2775' W; running along the shoreline back to the point of origin;
- (20) Lockwoods Folly Inlet Area:
- (a) Davis Creek and Davis Canal - east of a line beginning on the north shore at a point 33° 55.2280' N - 78° 10.8610' W; running southerly to the south shore to a point 33° 55.1970' N - 78° 10.8390' W;
 - (b) Lockwoods Folly River - north of a line beginning on the west shore at a point 33° 56.3880' N - 78° 13.2360' W; running easterly to the east shore to a point 33° 56.6560' N - 78° 12.8350' W; and
 - (c) Spring Creek (Galloway Flats area) - all waters northwest of a line beginning on the north shore at a point 33° 55.7350' N - 78° 13.7090' W; running southwesterly to the south shore to a point 33° 55.5590' N - 78° 13.7960' W;
- (21) Shallotte Inlet Area:
- (a) Shallotte River - north of a line beginning on Bill Holden's Landing at a point 33° 55.8840' N - 78° 22.0710' W; running northeasterly to Gibbins Point to a point 33° 56.3190' N - 78° 21.8740' W;
 - (b) Shallotte River (Ocean Flats) - excluding Gibbs Creek, the area enclosed by a line beginning at Long Point 33° 54.6210' N - 78° 21.7960' W; then bounded on the south by the IWW, the west by Shallotte River, the north by Gibb's Creek and the east by the shoreline of the Shallotte River back to the point of origin;
 - (c) Shallotte Creek (Little Shallotte River) - east of a line beginning on Shell Landing at a point 33° 55.7390' N - 78° 21.6410' W; running southerly to Boone's Neck Point to a point 33° 55.5990' N - 78° 21.5480' W;
 - (d) Saucepan Creek - northwest of a line beginning on the west shore at a point 33° 54.7007' N - 78° 23.4183' W; running northerly to the east shore (mouth of Old Mill Creek) to a point 33° 54.9140' N - 78° 23.4370' W; and
 - (e) Old Channel area - all waters south of the IWW from a point near Beacon "83" 33° 54.2890' N - 78° 23.1930' W; running along the IWW to a point near Ocean Isle Beach Bridge 33° 53.7270' N - 78° 26.3760' W; running southerly to a point on the shoreline 33° 53.7082' N - 78° 26.3732' W; running southerly along the shoreline to a point on the shoreline 33° 53.3827' N - 78° 26.2118' W; running along the shoreline to the point of origin; except the dredged finger canals at Ocean Isle Beach located on the south side of the IWW between the Ocean Isle Beach Bridge and IWW Marker "89"; and
- (22) Little River Inlet Area:
- (a) Gause Landing area - all waters north of the IWW from a point on the shoreline 33° 53.9053' N - 78° 25.6064' W; running southerly to a point near Beacon "90" 33° 53.8790' N - 78° 25.5950' W; then following the IWW to a point at the intersection of the IWW and the South Carolina line; 33° 52.0003' N - 78° 33.5633' W; running northerly along the South Carolina line to a point on the shoreline 33° 52.0290' N - 78° 33.5893' W; running along the shoreline to the point of origin;
 - (b) Eastern Channel Area - all waters bounded on the east and south by Eastern Channel, on the west by Jink's Creek and on the north by the IWW;
 - (c) The Big Narrows Area:

- (i) Big Teague Creek - west of a line beginning on the north shore at a point 33° 52.8260' N - 78° 30.0110' W; running southerly to the south shore to a point 33° 52.8040' N - 78° 29.9940' W;
- (ii) Little Teague Creek - west of a line beginning on the north shore at a point 33° 52.9280' N - 78° 30.1500' W; running southeasterly to the south shore to a point 33° 52.9130' N - 78° 30.1220' W; and
- (iii) Big Norge Creek - south of a line beginning on the west shore at a point 33° 52.8550' N - 78° 30.6190' W; running easterly to the east shore to a point 33° 52.8620' N - 78° 30.5900' W;
- (d) Mad Inlet area - all waters south of the IWW from a point on the shoreline 33° 52.3121' N - 78° 30.4990' W; running northerly to a point near the Sunset Beach Bridge 33° 52.8450' N - 78° 30.6510' W; then following the IWW to a point at the intersection of the IWW and the South Carolina line 33° 51.9888' N - 78° 33.5458' W; running southeasterly along the South Carolina line to a point on the shoreline; running along the shoreline across Mad Inlet at the COLREGS demarcation line to the point of origin; with the exception of Bonaparte Creek; and
- (e) Calabash River - all waters east of a line beginning at a point on the north side of state road No. 1164 bridge at a point 33° 53.3850' N - 78° 32.9710' W; running southerly to the south side of the bridge at a point 33° 53.3580' N - 78° 32.9750' W.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52; Eff. January 1, 1991; Amended Eff. March 1, 1996; September 1, 1991; Recodified from 15A NCAC 03R .0003 Eff. December 17, 1996; Amended Eff. May 1, 2017; April 1, 2011; December 1, 2006; September 1, 2005; August 1, 2004; May 1, 1997.

