MARINE FISHERIES COMMISSION BUSINESS MEETING
Crystal Coast Civic Center, Morehead City, N.C.
May 18-20, 2016

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 18

6 p.m. Public Meeting
Receive public comment relative to any fisheries management issues

May 19

9 a.m. Call to Order */Invocation
Conflict of Interest Reminder
Roll Call
Vote on Approval of Agenda**
Vote on Approval of Meeting Minutes**

9:15 a.m. Public Comment
Receive public comment relative to any fisheries management issues

10:15 a.m. NOAA Fisheries 2016 Recreational Cobia Season – Michelle Duval (Presentation)
- Review public comment
- Review 2016 harvest options
- **Vote on possible changes to cobia harvest restrictions****

11:15 a.m. Chairman's Report
- Letters
- Ethics Training Reminder
- 2016 Meeting Schedule Reminder

11:30 a.m. Committee Reports
- Northern
- Southern
- Shellfish/Crustacean
- Finfish
- Oyster and Hard Clam Fishery Management Plans
- Sea Turtle
- Coastal Recreational Fishing License – Beth Govoni
- Coastal Habitat Protection Plan Conference Committee – Jimmy Johnson

Noon Lunch Recess

1:30 p.m. Blue Crab Traffic Light Assessment Update – Jason Rock and Corrin Flora (Presentation)
Review updated information incorporating 2015 data into the traffic light assessment, along with the suite of potential adaptive management measures
- **Vote to select adaptive management measures****

2:30 p.m. Fishery Management Plan Update – Catherine Blum
- Status of ongoing plans

2:45 p.m. Total Allowable Landings for Pound Nets by Waterbodies for Supplement A to the Southern Flounder Fishery Management Plan Amendment 1 – Mike Loeffler and Chris Stewart (Presentation)

3:45 p.m. Oyster Fishery Management Plan Amendment 4 and Hard Clam Fishery Management Plan Amendment 2 – Tina Moore and Joe Facendola (Presentation)

- Review advisory committee and public input on lowering the daily oyster harvest limit for the Shellfish License statewide
- **Vote on approval of draft plans to send to the Department of Environmental Quality and the Joint Legislative Commission on Governmental Operations for review and comment****

4:15p.m. Rulemaking Update – Catherine Blum

- 2015/2016 rulemaking cycle
- 2016/2017 rulemaking cycle
- Issue paper review:
  - Development of a Permit to Allow Weekend Trawling to Take Live Shrimp
  - Spiny Dogfish Dealer Permit
  - Proposed Rule Changes for Convictions of Larceny Related to Fishing Gear or Convictions of Injuring/Destroying/ Stealing Fishing Gear
  - Correction of Wade Creek Primary Nursery Area Boundary Line
  - Clarification of License Requirements for Leaseholder Designees

5 p.m. Recess

<u>May 20</u>

8:30 a.m. Rules Suspensions – Kathy Rawls

The commission must vote to continue rule suspensions that have occurred since its last meeting:

- **Vote on any rule suspension for a portion of 15A NCAC 03M .0516 COBIA regarding possession limits. ****
- **Vote on any rule suspension for a portion of 15A NCAC 03M .0503 FLOUNDER regarding ocean-caught flounder season. ****

8:45 a.m. Director's Report

Reports and updates on recent Division of Marine Fisheries activities

- Atlantic States Marine Fisheries Commission – Michelle Duval and Chris Batsavage
  - Weakfish Stock Assessment – Chris Batsavage
  - Red Drum Stock Assessment – Lee Paramore
- Informational Materials
  - Striped Bass
  - Rule Suspension Notices/No Action Required
  - Quota Update
  - Landings Update
  - Protected Resources Update
    - Observer Program
    - Incidental Take Permit Updates
  - Mid-Atlantic Fishery Management Council Update
  - South Atlantic Fishery Management Council Update
  - Highly Migratory Species

10:30 a.m. Issues from Commissioners

11 a.m. Meeting Assignments and Preview of Agenda Items for August Meeting – Nancy Fish

11:45 a.m. Adjourn

<u>2016 Meeting Dates</u>

Feb. 17-19 Blockade Runner, Wrightsville Beach
Aug. 17-19 Hilton Brownstone, Raleigh
May 18-20 Crystal Coast Civic Center, Morehead City
Nov. 16-18 Hilton Garden Inn, Kitty Hawk

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

Minutes

Marine Fisheries Commission Business Meeting Minutes
Blockade Runner
Wrightsville Beach, North Carolina
Feb. 17-19, 2016

The commission held a public meeting on the evening of Feb. 17, followed by a business meeting Feb. 18-19, at the Blockade Runner in Wrightsville Beach, North Carolina.

The briefing book, presentations and audio from this meeting can be found at http://portal.ncdenr.org/web/mf/02-2016-briefing-book.

PUBLIC MEETING – FEB. 17

Chairman Sammy Corbett called the meeting to order at 6 p.m. The following individuals spoke:

Rick Caton, with Custom Sound Charters, talked about cobia fishing and how he sight casts for them, which means you have to see them. He said there has not been a reduction in the cobia stock, but rather an increase in boats that fish for them, but that the increased effort does not mean more fish are being caught. Caton closed by saying there was no cobia management panel at the federal or regional level.

Allen Faircloth, a commercial fisherman who flounder fishes in the Surf City area, said the new 6-inch stretch mesh size requirement will cut out about half the fishermen. He told the commission if fishermen are forced to replace their webbing, there should be some compensation for it and that the new restrictions will effects not only fishermen, but dealers and consumers too. He said he fishes five nets and in past 3 years, he has only had one dead fish caught in a flounder net. He warned the commission that the new flounder measures were going to force fishermen to use gigs, which will result in undersized fish being stabbed and then discarded dead.

Gary Henderson said he was a scuba diver and that the bottom fish are just not there anymore. He said when the Coastal Recreational Fishing License first came out, people supported the license if it improved the quality of fishing, but he asked what has it done? He said that regulations were too complicated and that you almost had have to have a retainer of Philadelphia lawyers to know what you can catch.

David Bush, with the N.C. Fisheries Association, talked about a Dec. 16 meeting with Division of Marine Fisheries staff to discuss the new flounder regulations. He said the division cannot quantify the reduction from measures and that the measures are not fair and equitable.

Justin Revere, a charter boat captain from Cape Hatteras, said cobia is favorite thing to fish for. He said despite increased fishing effort, all he sees is more and more cobia and this indicates a thriving fishery. He urged that commission to think about the economic impact further restrictions would have and there were plenty of fish and no reductions are called for at this time.

Jacob Dempsey, a charter boat captain from Cape Hatteras, said he opposes the cobia proposal. He questioned why there was a lack of information and notice about this issue and said cobia was not at risk. He opposes a stricter regulations and season closure and said it would devastate the charter fishermen. He said there were errors in the data and that the commission needed to keep men and women fishing.

Denny McCuiston, a live bait commercial shrimper, explained how he conducts his fishing activities and that he cannot handle large volumes of live shrimp and that is why he needs unlimited access and that weekend closures creates lost income for him. He said the division manages for a lower count, larger shrimp for food, and that is in direct contradiction to what the bait industry needs. He said it was not right for him to have to work under regulations put in place for a shrimp fishery for human consumption.

Aaron Kelly, a charter boat captain out of Oriental, who also hold a Standard Commercial Fishing License**,** expressed concerns about additional cobia restrictions, saying the fishery is very popular and more restrictions would impact his ability to feed his family. He also felt there was no transparency on this issue and there is no lack of cobia commercially or recreationally.