15A NCAC 03R .0108 MECHANICAL METHODS PROHIBITED TO TAKE OYSTERS

The dredges and mechanical methods prohibited areas to take oysters referenced in 15A NCAC 03K .0204 are delineated in the following Internal Coastal Waters:

- (1) In Roanoke Sound and tributaries, south of a line beginning at a point 35° 55.1461' N – 75° 39.5618' W on Baum Point, running easterly to a point 35° 55.9795' N - 75° 37.2072' W and north and east of a line beginning at a point 35° 50.8315' N - 75° 37.1909' W on the west side of the mouth of Broad Creek, running easterly to a point 35° 51.0097' N - 75° 36.6910' W near Beacon "17", running southerly to a point 35° 48.6145' N - 75° 35.3760' W near Beacon "7", running easterly to a point 35° 49.0348' N - 75° 34.3161' W on Cedar Point.
- (2) In Pamlico Sound and tributaries:
 - (a) Outer Banks area, within the area described by a line beginning at a point 35° 46.0638' N - 75° 31.4385' W on the shore of Pea Island; running southwestly to a point 35° 42.9500' N - 75° 34.1500' W; running southerly to a point 35° 39.3500' N - 75° 34.4000' W; running southeasterly to a point 35° 35.8931' N - 75° 31.1514' W in Chicamacomico Channel near Beacon "ICC"; running southerly to a point 35° 28.5610' N - 75° 31.5825' W on Gull Island; running southerly to a point 35° 22.8671' N - 75° 33.5851' W in Avon Channel near Beacon "1"; running southwestly to a point 35° 18.9603' N - 75° 36.0817' W in Cape Channel near Beacon "2"; running westerly to a point 35° 16.7588' N - 75° 44.2554' W in Rollinson Channel near Beacon "42RC"; running southwestly to a point 35° 14.0337' N - 75° 45.9643' W southwest of Oliver Reef near the quick-flashing beacon; running westerly to a point 35° 09.3650' N - 76° 00.6377' W in Big Foot Slough Channel near Beacon "14BF"; running southwestly to a point 35° 08.4523' N - 76° 02.6651' W in Nine Foot Shoal Channel near Beacon "9"; running westerly to a point 35° 07.1000' N - 76° 06.9000; running southwestly to a point 35° 01.4985' N - 76° 11.4353' W near Beacon "HL"; running southwestly to a point 35° 00.2728' N - 76° 12.1903' W near Beacon "2CS"; running southerly to a point 34° 59.4383' N - 76° 12.3541' W in Wainwright Channel immediately east of the northern tip of Wainwright Island; running easterly to a point 34° 58.7853' N - 76° 09.8922' W on Core Banks; running northerly along the shoreline and across the inlets following the COLREGS Demarcation lines to the point of beginning;
 - (b) Stumpy Point Bay, north of a line beginning at a point 35° 40.9719' N - 75° 44.4213' W on Drain Point; running westerly to a point 35° 40.6550' N - 75° 45.6869' W on Kazer Point;
 - (c) Pains Bay, east of a line beginning at a point 35° 35.0666' N - 75° 51.2000' W on Pains Point, running southerly to a point 35° 34.4666' N – 75° 50.9666' W on Rawls Island; running easterly to a point 35° 34.2309' N - 75° 50.2695' W on the east shore;
 - (d) Long Shoal River, north of a line beginning at a point 35° 35.2120' N - 75° 53.2232' W at the 5th Avenue Canal, running easterly to a point 35° 35.0666' N - 75° 51.2000' W on the east shore on Pains Point;
 - (e) Wysocking Bay;