Daniel McIntyre said he was a scuba diver and was here for solutions. He said the fish are there and he sees them when he dives. He talked about people coming in from other states and keeping everything they caught and it being hard to catch them when they are 45 miles offshore. He felt raising the prices of licenses made economic sense and would help prevent some unethical behavior.

Bob Lorenz, an advisory committee member on the Southern and Sea Turtle committees, said what the General Assembly did with the joint enforcement agreement study was deplorable by not including recreational fishermen in the study. He feels if you are against North Carolina entering into a joint enforcement agreement with the NMFS, then you must be for the cheats. He said he found it ironic that the United States and Russia had entered into a fisheries joint enforcement agreement, but North Carolina will not. He said that sends a message if you want to do some illegal fishing or dealing, North Carolina is the state to do it. He encouraged the commission to put its force behind the joint enforcement agreement.

Karl Helmkamp, a charter boat captain out of Pirates Cove**,** said there are a lot of fish around and he was surprised to hear people say fish are in danger because he thinks the population is growing. He started a tagging program on his boat to document how many fish there are and he questioned why North Carolina did not have a tagging program for cobia. He explained conditions had to be perfect to sight cast for cobia or you don't catch the fish. He said he had charters booked through the summer and a June 15 closure would hurt him and it was already hard enough to make a living.

Henry Temple expressed concern that triploid oysters grown on leases in the southern coastal waters are taking in huge quantities of water and consuming everything in it, including oyster spat, but they are not putting any larvae back into the water. He said more effort and money needed to go to cultch planting rather than having more triploid leases.

Patrick Barnes, who holds a commercial shellfish license, said the commission should require oyster relays by fishermen in order for them to get a license because right now there is not

enough shell in the water for spat to settle on. He felt fishermen should have to put 100 bushels of shell back out in the water to be eligible to get a license. He said there were 1,400 Shellfish Licenses, but only 400 of those reported landings on a trip ticket, and the commission should require people to have trip tickets in order to get a license. He felt the Oyster Shell Recycling Program should be reestablished and encouraged people to email legislators about this. His last point was that we need more oyster spat and that the UNC-Wilmington hatchery produces some, but we need more.

Division of Marine Fisheries Director Louis Daniel asked if he could have a few minutes to explain the cobia situation. He said the South Atlantic Fishery Management Council developed annual catch limits in 2012 as required by the federal Magnuson Stevens Act. Since 2012, new science indicates that most of the cobia off of Florida are from the Gulf stock and not part of the stock found along other Atlantic Seaboard states and a decision was made to shift the allocation for the east coast of Florida to the Gulf. He said recreational fishermen from the Atlantic states (excluding Florida) harvested 1.54 million pounds of cobia in 2015, well above the annual catch limit of 630,000 pounds. Under the South Atlantic Fishery Management Council's accountability measures, when the annual catch limit is exceeded in one year, the length of the following year's season must be reduced to ensure that the recreational harvest does not exceed that year's annual catch limit. Daniel said that the NMFS is authorized to close June 15 if the annual catch limit is exceeded, but he has asked the NMFS regional administrator to wait on setting the season until the Marine Fisheries Commission had chance to consider reducing the bag limit from 2 fish to 1 fish. Then, he said, NMFS could reanalyze the statistics and maybe prolong the season until June 20. If North Carolina continues to go over the annual catch limit and ignores the closure, a totally closed season is a possibility. He also pointed out that the commercial fishery has stayed below their annual catch limit and that there were no proposals to change the commercial season.

BUSINESS MEETING - MOTIONS AND ACTIONS – FEB. 18-19

Chairman Sammy Corbett convened the Marine Fisheries Commission business meeting at 9 a.m. and reminded commissioners of their conflict of interest and ethics requirements.

The following commission members were in attendance: Sammy Corbett-Chairman, Joe Shute - Vice Chairman, Mark Gorges, Chuck Laughridge, Janet Rose, Rick Smith, Mike Wicker and Alison Willis.

Chairman Corbett advised the Coastal Habitat Protection Plan discussion would need to take place on Feb. 19, rather than Feb. 18, due to a scheduling conflict. He asked the commission to approve the agenda with that modification.
The agenda was approved by consensus with one modification.

The minutes from the Nov. 18-20, 2015 meeting were approved by consensus.

Public Comment

Joe Mauro, a recreational fisherman from the Wilmington area, talked about the action the commission took at its November meeting on southern flounder and said it was a starting point to help save the resource. He said he was one of millions ready to step forward to help keep this resource and revive it.

Ray Dixon, who fishes both commercial and recreationally, said he has lived here his whole life and never remembers such a problem with fish populations. He said he was here to support the resource and we should all stop fighting over the scraps and start doing something about the problem. We need laws to protect the resource. He said flounder are not sexually mature until 18 inches and that the 15-inch law will not help. He advocated restricting commercial gear to three miles offshore, including trawling and gill nets. He said gigging, both commercial and recreational, was a problem too. He talked about the decline he had seen in his gigging efforts over the last several years. He encouraged the commission to wake up and do what need to be done. He felt more hatcheries should be built and that fish did not need to be political pawns any more.

Steve Moore, representing the Cape Fear Fly Fishing Club, said commercial fishermen need to face reality and that their industry was on the same path and the northeast cod fishery. He said Mother Nature was putting them out of business because she could not replace the fish they catch fast enough. He said commercial fishermen catch 84 percent of all southern flounder, so they are the primary cause for the stock collapse. He said the problem goes beyond flounder because of the use of inshore gill net and trawling that kills indiscriminately, destroying recreational fishing for other valued species. He talked about the value of the commercial fishery compared to the higher value he felt recreational fishermen brought to the economy and said that should be taken into consideration in management decisions.

Gina Huthmacher, representing the Recreational Fishing Association, said she and her husband had been fishing a long time and that commercial net fishermen should be put three miles offshore and let the recreational fishermen have the inshore waters.

Jerry Schill, Director of the N.C. Fisheries Association, said his organization had met recently and had voted to support a couple of positions. First, they oppose catch share and individual transferable quotas. Secondly, they feel the current definition of a commercial fisherman is fine and does not need to change. He said the Moratorium Steering Committee had thoroughly reviewed this issue and no changes are needed.

Terry Pratt, President of the Albemarle Sound Fisherman's Association, said he had three things to discuss:

1. River herring are abundant and are at a level that could support opening the fishery.
2. The definition for a commercial fishermen is a person who hold a Standard Commercial Fishing License and that does not need to change.
3. He asked what the approval the Coastal Habitat Protection Plan that was slated for later in the meeting would accomplish. He said the new version of the plan is weaker than what is currently in place and does not offer enough protection. He said if we don't look after the habitat it is irrelevant how many regulations you make on fishing.

Chris Elkins, President of the Coastal Conservation Association - NC and former Marine Fisheries Commissioner, thanks the commission for enacting needed tough regulations for southern flounder. He thanked Dr. Daniel for the earlier summary of the cobia situation. He said he understood the recreational harvest allocation had been exceeded last year and as a result of accountability measures, the harvest will have to be reduced in 2016. He urged the commission to work with the South Atlantic Fishery Management Council to structure the 2016 season to allow North Carolina anglers a realistic opportunity to catch cobia before the season ended. This

might mean the commission has to reduce the bag limit to one fish. He said the South Atlantic had boxed itself in because there is no indication that the stock is on trouble, the annual catch limit was just exceeded.

Ron McCoy, of Hampstead, thanks the commission for its previous actions on southern flounder and reminded them that he had previously suggested a vision statement be adopted and that decisions be based on scientific data. He then told the commission that too much time was being sent on public comment and that only 10 commercial and 10 recreational fishermen should be allowed to speak. He also requested that the commission post biographic information on its website, along with a statement about why each member wants to serve on the panel.

Rick Sasser, from Goldsboro, talked about the Central Southern Management Area for striped bass. He said the stock was listed as concerned and that no commercial harvest was allowed in the Cape Fear River since 2008. There is compelling data that the Neuse and the Pamlico rivers and their tributaries should be closed to commercial harvest because the fishery in these systems is a put-and-take fishery, that 95 percent of the stock has hatchery origins and that tag data indicate it is a closed system. He said federal dollars from excise taxes on sport fishing gear pays for the stocking and it appears the Wildlife Resources Commission is using those monies as intended but the Marine Fisheries Commission is converting two-thirds of the public benefit from striped bass restoration to commercial fishing interest in violation of federal law. He said data showed commercial fishermen landed 70 percent of the striped bass, while recreational fisherman landed 30 percent. He talked about the mortality rates and felt that gill net mortality is being under reported. He advised that present management is preventing the reestablishment of a sustainable spawning stock biomass, which makes recovery impossible and that managing for a predominately commercial harvest is placing the whole stocking program in jeopardy. He asked the commission to immediately close the commercial fishery for striped bass in the Central Southern Management Area.

Robert Schoonmaker, Executive Director of the Recreational Fishing Alliance, advised the commission they had to manage the fishery for all fishermen and that if we take care of the fish then the fish will take care of the fishermen. He said we have data that shows the southern flounder fishery is in trouble and then we say that data is no good. Then with cobia, data show the stock is not in trouble, but the South Atlantic Fishery Management Council picked an arbitrary number that we exceeded and we have to stop fishing. He said it doesn't make sense.

Fred Walker, from Pender County, said he was concerned with the abysmal state of our saltwater fisheries. He said he felt Division Director Louis Daniel was a nice person, but under his leadership North Carolina fisheries had become a failure. They have failed the commercial fisherman and have failed the recreational fishermen and that has caused undo friction between the two user groups. He said 15 species were considered overfishing, concerned or unknown and that the lack of fisheries was killing thousands of jobs. Staff was unable to provide a stock assessment for southern flounder that passed peer review, under Director Daniel's leadership. He asked the commission to issue a vote of no confidence in Director Daniel and request the governor to replace him immediately and that the replacement should not come from the Division of Marine Fisheries. He said all other southern states, including the Gulf states, had successful fisheries, except North Carolina.

Sam Moser, from Burlington, talked about how he loved to come to the beach to catch fish when he was growing up, but now he was concerned that his son and grandson will not have that pleasure because our fisheries are facing a dire situation. He encouraged the commission to vote for what is best for all the citizens of North Carolina and not just for their personal interests.

Bradley Styron, President of the Carteret County Fisherman's Association and former Marine Fisheries Commissioner, talked about how the size limit for flounder had increased over the years and that the 2014 stock assessment didn't show a problem, except one peer reviewer said it wasn't suitable for management purposes. So, Director Daniel turned the matter over to the commission and they passed their own personal wish list that had no science behind it. He told the commission to be prudent and said if you are going to manage, use science to guide you. He questioned why South Carolina only landed 4,000 pounds of flounder last year and they do not allow very much commercial gear. Other people have said other states are in good shape, but apparently South Carolina is not, he said.

Brad Scott, Wilmington, said he supported the effort of N.C. Eel Farm and thinks that opportunity should come to our state. He said he had talked with someone in South Carolina who said he caught 100 pounds of eels on his best night. That catch would be valued at between $250,000 and $500,000 and the division is going to give all of that to just one person or operation – he didn't think that was right. He said there was a potential for cronyism and the process should be open to more people. He encouraged the commission to refer the petition for declaratory ruling to an advisory committee for review and input.

David Knight, with the N.C. Wildlife Federation, talked about the Coastal Habitat Protection Plan and that staff had done a good job with the update, especially considering the current state leadership and the Department of Environmental Quality's budget. He urged the commission to not underestimate the value of the plan and its role in protecting coastal habitat. He also supported redefining a commercial fisherman and creating real criteria and not the meaningless definition that is currently in use. To hold a Standard Commercial Fishing License you should have to actually fish commercially. He also said the transfers and assignments should not be allowed. The number of license in the Eligibility Pool should be reduced to 100, since that is the number of licenses typically issues by the board. And the Recreational Commercial Gear License should be eliminated, he said. He felt the southern flounder supplement was a fair outcome and he indicated he would be submitting concerns about the shrimp bycatch process.

Jake Griffin, an advisory committee member on the Southern Committee, asked the commission to consider supporting gear modifications for the shark fishery. Instead of two short lines a 500 yards apiece, allow a one mile line with up to 100 hooks to allow fishermen to spread their gear. He also said the law requiring fishermen to bring sharks to the dock and cut them there was causing problems at marina around the Hatteras area. He closed by asking the commission to allow fishermen to keep some level of king mackerel bycatch in the shark fishery.

Division of Marine Fisheries Director Louis Daniel said he wanted to address a few issues that had been brought up regarding the size at maturity for southern flounder. He said new information on reproductive ecology was available that shows the size and age at maturity of southern flounder is much greater than ever believed and that probably 18 inches would be the size need to make sure all of these fish would have a chance to spawn at least once.

Daniel also said that the 200-pound glass eel quota was not allocated to a single individual and would be available to anyone who wanted to submit an aquaculture plan through the division to the Atlantic States Marine Fisheries Commission and to go through the declaratory ruling process.

South Atlantic Fishery Management Council Nominations

The commission had to select replacement candidates for Governor McCrory's consideration for North Carolina's obligatory seat on the South Atlantic Fishery Management Council after several previous nominees withdrew their names from consideration. The commission nominated Joseph Andrew High and Randy McKinley for the obligatory seat on the South Atlantic Fishery Management Council.

Motion by Joe Shute to nominate Joseph Andrew High and Randy McKinley for the obligatory seat on the South Atlantic Fishery Management Council. Second by Rick Smith Motion passes unanimously.

Declaratory Ruling

The commission was presented with a petition for a declaratory ruling from American Eel Farm, LLC and the Division of Marine Fisheries regarding 15A NCAC 03M .0510 as it relates to the harvest, possession and sell by the petitioner of eels under nine inches. Commission Counsel Phillip Reynolds reviewed the declaratory ruling process. Division Director Louis Daniel reviewed the request with the commission and spoke in favor of the petition, as did the petitioner, Rick Allyn of American Eel Farm LLC. Commissioner Mike Wicker recused himself from the deliberation and vote. After deliberation, the commission voted to grant the request and ruled in favor of the petitioner.

Motion by Chuck Laughridge to proceed with the declaratory ruling for American Eel Farm, allowing this to go forward. Second by Joe Shute.
Motion passes 7-0, with Commissioner Wicker recusing himself.

Chairman's Report

Chairman Corbett asked Commission Liaison Nancy Fish to review letters that were received and sent on various issues since the last commission meeting last meeting.

Fish also reminded the commission of its ethics training requirements and the April 15 deadline for members to submit their 2016 Statement of Economic Interest to the State Ethics Commission.