- (i) Wysocking Bay, north of a line beginning at a point 35° 25.2741' N - 76° 03.1169' W on Mackey Point, running easterly to a point 35° 25.1189' N - 76° 02.0499' W at the mouth of Lone Tree Creek;
- (ii) Mount Pleasant Bay, west of a line beginning at a point 35° 23.8652' N - 76° 04.1270' W on Browns Island, running southerly to a point 35° 22.9684' N - 76° 03.7129' W on Bensons Point;
- (f) Juniper Bay, north of a line beginning at a point 35° 22.1384' N - 76° 15.5991' W near the Caffee Bay ditch, running easterly to a point 35° 22.0598' N - 76° 15.0095' W on the east shore;
- (g) Swan Quarter Bay:
 - (i) Caffee Bay, east of a line beginning at a point 35° 22.1944' N - 76° 19.1722' W on the north shore, running southerly to a point 35° 21.5959' N - 76° 18.3580' W on Drum Point;
 - (ii) Oyster Creek, east of a line beginning at a point 35° 23.3278' N - 76° 19.9476' W on the north shore, running southerly to a point 35° 22.7018' N - 76° 19.3773' W on the south shore;
- (h) Rose Bay:
 - (i) Rose Bay, north of a line beginning at a point 35° 25.7729' N - 76° 24.5336' W on Island Point, running southeasterly and passing near Beacon "5" to a point 35° 25.1854' N - 76° 23.2333' W on the east shore;
 - (ii) Tooleys Creek, west of a line beginning at a point 35° 25.7729' N - 76° 24.5336' W on Island Point, running southwesterly to a point 35° 25.1435' N - 76° 25.1646' W on Ranger Point;
- (i) Spencer Bay:
 - (i) Striking Bay, north of a line beginning at a point 35° 23.4106' N - 76° 26.9629' W on Short Point, running easterly to a point 35° 23.3404' N - 76° 26.2491' W on Long Point;
 - (ii) Germantown Bay, north of a line beginning at a point 35° 24.0937' N - 76° 27.9348' W; on the west shore, running easterly to a point 35° 23.8598' N - 76° 27.4037' W on the east shore;
- (j) Abel Bay, northeast of a line beginning at a point 35° 23.6463' N - 76° 31.0003' W on the west shore, running southeasterly to a point 35° 22.9353' N - 76° 29.7215' W on the east shore;
- (k) Pungo River, Fortescue Creek, east of a line beginning at a point 35° 25.9213' N - 76° 31.9135' W on Pasture Point; running southerly to a point 35° 25.6012' N - 76° 31.9641' W on Lupton Point;
- (l) Pamlico River:
 - (i) North Creek, north of a line beginning at a point 35° 25.3988' N - 76° 40.0455' W on the west shore, running southeasterly to a point 35° 25.1384' N - 76° 39.6712' W on the east shore;
 - (ii) Campbell Creek (off of Goose Creek), west of a line beginning at a point 35° 17.3600' N - 76° 37.1096' W on the north shore; running southerly to a point 35° 16.9876' N - 76° 37.0965' W on the south shore;
 - (iii) Eastham Creek (off of Goose Creek), east of a line beginning at a point 35° 17.7423' N - 76° 36.5164' W on the north shore; running southeasterly to a point 35° 17.5444' N - 76° 36.3963' W on the south shore;
 - (iv) Oyster Creek-Middle Prong, southwest of a line beginning at a point 35° 19.4921' N - 76° 32.2590' W on Cedar Island; running southeasterly to a point 35° 19.1265' N - 76° 31.7226' W on Beard Island Point; and southwest of a line beginning at a point 35° 19.5586' N - 76° 32.8830' W on the west shore, running easterly to a point 35° 19.5490' N - 76° 32.7365' W on the east shore;
- (m) Mouse Harbor, west of a line beginning at a point 35° 18.3915' N - 76° 29.0454' W on Persimmon Tree Point, running southerly to a point 35° 17.1825' N - 76° 28.8713' W on Yaupon Hammock Point;
- (n) Big Porpoise Bay, northwest of a line beginning at a point 35° 15.6993' N - 76° 28.2041' W on Big Porpoise Point, running southwesterly to a point 35° 14.9276' N - 76° 28.8658' W on Middle Bay Point;
- (o) Middle Bay, west of a line beginning at a point 35° 14.8003' N - 76° 29.1923' W on Deep Point, running southerly to a point 35° 13.5419' N - 76° 29.6123' W on Little Fishing Point;
- (p) Jones Bay, west of a line beginning at a point 35° 14.0406' N - 76° 33.3312' W on Drum Creek Point, running southerly to a point 35° 13.3609' N - 76° 33.6539' W on Ditch Creek Point;
- (q) Bay River:
 - (i) Gales Creek-Bear Creek, north and west of a line beginning at a point 35° 11.2833' N - 76° 35.9000' W on Sanders Point, running northeasterly to a point 35° 11.9000' N - 76° 34.2833' W on the east shore;
 - (ii) Bonner Bay, southeast of a line beginning at a point 35° 09.6281' N - 76° 36.2185' W on the west shore; running northeasterly to a point 35° 10.0888' N - 76° 35.2587' W on Davis Island Point;
- (r) Neuse River:
 - (i) Lower Broad Creek, west of a line beginning at a point 35° 05.8314' N - 76° 35.3845' W on the north shore; running southwesterly to a point 35° 05.5505' N - 76° 35.7249' W on the south shore;