The commission was reminded of its business meeting dates for 2016:

February 17–19 in Wrightsville Beach
May 18–20 in Morehead City
August 17–19 in Raleigh
November 16–18 in Kitty Hawk

Commercial Licensing Criteria

The commission voted to convene a sub-committee consisting of at least four commissioners to discuss the issues associated with defining commercial fishermen and report its findings to the full commission in August.

Motion by Alison Willis for the chairman of the Marine Fisheries Commission to convene a sub-committee consisting of no less than four commissioners to discuss the issues associated with defining commercial fishermen. The committee should address the scope of the questions and issues, any necessary actions or recommendations the committee feels should be made to the legislature. In addition, the Division of Marine Fisheries should deliver a summary paper to the Marine Fisheries Commission at its November 2016 meeting which discusses, addresses and outlines what other states have done to address defining a commercial fisherman (for example: Virginia, Maryland, Alaska and any New England states). Second by Mike Wicker.
Motion passes 7-1.

Coastal Recreational Fishing License Committee

Division of Marine Fisheries Director Louis Daniel reported that the Coastal Recreational Fishing License Committee had approved 15 grants totaling $1,794,208 for the 2016-17 cycle. The grants are funded from the N.C. Marine Resources Fund, which receives revenues from the sale of Coastal Recreational Fishing Licenses. The commission has given the Coastal Recreational Fishing License Committee authority to make funding decisions for the grant program. The Division of Marine Fisheries director is the chairman of this committee.

Daniel explained that the grants are sorted into three focus areas. Grants that fall under the People focus area include public education and public water access projects. Grants that fall under the Fish focus area are fisheries research projects. Grants that fall under the Habitat focus area include projects that enhance, protect or research fisheries habitat.

He reported that six grants, totaling $983,505, were approved in the People focus area. They are:

- **N.C. Division of Marine Fisheries to update and reprint North Carolina Angler's Guide - $77,750**
  Two-year grant to fund the fourth update and printing of the North Carolina Coastal Recreational Angler's Guide
- **N.C. Division of Marine Fisheries for Marine Patrol Education Team continuation - $11,800**
  One-year grant to continue to provide educational equipment and resources to the N.C. Marine Patrol
- **Town of Oak Island for a regional fishing pier and kayak launch - $69,955**
  One-year grant for the installation of a fishing pier with an Americans with Disabilities Act-compliant kayak launch at a Town of Oak Island park
- **Eastern Carolina Artificial Reef Association for sunken vessel artificial reefs in Northern Onslow Bay - $185,000**
  One-year grant to fund the acquisition of retired marine vessels to establish sunken vessel artificial reefs in Northern Onslow Bay
- **N.C. Wildlife Resources Commission's West Onslow Bay's boating access area reconstruction - $300,000**
  One-year grant for site improvements to the boating and fishing access at the West Onslow Bay Boat Access Area
- **Long Bay Artificial Reef Association for enhancement of artificial reef (AR-430) - $339,000**
  One-year grant to fund enhancements of the nearshore artificial reef site AR-430 off Brunswick County

Daniel stated five grants, totaling $277,967, were approved in the Fish Focus area. They are:

- **N.C. Division of Marine Fisheries for validating and updating maturation schedules for better management of North Carolina fisheries - $46,392**
  Three-year grant to fund a project that will use a combined maturity staging approach to validate and update maturity schedules for commercially and recreationally important North Carolina finfish fisheries
- **N.C. Division of Marine Fisheries for N.C. Marine Patrol technology - $96,476**
  Two-year grant to provide funding for equipment that will allow officers to respond to request from the public for information pertaining to fisheries rules and regulations, perform license verifications, allow the officers to provide printed documents on site, and complete reporting assignments in the field
- **University of North Carolina at Wilmington for a comprehensive evaluation of the North Carolina red drum juvenile abundance index - $60,282**
  Three-year grant to conduct a comprehensive evaluation of the North Carolina red drum juvenile abundance index, assessing spatial and temporal persistence and the potential for a partial replacement survey design
- **University of North Carolina at Wilmington for a partnership for sustained fisheries management: development of a research fellowship program - $57,488**
  Three-year grant to establish a partnership between the N.C. Division of Marine Fisheries and the University of North Carolina at Wilmington whereby master's level graduate students and undergraduate students would address specific research needs identified by division topic experts
- **N.C. Division of Marine Fisheries for an economic and social survey of Coastal Recreational Fishing License holders in North Carolina - $17,329**
  One-year grant to conduct a representative survey that collects economic and social information from individuals who were licensed to fish in coastal areas of North Carolina in 2015 that will provide valuable data that is representative of specific research needs related to the division's current and future fisheries management plans

For the Habitat Focus area, Daniel advised that four grants were approved totaling $532,736, including:

- **East Carolina University for submerged aquatic vegetation SONAR mapping surveys in low-salinity habitats: Neuse River - $77,103**
  One-year grant to expand the current program that uses long-shore rapid assessment survey techniques to obtain maps in areas of submerged aquatic vegetation
- **N.C. Division of Marine Fisheries for development of inshore fishing oyster reefs and the development and protection of oyster sanctuaries - $101,200**
  Two-year grant to provide funding for a project to increase the productivity of Deep Bay, West Bay, and Middle Bay sanctuaries by enhancing structures at these sites
- **N.C. Division of Marine Fisheries Funding for maintenance of the vessel West Bay to continue development of artificial reefs and oyster sanctuaries - $250,000**
  One-year grant to fund maintenance of the West Bay, the primary vessel needed to continue the programmatic goals of the artificial reef and oyster sanctuary program
- **University of North Carolina at Chapel Hill for investigating rates of sedimentation in tidal creeks and resulting impacts on fishery production in primary and secondary nurseries - $104,433**

Three-year grant to fund a study to combine coring, surveying, and experimental approaches to develop a more thorough understanding of how sedimentation is affecting recreationally important fisheries via the tidal creek and estuarine nurseries they rely on.

Commercial Fishing Resource Fund Committee

The commission voted to delegate authority to the commission's Commercial Fishing Resource Fund Committee to develop and implement a memorandum of understanding with the North Carolina Commercial Fishing Resource Fund Funding Committee that would set procedures for agreeing to and authorizing disbursements from the fund.

Motion by Alison Willis to delegate authority to the Marine Fisheries Commission's Commercial Fishing Resource Fund Committee to develop and implement a memorandum of understanding with the Funding Committee. Second by Chuck Laughridge. Motion passes unanimously.

Total Allowable Landings for Pound Nets by Waterbodies for Supplement A to the Southern Flounder fishery Management Plan Amendment 1

At its November 2015 meeting, the commission voted that flounder pound nets will be subject to total allowable landings for different water bodies that represent a 38 percent reduction compared to 2011-2015 pound net landings. The commission directed the Division of Marine Fisheries develop total allowable landings by water bodies and report this information back at a later meeting.

Director Louis Daniel provided the commission with a brief update explaining that under the guidance given at the November 2015 meeting, there was approximately 414,000 pounds of southern flounder for the pound net fishery available. He reported that staff is looking at establishing total allowable landings for pound nets for six different fishing zones or areas along the coast. Daniel said the division would provide a detailed report on the total allowable landings by waterbody at the commission's May meeting.

Oyster Fishery Management Plan Amendment 4 and Hard Clam Fishery Management Plan Amendment 2

At its November 2015 meeting, the commission voted to send the draft amendments to the Oyster and Clam fishery management plans out for advisory committee and public review and comment. Division biologist Tina Moore, one of the co-leads for the Oyster and Clam fishery management plans, reviewed the input received from a series of advisory committee meetings in December and early January on the draft amendments.