- (ii) Greens Creek - north of a line beginning at a point 35° 01.3476' N - 76° 42.1740' W on the west shore of Greens Creek; running northeasterly to a point 35° 01.4899' N - 76° 41.9961' W on the east shore;
- (iii) Dawson Creek, north of a line beginning at a point 34° 59.5920' N - 76° 45.4620' W on the west shore; running southeasterly to a point 34° 59.5800' N - 76° 45.4140' W on the east shore;
- (iv) Clubfoot Creek, south of a line beginning at a point 34° 54.5424' N - 76° 45.7252' W on the west shore, running easterly to a point 34° 54.4853' N - 76° 45.4022' W on the east shore;
- (v) Turnagain Bay, south of a line beginning at a point 34° 59.4065' N - 76° 30.1906' W on the west shore; running easterly to a point 34° 59.5668' N - 76° 29.3557' W on the east shore;
- (s) West Bay:
 - (i) Long Bay-Ditch Bay, west of a line beginning at a point 34° 57.9388' N - 76° 27.0781' W on the north shore of Ditch Bay; running southwesterly to a point 34° 57.2120' N - 76° 27.2185' W on the south shore of Ditch Bay; then south of a line running southeasterly to a point 34° 56.7633' N - 76° 26.3927' W on the east shore of Long Bay;
 - (ii) West Thorofare Bay, south of a line beginning at a point 34° 57.2199' N - 76° 24.0947' W on the west shore; running easterly to a point 34° 57.4871' N - 76° 23.0737' W on the east shore;
 - (iii) Merkle Bay, east of a line beginning at a point 34° 58.2286' N - 76° 22.8374' W on the north shore, running southerly to a point 34° 57.5920' N - 76° 23.0704' W on Merkle Bay Point;
 - (iv) North Bay, east of a line beginning at a point 35° 01.8982' N - 76° 21.7135' W on Point of Grass, running southeasterly to a point 35° 01.3320' N - 76° 21.3353' W on Western Point.
- (3) In Core Sound and its tributaries, southwest of a line beginning at a point 35° 00.1000' N - 76° 14.8667' W near Hog Island Reef; running easterly to a point 34° 58.7853' N - 76° 09.8922' W on Core Banks; and in the following waterbodies and their tributaries: Back Bay, the Straits, Back Sound, North River, Newport River, Bogue Sound, and White Oak River.
- (4) In Onslow, Pender, New Hanover, and Brunswick counties.

History Note: Authority G.S. 113-134; 113-182; 143B-289.52; Eff. January 1, 1991; Amended Eff. July 1, 1993; October 1, 1992; September 1, 1991; Recodified from 15A NCAC 03R .0008 Eff. December 17, 1996; Amended Eff. April 1, 2016; October 1, 2004.

15A NCAC 03R .0112 ATTENDED GILL NET AREAS

- (a) The attended gill net areas referenced in 15A NCAC 03J .0103(g) are delineated in the following areas:
- (1) Pamlico River, west of a line beginning at a point 35° 27.5768' N - 76° 54.3612' W on Ragged Point; running southwesterly to a point 35° 26.9176' N - 76° 55.5253' W on Mauls Point;
 - (2) within 200 yards of the shoreline in Pamlico River and its tributaries east of a line beginning at a point 35° 27.5768' N - 76° 54.3612' W on Ragged Point; running southwesterly to a point 35° 26.9176' N - 76° 55.5253' W on Mauls Point; and west of a line beginning at a point 35° 22.3622' N - 76° 28.2032' W on Roos Point; running southerly to a point at 35° 18.5906' N - 76° 28.9530' W on Pamlico Point;
 - (3) Pungo River, east of the northern portion of the Pantego Creek breakwater and a line beginning at a point 35° 31.7198' N - 76° 36.9195' W on the northern side of the breakwater near Tooleys Point; running southeasterly to a point 35° 30.5312' N - 76° 35.1594' W on Durants Point;
 - (4) within 200 yards of the shoreline in Pungo River and its tributaries west of the northern portion of the Pantego Creek breakwater and a line beginning at a point 35° 31.7198' N - 76° 36.9195' W on the northern side of the breakwater near Tooleys Point; running southeasterly to a point 35° 30.5312' N - 76° 35.1594' W on Durants Point; and west of a line beginning at a point 35° 22.3622' N - 76° 28.2032' W on Roos Point; running southerly to a point at 35° 18.5906' N - 76° 28.9530' W on Pamlico Point;
 - (5) Neuse River and its tributaries northwest of the Highway 17 highrise bridge;
 - (6) Trent River and its tributaries; and
 - (7) within 200 yards of the shoreline in Neuse River and its tributaries east of the Highway 17 highrise bridge and south and west of a line beginning on Maw Point at a point 35° 09.0407' N - 76° 32.2348' W; running southeasterly near the Maw Point Shoal Marker "2" to a point 35° 08.1250' N - 76° 30.8532' W; running southeasterly near the Neuse River Entrance Marker "NR" to a point 35° 06.6212' N - 76° 28.5383' W; running southerly to a point 35° 04.4833'

N – 76° 28.0000' W near Point of Marsh in Neuse River. In Core and Clubfoot creeks, the Highway 101 Bridge shall constitute the attendance boundary.