The draft Oyster Fishery Management Plan Amendment 4 looks at:

- Whether to re-open shallow bays (less than six feet deep) of Pamlico Sound to mechanical harvest.
- Whether to continue the monitoring trigger of 26 percent legal-sized live oysters to determine when to close mechanical harvest (adopted in Supplement A to Amendment 2 to the N.C. Oyster Fishery Management Plan).
- Whether to make hand harvest limits the same statewide.
- How to mitigate harvest effort impacts on oyster resources in the Southern region.

The draft Hard Clam Fishery Management Plan Amendment 2 looks at:

- Whether to increase the recreational maximum daily harvest limit for hard clams.
- Whether to allow the use of power hauling equipment in the hand harvest of hard clams.

- Whether to modify mechanical clam harvest lines to exclude areas no longer fished.

The draft amendments to the oyster and clam plans also consider multiple changes to the shellfish lease program, changes to the shellfish license, and shading requirements for shellfish.

To view this presentation go to:
http://portal.ncdenr.org/c/document_library/get_file?uuid=fccfadeb-a338-4458-8b2c-2e549b23d532&groupId=38337

To view the companion document go to:
http://portal.ncdenr.org/c/document_library/get_file?uuid=05bbf2f6-0fd3-47f7-8d43-2a05275ab654&groupId=38337

The commission selected its preferred management options, including an option to lower the daily harvest limit of oysters for those fishing under a commercial Shellfish License to two bushels per person, with a maximum of four bushels per vessel. As the commission was getting ready to vote to send the draft plans out for departmental and legislative review, Director Daniel pointed out the commission had voted to reduce the Shellfish License oyster harvest limits statewide, rather than just reducing the harvest limits in the southern region of the coast. He said the public would have no reasonable expectation the commission would expand these restrictions statewide. Daniel felt this was a substantial change and issue needed to back out to the advisory committees for review. Catherine Blum, the division's fishery management plan coordinator, mirrored Daniel's concern saying when the draft plan went to the Northern Advisory Committee, that committee did not want to get involved in that issue because it only pertained to the southern region. Daniel said he would hate for the commission to move forward with the statewide requirement and send it to the department and legislature for review and find out in November that they felt we missed a step. Blum also wanted to make the commission aware that because we operate on an annual rulemaking cycle, sending the issue back out to the advisory committees would cause a 12-month delay in the effective date of any associated rules. They would become effective April 1, 2018, instead of April 1, 2017. The commission decided to recess and discuss the matter further the following day.

Motion by Alison Willis to maintain the cost of the Shellfish License, establish a daily limit of 2 bushels of oysters per person with a maximum of 4 bushels of oysters per vessel off public bottom with the Shellfish License. Allow Shellfish License holders to be eligible to acquire a Standard Commercial Fishing License after they show a history of sale of shellfish. Continue to allow commercial harvest of all other shellfish as currently allowed. Second by Chuck Laughridge.
Motion passes unanimously.

Motion by Mike Wicker to implement a 5 percent cull tolerance for oysters; and increase efforts to plant and monitor cultch material. Second by Janet Rose.
Motion passes unanimously.

Motion by Mike Wicker to pursue elimination of the Shellfish License for oysters only and require all oyster harvesters to have a Standard or Retired Commercial Fishing License with shellfish endorsement to harvest commercially. Second by Chuck Laughridge.
Motion passes unanimously.

Motion by Alison Willis to accept the Division of Marine Fisheries and the advisory committee recommendations to: Establish a rule to support extensions where "Acts of God" prevent a lease holder from making production, with a two year extension and only one extension allowed per term (rule change); allow leases returned to the state to remain delineated for one year to allow the pre-existing leased bottom to be re-issued to other shellfish growers (statutory change); improve public notice of proposed lease applications on the physical lease, at fish houses, and/or through electronic notices; and accept the advisory committee recommendation to allow a maximum of 10 acres in both Mechanical Methods Prohibited Areas and Mechanical Methods Areas. Second by Chuck Laughridge. Motion passes unanimously.

Motion by Mike Wicker to maintain status quo (maintain the shallow bays (< 6 feet) as defined in 15A NCAC 03R .0108). Second by Chuck Laughridge.
Motion passes 7-0.

Motion by Alison Willis to recommend a six week opening timeframe for deep bays to begin on the Monday of the week prior to Thanksgiving week through the Friday after Thanksgiving. Reopen two weeks before Christmas for the remainder of the six week season. Second by Chuck Laughridge.
Motion passes unanimously.

Motion by Joe Shute to adopt the provisions of Supplement A – a flexible harvest limit up to 20 bushels, a trigger of 26 percent legal-sized oysters for closing an area to mechanical harvest and set the upper harvest limit of 20 bushels in rule (rule change required). Attempt to develop and ground-truth a fishery- dependent metric of effort to better inform management decisions in the future.
Second by Janet Rose.
Motion passes 7-0

Motion by Chuck Laughridge to accept the Division of Marine Fisheries and the advisory committee recommendations for the following: Differences in hand harvest limits statewide; the use of power hauling equipment in the hand harvest of clams; management of public mechanical clam harvest; protection of shellfish lease and franchise rights; defining adverse impacts to submerged aquatic vegetation from shellfish leases and franchises; Brunswick County shellfish lease moratorium; requirements for shading molluscan shell stock. Second by Joe Shute.
Motion passes unanimously.

Motion by Mark Gorges to maintain status quo (continue the daily harvest limit for recreational purposes at 100 clams per person per day, not to exceed 200 clams per vessel per day). Second by Chuck Laughridge.
Motion passes unanimously.

Motion by Chuck Laughridge to send Amendment 4 of the Oyster Fishery Management Plan and Amendment 2 of the Hard Clam Fishery Management Plan for department and legislative review.
Motion withdrawn.

Coastal Habitat Protection Plan

Plan Coordinator Jimmy Johnson reviewed public and advisory committee input on the the draft 2015 Coastal Habitat Protection Plan. The plan's four goals and four priority issues are:

- Goal 1 – Improve effectiveness of existing rules and programs protecting coastal fish habitats -- includes five recommendations to enhance permit compliance, monitoring, outreach, coordination across environmental commissions and management of invasive species.
- Goal 2 – Identify and delineate strategic coastal habitats -- includes two recommendations regarding mapping and monitoring fish habitat, assessing their condition and identifying priority areas for fish species.
- Goal 3 – Enhance and protect habitats from adverse physical impacts – includes eight recommendations on expanding habitat restoration, managing ocean and estuarine shorelines, protecting habitat from destructive fishing gear and dredging and filling impacts.
- Goal 4 – Enhance and protect water quality – includes eight recommendations to reduce point and non-point sources of pollution in surface waters through encouragement of best management practices, incentives, assistance, outreach and coordination. This applies not only to activities under the authority of the Department of Environmental Quality, such as development and fishing, but for all land use activities, including forestry, agriculture and road construction.

Priority issues for the plan's implementation actions include oyster restoration, living shorelines, reducing sedimentation in tidal creeks and developing metrics to evaluate habitat trends.

To view this presentation go to:
http://portal.ncdenr.org/c/document_library/get_file?uuid=27989276-3cdc-45d3-ace2-93609d21debd&groupId=38337

The commission voted to adopt the Coastal Habitat Protection Plan and send it to the department and legislature for review.