(b) The attended gill net areas referenced in 15A NCAC 03J .0103(h) are delineated in the following Internal Coastal Waters and Joint Fishing Waters of the State south of a line beginning on Roanoke Marshes Point at a point 35° 48.3693' N – 75° 43.7232' W; running southeasterly to a point 35° 44.1710' N – 75° 31.0520' W on Eagles Nest Bay to the South Carolina state line:

- (1) all primary nursery areas described in 15A NCAC 03R .0103, all permanent secondary nursery areas described in 15A NCAC 03R .0104, and no-trawl areas described in 15A NCAC 03R .0106(2), (4), (5), (8), (10), (11), and (12);
- (2) in the area along the Outer Banks, beginning at a point 35° 44.1710' N – 75° 31.0520' W on Eagles Nest Bay; running northwesterly to a point 35° 45.1833' N – 75° 34.1000' W west of Pea Island; running southerly to a point 35° 40.0000' N – 75° 32.8666' W west of Beach Slough; running southeasterly and passing near Beacon "2" in Chicamicomico Channel to a point 35° 35.0000' N – 75° 29.8833' W west of the Rodanthe Pier; running southwestly to a point 35° 28.4500' N – 75° 31.3500' W on Gull Island; running southerly to a point 35° 22.3000' N – 75° 33.2000' W near Beacon "2" in Avon Channel ; running southwestly to a point 35° 19.0333' N – 75° 36.3166' W near Beacon "2" in Cape Channel; running southwestly to a point 35° 15.5000' N – 75° 43.4000' W near Beacon "36" in Rollinson Channel; running southeasterly to a point 35° 14.9386' N – 75° 42.9968' W near Beacon "35" in Rollinson Channel; running southwestly to a point 35° 14.0377' N – 75° 45.9644' W near a "Danger" Beacon northwest of Austin Reef; running southwestly to a point 35° 11.4833' N – 75° 51.0833' W on Legged Lump; running southeasterly to a point 35° 10.9666' N – 75° 49.7166' W south of Legged Lump; running southwestly to a point 35° 09.3000' N – 75° 54.8166' W near the west end of Clarks Reef; running westerly to a point 35° 08.4333' N – 76° 02.5000' W near Nine Foot Shoal Channel; running southerly to a point 35° 06.4000' N – 76° 04.3333' W near North Rock; running southwestly to a point 35° 01.5833' N – 76° 11.4500' W near Beacon "HL"; running southerly to a point 35° 00.2666' N – 76° 12.2000' W; running southerly to a point 34° 59.4664' N – 76° 12.4859' W on Wainwright Island; running easterly to a point 34° 58.7853' N – 76° 09.8922' W on Core Banks; running northerly along the shoreline and across the inlets following the COLREGS Demarcation Line to the point of beginning;
- (3) in Core and Back sounds, beginning at a point 34° 58.7853' N – 76° 09.8922' W on Core Banks; running northwesterly to a point 34° 59.4664' N – 76° 12.4859' W on Wainwright Island; running southerly to a point 34° 58.8000' N – 76° 12.5166' W; running southeasterly to a point 34° 58.1833' N – 76° 12.3000' W; running southwestly to a point 34° 56.4833' N – 76° 13.2833' W; running westerly to a point 34° 56.5500' N – 76° 13.6166' W; running southwestly to a point 34° 53.5500' N – 76° 16.4166' W; running northwesterly to a point 34° 53.9166' N – 76° 17.1166' W; running southerly to a point 34° 53.4166' N – 76° 17.3500' W; running southwestly to a point 34° 51.0617' N – 76° 21.0449' W; running southwestly to a point 34° 48.3137' N – 76° 24.3717' W; running southwestly to a point 34° 46.3739' N – 76° 26.1526' W; running southwestly to a point 34° 44.5795' N – 76° 27.5136' W; running southwestly to a point 34° 43.4895' N – 76° 28.9411' W near Beacon "37A"; running southwestly to a point 34° 40.4500' N – 76° 30.6833' W; running westerly to a point 34° 40.7061' N – 76° 31.5893' W near Beacon "35" in Back Sound; running westerly to a point 34° 41.3178' N – 76° 33.8092' W near Buoy "3"; running southwestly to a point 34° 39.6601' N – 76° 34.4078' W on Shackelford Banks; running easterly and northeasterly along the shoreline and across the inlets following the COLREGS Demarcation lines to the point of beginning;
- (4) within 200 yards of the shoreline in the area upstream of the 76° 28.0000' W longitude line beginning at a point 35° 22.3752' N – 76° 28.0000' W near Roos Point in Pamlico River; running southeasterly to a point 35° 04.4833' N – 76° 28.0000' W near Point of Marsh in Neuse River; and
- (5) within 50 yards of the shoreline east of the 76° 28.0000' W longitude line beginning at a point 35° 22.3752' N – 76° 28.0000' W near Roos Point in Pamlico River; running southeasterly to a point 35° 04.4833' N – 76° 28.0000' W near Point of Marsh in Neuse River, except from October 1 through November 30, south and east of Highway 12 in Carteret County and south of a line from a point 34° 59.7942' N – 76° 14.6514' W on Camp Point; running easterly to a point at 34° 58.7853' N – 76° 09.8922' W on Core Banks; to the South Carolina state Line.