Motion by Joe Shute to adopt the 2015 Coastal Habitat Protection Plan and source document, sending them to the secretary of Department of Environmental Quality and to the General Assembly for final approval. Second by Rick Smith.
Motion passes unanimously.

Oyster Fishery Management Plan Amendment 4 and Hard Clam Fishery Management Plan Amendment 2, continued

The commission resumed its discussion on whether or not its vote to reduce the Shellfish License oyster harvest limits statewide, rather than just reducing the harvest limits in the southern region, necessitated taking the issue back out for advisory committee review.

The commission decided to postpone preliminary approval of the draft amendments to the Oyster and Clam fishery management plans until its May 18-20 meeting and send the issue of reducing statewide the Shellfish License oyster harvest limits to two bushels per individual with a maximum of four bushels per vessel out to its Northern and Southern advisory committees for review and comment.

Motion by Joe Shute to postpone until May 2016 the approval of the draft Oyster and Clam Fishery Management Plan for review by the secretary of the Department of Environmental Quality and the General Assembly. The delay is to allow further public comment at the regional advisory committee meetings on a Marine Fisheries Commission action on the issue of assessing and mitigating harvest effort impacts on oyster resources in the southern region that expands proposed regulations statewide. Second by Alison Willis. Motion passes unanimously.

Rule Suspension

Motion by Chuck Laughridge to approve continuing of suspension of 15A NCAC 03J .0501 (e) (2). Second by Mike Wicker.
Motion passes 6-0, with two abstentions.

Cobia

Michelle Duval, who represents the division on the South Atlantic Fishery Management Council, explained that the council manages cobia through the Coastal Migratory Pelagics Fishery Management Plan. The federal Magnuson Steven Act requires that a quota or annual catch limit is set for each species a council manages.

Duval explained recreational fishermen exceeded the annual catch limit of 630,000 pounds for cobia in 2015. The preliminary estimate of harvest for 2015 is 1.54 million pounds. Under the South Atlantic Fishery Management Council's accountability measures, when the annual catch limit is exceeded in one year, the length of the following year's season must be reduced to ensure that the recreational harvest does not exceed that year's annual catch limit.

After a lengthy discussion, the commission voted to lower the cobia daily recreational bag limit to one fish per person. The current recreational bag limit for cobia is two fish per person.

The commission's vote is intended to extend the recreational cobia season by a few days this summer and to keep the recreational harvest below the federal annual catch limit this year, in an effort to avoid a closure next summer.

N.C. Division of Marine Fisheries staff has informed the National Marine Fisheries Service staff about the action the commission took. The National Marine Fisheries Service is responsible for determining the length of the cobia season and has agreed to consider the reduced bag limit in calculating the length of the season closure.

For more information on the new cobia size limit, see Proclamation FF-09-2016 at http://portal.ncdenr.org/web/mf/proclamations.

Motion by Joe Shute to immediately lower the cobia bag limit to one fish and ask North Carolina's representatives on the South Atlantic Fishery Management Council to seek answers as to whether increasing the size limit for cobia will effect a longer season. Second by Chuck Laughridge.
Motion passes 7-0.

Document Disposition of Fish Landed But Not Sold

Motion by Mike Wicker to ask the Division of Marine Fisheries to move forward with including a new disposition category to the development of the new Fisheries Information

Network database software that accounts for the actions of August 2014 to document fish landed but not sold. Second by Rick Smith.
Motion passes 5-1, with one abstention.

Fishery Management Plan Guideline Committee

The commission voted to convene a committee to review and make recommendations on changing or improving the fishery management plan guidelines and report its findings to the full commission in August.

Motion by Chuck Laughridge to form a Marine Fisheries Commission committee to review and make recommendations to the commission to change or improve the Fishery Management Plan guidelines and to have those recommendations presented to the Marine Fisheries Commission at the August 2016 meeting, with the opportunity for the Marine Fisheries Commission to consider changes. Second by Alison Willis.
Motion passes 7-0.

The meeting adjourned.

Southeast Fishery Bulletin

National Marine Fisheries Service, Southeast Regional Office, 263 13th Avenue South, St. Petersburg, Florida 33701

FOR INFORMATION CONTACT:
Sustainable Fisheries Division
727-824-5305, FAX 727-824-5308

March 9, 2016
FB16-018

NOAA Fisheries Announces the Atlantic Migratory Group (Georgia to New York) Cobia Recreational Fishing Season will close on June 20, 2016

The recreational harvest of Atlantic migratory group cobia (from Georgia to New York) will close at **12:01 a.m. on June 20, 2016**. Recreational harvest of cobia will reopen on January 1, 2017.

The Atlantic migratory group includes cobia from Georgia through New York. Cobia off the east coast of Florida are part of the Gulf of Mexico migratory group. There are separate annual catch limits for the recreational and commercial sectors of Atlantic migratory group cobia. If the annual catch limits are exceeded, accountability measures are in place to ensure overfishing does not occur. If the Atlantic migratory group cobia recreational and total (recreational and commercial combined) annual catch limits are exceeded, NOAA Fisheries is required to reduce the length of the recreational fishing season in the following fishing year.

In 2015, both the recreational and the total annual catch limits of Atlantic migratory group cobia were exceeded. Thus, the accountability measure is triggered for 2016. Because the commercial annual catch limit was not exceeded, this closure is only for the recreational sector. During the closure, recreational harvest or possession of cobia is prohibited.

This closure is required by regulations implemented under the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region and is necessary to protect the cobia resource.

This bulletin provides only a summary of the existing regulations. Full regulations can be found in the *Federal Register*. For more information, please see frequently asked questions.

Announcement of recreational fishing closure for Atlantic (Georgia to New York) group cobia Frequently Asked Questions

When will recreational Atlantic migratory group cobia (Georgia to New York) be closed?

- The recreational harvest of Atlantic migratory group cobia will be closed in federal waters from Georgia to New York at **12:01 a.m. on June 20, 2016.**
- Recreational harvest of cobia will reopen on January 1, 2017.
- During the closure, recreational harvest or possession of cobia is prohibited.

Who will be affected?

- This closure applies to those fishing for cobia recreationally in federal waters from Georgia to New York, from a private vessel, charter vessel, or headboat.

Why will there be a recreational closure of Atlantic migratory group cobia (Georgia to New York)?

- Accountability measures are required by federal regulations to protect the cobia resource and prevent overfishing.
- Accountability measures help keep landings within the annual catch limits, or make adjustments if the annual catch limits are exceeded.
- The recreational accountability measure for cobia states if the recreational and total (recreational and commercial combined) annual catch limits are exceeded, NOAA Fisheries is required to reduce the length of the recreational fishing season in the following fishing year based on projections of when landings will reach the annual catch target.
- In 2015, the recreational annual catch limit of 630,000 pounds was exceeded by 910,776 pounds.
- Although the commercial sector did not exceed the annual catch limit of 60,000 pounds, combining the landings from both sectors exceeded the total annual catch limit of 690,000 pounds (Table 1).
- Because both the recreational and the total annual catch limits of Atlantic migratory group cobia were exceeded in 2015, the accountability measure to reduce the length of the recreational fishing season is triggered for 2016.
- Catch rates of cobia from 2013-2015 were examined to estimate when the annual catch target in 2016 would be expected to be met.
- Therefore, the recreational harvest of cobia will be closed on June 20, 2016, because the recreational annual catch target of 500,000 pounds is projected to be met by then.

Table 1. Recreational landings, annual catch limits, and annual catch targets in pounds whole weight for Atlantic migratory group cobia.

Year	Recreational Landings	Annual Catch Limit		Total Annual Catch Limit	Annual Catch Target
		Commercial	Recreational		Recreational
2015	1,540,776	60,000	630,000	690,000	520,000
2016+	-	50,000	620,000	670,000	500,000

What were the 2015 cobia recreational landings?

- Recreational cobia landings for the Atlantic migratory group cobia in 2015 were substantially higher than previous years (Table 2).
- Most of the landings were from state waters of North Carolina and Virginia.

Table 2. Recreational landings (pounds whole weight) of cobia from Georgia through New York during 2013-2015.

Year	GA	SC	NC	VA	Total
2013	29,224	19,130	492,969	354,463	895,786
2014	20,642	31,927	277,489	214,427	544,485
2015	67,804	123,952	630,373	718,647	1,540,776

Source: Southeast Fisheries Science Center

Do we know why the landings are higher in 2015 than in previous years?

- An increase in landings in 2015 could be attributed to greater fishing effort and larger fish being caught in 2015.
- The number of recreational trips that targeted cobia from New York to Georgia increased by 25% from 2014 to 2015.
- The average weights of cobia in the Atlantic migratory group area were higher in 2015 than in previous years.

How was the closure date determined?

- The 2016 predicted landings were generated from average 2013-2015 recreational landings. These landings are predicted to meet the ACT of 500,000 pounds on June 20th, 2016. The predicted landings are attributed to each state and shown in Table 3.

Table 3. Contribution of predicted recreational landings (pounds and percent of total landings) by state for the June 20th closure date. This was generated from average 2013-2015 recreational landings from January 1st to June 20th, and is based on the landings meeting the ACT of 500,000 pounds.

State	Pounds	Percent
Virginia	105,756	21%
North Carolina	284,649	57%
South Carolina	6,792	1%
Georgia	0	0%
Federal Waters	102,803	21%
Total	500,000	100%

Why is a closure occurring if most landings are from state waters?

- Cobia caught in state and federal waters counts against the federal annual catch limit.

Why does this closure not apply to fishermen off the east coast of Florida?

- Cobia from the east coast of Florida are part of the Gulf of Mexico migratory group.
- The boundary between the Gulf of Mexico migratory group and the Atlantic migratory group is the Georgia/Florida border.
- Genetic information from the most recent stock assessment for cobia indicates that the Gulf of Mexico cobia stock extends through the Florida east coast.

Will the closure for cobia apply to commercial fishermen?

- No. There are separate annual catch limits for the recreational and commercial sectors of Atlantic group cobia.
- Because the commercial annual catch limit was not exceeded, the closure in 2016 will only be for the recreational sector.
- However, the commercial sector could be closed if they meet or exceed their annual catch limit as well.

What is the status of the stock?

- Based on the Southeast Data, Assessment and Review stock assessment completed in January 2013, the Atlantic migratory group of cobia is not overfished (population size too low) or undergoing overfishing (rate of catching fish too high).

Can I fish for cobia in state waters?

- The recreational closure only prohibits harvest from Federal waters of Georgia to New York. Federal waters begin three nautical miles offshore of Georgia to New York and extend out to 200 nautical miles.
- However, some states have adopted compatible regulations.
- For information on closure of cobia in state waters contact your local state office on marine fishery issues.

Are new regulations being considered to extend the federal fishing season in 2017?

- The South Atlantic Fishery Management Council meets in Jekyll Island, Georgia from March 7-11, 2016, and will be discussing management measures for cobia that could potentially extend the fishing season in future years.

How can I get more information about the in-season closure?

- If you have further questions, feel free to contact NOAA Fisheries Southeast Regional Office by phone at (727) 824-5305.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

F/SER2:JCM

APR 13 2016

Colonel James M. Kelley, Acting Director
North Carolina Division of Marine Fisheries
3441 Arendell Street
P.O. Box 769
Morehead City, NC 28557

Dear Colonel Kelley:

On March 9, 2016, NOAA Fisheries announced the recreational harvest of Atlantic migratory group cobia will close in federal waters at 12:01 a.m. on June 20, 2016. The Atlantic migratory group includes cobia from Georgia through New York. Cobia off the east coast of Florida are part of the Gulf of Mexico migratory group.

There are separate annual catch limits for the recreational and commercial sectors of Atlantic migratory group cobia. The recreational accountability measure for cobia specifies that if the sum of the recreational and commercial landings exceeds the combined catch limit for those two sectors, then NOAA Fisheries must reduce the length of the recreational season in the following fishing year by the amount necessary to constrain recreational landings to the annual catch target. In 2015, both the recreational and the total annual catch limits of Atlantic migratory group cobia were exceeded. Thus, the accountability measure is triggered for 2016. Because the commercial annual catch limit was not exceeded, this closure is only for the recreational sector. During the closure, recreational harvest or possession of cobia is prohibited.

We request you close state waters consistent with the June 20, 2016, federal closure. Allowing harvest after this date could lead to overruns of the catch limit and result in overfishing of the stock. If your state does not implement compatible regulations, future seasons may also need to close earlier, which would negatively affect other states. I encourage you to work with the state of Virginia to determine if more restrictive state regulations can be put into place this year to extend the 2016 recreational fishing season. The South Atlantic Fishery Management Council has begun to develop a framework amendment for the Atlantic cobia stock, which will consider management measures to extend the recreational fishing season in the future. In addition, the South Atlantic Fishery Management Council has sent a letter to the Atlantic States Marine Fisheries Commission requesting the Commission consider complementary management approaches for this species at its upcoming meeting.

The cooperative efforts of state-federal partnerships help achieve region-wide fishery management goals and objectives, and lead to better enforcement, minimize the regulatory burden on fishermen, and increase the potential for long-term benefits. I appreciate your assistance in the ongoing efforts to protect Atlantic cobia.

Sincerely;

Roy E. Crabtree, Ph.D.
Regional Administrator

Cc: Mr. Rob O'Reilly, Chief, Virginia Marine Resources Commission
Mr. John M.R. Bull, Commissioner, Virginia Marine Resources Commission
Dr. Michelle Duval, Chair, South Atlantic Fishery Management Council
Gregg T. Waugh, Executive Director, South Atlantic Fishery Management Council
John Bullard, NOAA Fisheries, Greater Atlantic Regional Administrator
Robert E. Beal, Executive Director, Atlantic States Marine Fisheries Commission

Cobia Closure Analysis for Virginia and North Carolina State Waters

Virginia and North Carolina are considering implementing changes to the cobia size limit and implementing a cobia vessel limit for the recreational sector fishing in state waters. These potential regulations, as well as regulations for other states, were analyzed to determine 2016 closure dates based on when the Atlantic cobia landings are projected to reach the 2016 annual catch target (ACT) of 500,000 pounds whole weight (lbs ww). Preliminary trip intercept data for the data-rich year of 2015 were provided by the Southeast Fisheries Science Center and used to project percent reductions in cobia landings in Virginia and North Carolina state waters. Variables used for the analysis were increases in the size limit and imposing a vessel limit. The current Atlantic cobia closure is June 20, 2016. This closure was projected by using 2013-2015 average recreational landings and applying the current fishing regulations.

Analysis for Virginia State Waters

The average 2013-2015 landings in the state waters of Virginia were modified assuming that in May 1, 2016 Virginia will make a change to the size limit and/or implement a vessel limit. The May 1st date was used because the Virginia Marine Resources Commission will meet in late April. Table 1 provides the percent reductions and predicted closure dates for different size limits and vessel limits if Virginia chooses to only implement one regulatory change (i.e., only a size limit change or only a vessel limit change). Table 2 provides the percent reductions and predicted closure dates assuming both size limits and vessel limits are implemented. The closure dates provided in both tables assume the regulatory changes only impact landings in Virginia state waters.