History Note: Authority G.S. 113-134; 113-173; 113-182; 143B-289.52; Eff. August 1, 2004; Amended Eff. April 1, 2016; June 1, 2013; April 1, 2011; April 1, 2009; Readopted Eff. April 1, 2019.

INDEX

A “♦” symbol is used in the index of the rulebook as a visual sign to alert readers there may be a public notice, or proclamation, for a subject. The Marine Fisheries Commission has the authority to delegate to the Fisheries Director the ability to issue proclamations, suspending or implementing particular commission rules that may be affected by variable conditions. For example, the index entry “species, sheepshead♦” indicates there may be a proclamation outlining harvest restrictions or other information for that species. Proclamations are not included in the rulebook because they change frequently.

Go to <http://portal.ncdenr.org/web/mf/proclamations> to view proclamations and learn about the restrictions. If you do not have Internet access, please call 252-726-7021 or 800-682-2632 to find out how to receive proclamation information. It is imperative that persons affected by proclamations keep themselves informed.

Please note: entries for fishing gear and equipment are listed alphabetically under the heading “gear.” **Other major headings** in the index include “lease,” “license,” “permit,” and “species.” For example, to look up information about a shellfish lease, see “lease, shellfish.”

| | |
|---|--------|
| A | |
| aquaculture operation | |
| scallop, bay, exemptions..... | 10 |
| B | |
| bait, exemptions..... | 11 |
| bait, restrictions..... | 11 |
| boundaries | |
| attended gill net areas..... | 41–42 |
| mechanical methods prohibited, oysters..... | 39–41 |
| nursery areas | |
| primary..... | 24–39 |
| shoreline (gill net)..... | 3 |
| bycatch reduction device (BRD)♦..... | 4 |
| C | |
| certificate | |
| U.S. Coast Guard..... | 14, 16 |
| contested case..... | 24 |
| E | |
| enforcement | |
| convictions, number of..... | 16 |
| penalties | |
| assault..... | 16 |
| service of notice..... | 16 |
| F | |
| finfish | |
| cleaning, restrictions..... | 11 |
| importing, restrictions..... | 1 |
| scrap, restrictions | |
| exception..... | 11 |
| size..... | 1, 11 |
| transporting..... | 1 |
| Fisheries Director, proclamation authority..... | 1 |
| for-hire fishing, license..... | 15 |
| for-hire vessel operator, definition..... | 15 |
| G | |
| gear | |
| commercial fishing | |
| restrictions, areas..... | 5 |
| dredge | |
| restrictions..... | 5 |
| electrofishing equipment | |
| restrictions..... | 5 |
| gaff hook, restrictions..... | 12 |
| gig | |
| restrictions..... | 11, 12 |
| gill net | |
| restrictions..... | 2 |
| areas..... | 2 |
| attendance..... | 2 |
| snapper-grouper complex..... | 12 |
| yardage..... | 2 |
| restrictions♦..... | 2 |
| shoreline, definition..... | 3 |
| gill net restrictions | |
| areas..... | 41–42 |
| attendance..... | 41–42 |
| gill net, drift, restrictions..... | 2 |
| areas..... | 5 |
| gill net, runaround and non-stationary, restrictions..... | 3 |

◆ = go to <http://portal.ncdenr.org/web/mf/proclamations> to check for proclamations

| | |
|---------------------------------------|---------|
| areas | 3 |
| hook and line | 6 |
| circle hook, definition | 6 |
| mechanical methods for clamming | |
| permit | 19 |
| restrictions | 5, 7, 8 |
| areas◆ | 8 |
| season◆ | 7 |
| mechanical methods for oystering | |
| permit | 19 |
| restrictions | 5, 8 |
| prohibited areas..... | 39-41 |
| net | |
| restrictions | 4 |
| areas | 4 |
| net, cast | |
| restrictions, shrimp | 10 |
| net, channel | |
| restrictions | |
| shrimp | 10 |
| net, fixed | |
| restrictions | |
| shrimp | 10 |
| net, stakes, restrictions..... | 2 |
| net, stop◆ | 2 |
| pot | |
| snapper-grouper complex | 12 |
| pot, shrimp | |
| restrictions | 10 |
| pound net | |
| restrictions, areas | 4 |
| seine | |
| restrictions | |
| areas | 4 |
| restrictions◆ | 2 |
| snapper-grouper complex | 12 |
| seine, beach, definition | 20 |
| seine, beach◆ | 2 |
| seine, hand | |
| restrictions, shrimp | 10 |
| seine, long haul | |
| restrictions | |
| areas | 4 |
| spear | |
| restrictions | 11, 12 |
| trawl | |
| bycatch reduction device (BRD)◆ | 4 |
| restrictions | 3 |
| areas◆ | 3, 4 |

| | |
|---|--------|
| trawl, crab | |
| requirements..... | 3 |
| trawl, peeler | |
| restrictions◆..... | 3 |
| trawl, shrimp | |
| requirements..... | 3 |
| restrictions | |
| snapper-grouper complex | 12 |
| trotline | |
| restrictions | |
| areas..... | 4 |
| snapper-grouper complex..... | 12 |
| H | |
| hearing procedures..... | 24 |
| L | |
| labeling | |
| shellfish | |
| shellstock◆ | 6 |
| lease | |
| shellfish | |
| requirements..... | 17 |
| applicant | 18 |
| areas..... | 17 |
| plant and produce | 17 |
| scallop, bay | 10 |
| restrictions | |
| exemption | 9 |
| termination | 18 |
| appeal..... | 18 |
| extension..... | 18 |
| water column | |
| requirements..... | 17 |
| requirements, plant and produce | 17 |
| termination | 18 |
| appeal..... | 18 |
| license | |
| biological sampling, requirements | 1 |
| Coastal Recreational Fishing | |
| exemptions | 21 |
| Commercial Fishing Vessel Registration | |
| requirements..... | 15 |
| display of..... | 15, 16 |
| Fish Dealer | |
| categories | |
| bait | |
| exemption..... | 11 |
| For-Hire | |

◆ = go to <http://portal.ncdenr.org/web/mf/proclamations> to check for proclamations

| | | | |
|---|--------|--|---------------|
| requirements..... | 15 | Mechanical Methods for Shellfish on Shellfish Leases or Franchises | 19 |
| record keeping | | Pound Net Set | |
| inspection of..... | 16 | application..... | 19 |
| Recreational Commercial Gear | | requirements..... | 23 |
| snapper-grouper complex..... | 12 | renewal, denial, appeal..... | 24 |
| reissuance | 16 | reporting requirements | 21 |
| renewal | | revocation | |
| denial, appeal | 24 | appeal..... | 24 |
| revocation | 16 | Scientific or Educational Activity | 23 |
| appeal | 24 | suspension | |
| assault..... | 16 | appeal..... | 24 |
| suspension | 16 | Transplant Oysters from Seed Oyster Management Areas | 19 |
| appeal | 24 | Transplant Prohibited (Polluted) Shellfish | 19 |
| | | Under Dock Oyster Culture..... | 23 |
| M | | Weekend Trawling for Live Shrimp | 3, 10, 19, 22 |
| Marine Fisheries Commission | | polluted areas..... | 8, 9 |
| contested case | 24 | possession limit | 1 |
| mechanical methods restricted areas | | proclamation | |
| oystering | | authority | 1 |
| prohibited areas | 39-41 | | |
| mutilated finfish, restrictions | 11 | Q | |
| exemptions, bait..... | 11 | quota | |
| | | dealer permits | 21-22 |
| N | | | |
| nursery area | | R | |
| primary | 24-39 | recall◆..... | 6 |
| | | relay, permit..... | 19 |
| P | | | |
| permit | | S | |
| application | 19-20 | shedding operation, permit | 21 |
| Aquaculture Collection..... | 20 | shellfish | |
| Aquaculture Operation | 20 | restrictions | |
| scallop, bay..... | 10 | harvest◆..... | 6, 7 |
| Atlantic Dolphin/Wahoo Commercial, requirements | 14 | season..... | 7 |
| Atlantic Ocean Striped Bass Commercial Gear..... | 20, 21 | season◆..... | 7 |
| bass, striped, Atlantic Ocean | 20, 21 | size limit◆..... | 7 |
| Blue Crab Shedding..... | 21 | tag, requirements◆..... | 6 |
| Coastal Recreational Fishing License Exemption | 21 | shoreline, definition (gill net) | 3 |
| Dealer Permit for Quota Monitoring | | snapper-grouper complex, restrictions..... | 12 |
| Black Sea Bass North of Cape Hatteras | 22 | species | |
| Flounder | 22 | bass, striped | |
| license, requirement | 19 | permit, Atlantic Ocean Striped Bass Commercial Gear | 20, 21 |
| reporting | 21 | permit, Dealer Permit for Quota Monitoring | 22 |
| Spiny Dogfish | 22 | tag | 22 |
| Striped Bass..... | 22 | billfish | 13 |
| Depuration | 19 | clam | |
| Harvest Rangia Clams From Prohibited (Polluted) Areas | 19 | | |
| Horseshoe Crab Biomedical Use | 22 | | |

◆ = go to <http://portal.ncdenr.org/web/mf/proclamations> to check for proclamations

| | |
|--|--|
| mechanical harvest <i>See</i> gear, mechanical methods for | season 7 |
| clamming | season◆ 7 |
| restrictions | size limit◆ 7 |
| harvest◆ 6 | shucking, exemption 7 |
| tag, harvest, requirements◆ 6 | tag, harvest, requirements◆ 6 |
| clam, Rangia 8, 9 | pinfish |
| crab, blue | exemption, scrap 11 |
| restrictions | sailfish 13 |
| gear 4 | scallop, bay |
| shedding operation 21 | restrictions 9, 10 |
| shrimp trawl bycatch 4 | gear 9 |
| crab, horseshoe | restrictions◆ 6, 9 |
| permit, Horseshoe Crab Biomedical Use 22 | scallop, calico◆ 9 |
| crab, stone 10 | sea bass, black, Dealer Permit for Quota Monitoring 22 |
| dogfish, spiny, Dealer Permit for Quota Monitoring 22 | seatrout, spotted◆ 15 |
| dolphin (finfish) | shad, gizzard |
| federal permit 14 | exemption, scrap 11 |
| restrictions 14 | shad, hickory |
| drum, red 12 | exemption, bait 11 |
| drum, red◆ 12 | sheepshead◆ 15 |
| eel, American 13 | shrimp |
| flounder, summer, Dealer Permit for Quota Monitoring ... 22 | restrictions |
| herring, Atlantic thread | gear 3 |
| exemption, scrap 11 | weekend 10 |
| herring, river | snapper-grouper complex 12 |
| restrictions 13 | spearfish, roundscale 13 |
| kingfish◆ 14 | tuna, bigeye 14 |
| marlin, blue 13 | tuna, bluefin 14 |
| marlin, white 13 | tuna, yellowfin 14 |
| menhaden, Atlantic | wahoo 14 |
| exemption, scrap 11 | federal permit 14 |
| mullet | |
| exemption, bait 11 | T |
| restrictions, recreational 12 | tag |
| mullet◆ 12 | bass, striped |
| mussel | dealer requirements 22 |
| restrictions◆ 6 | shellfish◆ 6 |
| tag, harvest, requirements◆ 6 | temperature |
| oyster | storage |
| restrictions | requirements◆ 6 |
| culling 7 | transplanting |
| gear 3 | shellfish, permit 19 |
| harvest◆ 6, 7 | |

THE ORIGINAL AND OFFICIAL COPY OF TITLE 15A,
CHAPTER 03 AND CHAPTER 18A OF THE N.C.
ADMINISTRATIVE CODE ARE ON FILE IN THE OFFICE OF
ADMINISTRATIVE HEARINGS AND ARE AVAILABLE FOR
PUBLIC INSPECTION DURING NORMAL WORKING HOURS.

THIS DOCUMENT IS AVAILABLE FROM:
N.C. DIVISION OF MARINE FISHERIES
P.O. BOX 769
3441 ARENDELL STREET
MOREHEAD CITY, NC 28557
1-800-682-2632 or 252-726-7021
<http://portal.ncdenr.org/web/mf>

CERTIFICATION

PURSUANT TO G.S. 113-221 (B) AND G.S. 113-221 (G), THIS IS TO
CERTIFY THAT THE PRECEDING “NORTH CAROLINA MARINE
FISHERIES COMMISSION RULES MAY 1, 2015, SUPPLEMENT - APRIL
1, 2019” IS THE OFFICIAL CODIFICATION OF THE RULES OF THE N.C.
MARINE FISHERIES COMMISSION EFFECTIVE AS OF APRIL 1, 2019.

A handwritten signature in black ink, appearing to read "Stephen W. Murphey", with a long, sweeping underline.

STEPHEN W. MURPHEY, DIRECTOR
N.C. DIVISION OF MARINE FISHERIES