Table 1. Estimated percent decreases in cobia landings for various size limits and vessel limits for Virginia state waters, and the corresponding closure date.

Size Limit			Closure Date
Fork Length	Total Length	% Reduction	
33	37	0.0	20-Jun
34	38.1	0.0	20-Jun
35	39.3	0.0	20-Jun
36	40.4	6.0	20-Jun
37	41.5	7.2	20-Jun
40	45.0	17.9	22-Jun
45	50.7	39.1	23-Jun
Vessel Limit		% Reduction	Closure Date
1		48.3	25-Jun
2		22.5	22-Jun
3		17.9	22-Jun

4	7.9	20-Jun

Table 2. Estimated percent decreases in cobia landings for a combination of size limits and vessel limits for Virginia state waters, and the corresponding closure date.

Both Size Limit and Vessel Limit Combined Fork Length	Vessel Limit	% Reduction	Closure Date
33	1	48.3	25-Jun
34	1	48.3	25-Jun
35	1	48.3	25-Jun
36	1	54.3	26-Jun
37	1	55.5	26-Jun
40	1	66.2	27-Jun
45	1	87.4	28-Jun
33	2	22.5	22-Jun
34	2	22.5	22-Jun
35	2	22.5	22-Jun
36	2	28.5	23-Jun
37	2	29.7	23-Jun
33	3	17.9	22-Jun
34	3	17.9	22-Jun
35	3	17.9	22-Jun
36	3	23.9	22-Jun
37	3	25.1	22-Jun
33	4	7.9	20-Jun
34	4	7.9	20-Jun
35	4	7.9	20-Jun
36	4	13.9	21-Jun
37	4	15.1	21-Jun

All of the length data analyzed for this report are fork lengths. In 2015 the recreational landings data for Virginia state waters did not have any fish harvested for the lengths of 33 through 35 inches fork length. Only cobia lengths of 36 inches fork length and longer were reported. The current minimum size limit for cobia in Virginia is 37 inches total length, which converts to 33-inches fork length.

The Atlantic cobia recreational landings peak in the May/June wave, and the majority of these landings come from North Carolina, South Carolina, and Georgia. Virginia landings don't start until the May/June wave, and the majority of the Virginia landings occur in the July/August wave. Figure 1 shows the total average Atlantic and Virginia state water landings for 2013-2015. The high Atlantic landings (primarily from North Carolina through Georgia) in the May/June wave cause the fishery to close because the ACT of 500,000 lbs ww is projected to be

met. Even if it was assumed there was zero harvest of cobia in Virginia state waters, the cobia season would not be extended for the rest of year and is predicted to be closed on July 18, 2016.

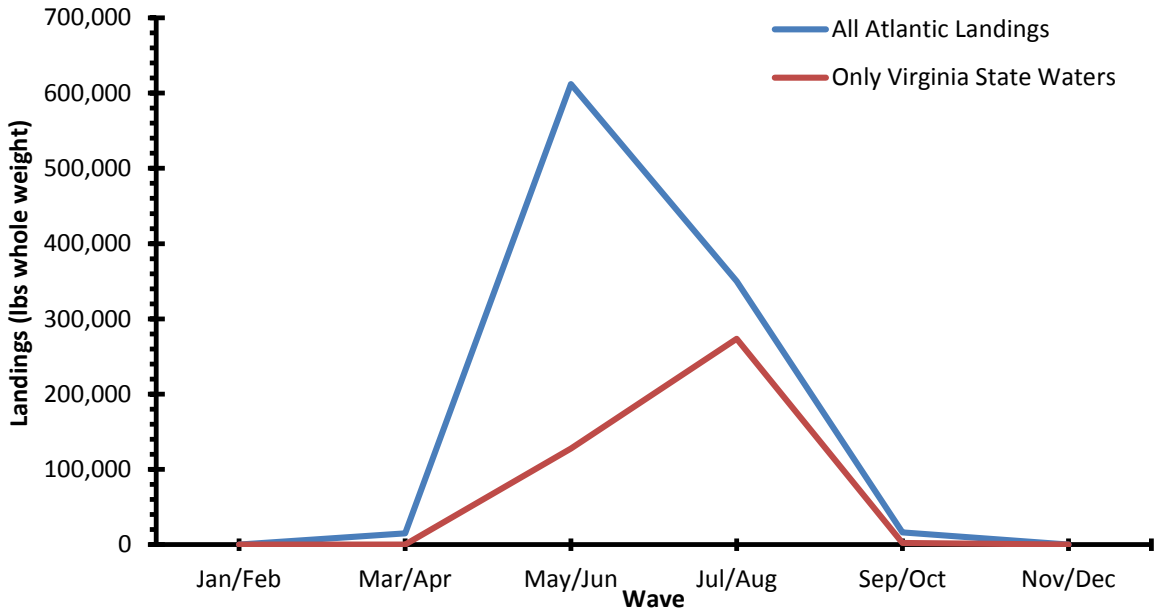


Figure 1. Average Atlantic cobia recreational landings from 2013-2015. The "All Atlantic Landings" are from New York through Georgia. The "Only Virginia State Waters" are only landings from the state waters of Virginia.
Source: SEFSC Recreational ACL Dataset

Analysis for North Carolina State Waters

The average 2013-2015 landings in the state waters of North Carolina were modified assuming that in May 23, 2016 North Carolina will make a change to the size limit and/or implement a vessel limit. The date of May 23, 2016 was chosen because the North Carolina Marine Fisheries commission is meeting on Friday May 20th to discuss potential of new regulations, and any new regulations will be implemented on Monday May 23, 2016. Table 3 provides the percent reductions and predicted closure dates for different size limits and vessel limits if North Carolina chooses to only implement one regulatory change (i.e., only a size limit change or only a vessel limit change). Table 4 provides the percent reductions and predicted closure dates assuming both size limits and vessel limits are implemented. The closure dates provided in both tables assume the regulatory changes only impact landings in North Carolina state waters.

Table 3. Estimated percent decreases in cobia landings for various size limits and vessel limits for North Carolina state waters, and the corresponding closure date.

Size Limit		Closure Date
Fork Length	% Reduction	
33	0.0	20-Jun
34	2.8	20-Jun
35	5.2	21-Jun
36	7.2	21-Jun
37	8.5	21-Jun
38	11.3	21-Jun
39	13.9	22-Jun
40	15.7	22-Jun
41	18.8	22-Jun
42	25.1	23-Jun
43	30.4	24-Jun
44	34.9	25-Jun
45	39.1	26-Jun
Vessel Limit	% Reduction	Closure Date
1	28.3	24-Jun
2	27.3	24-Jun
3	12.1	21-Jun
4	5.1	21-Jun

Table 4. Estimated percent decreases in cobia landings for a combination of size limits and vessel limits for North Carolina state waters, and the corresponding closure date.

Both Size Limit and Vessel Limit Combined			Closure Date
Fork Length	Vessel Limit	Reduction	
33	1	28.3	24-Jun
34	1	31.1	24-Jun
35	1	33.5	25-Jun
36	1	35.5	25-Jun
37	1	36.8	26-Jun
40	1	44.0	28-Jun
45	1	67.4	6-Jul
33	2	27.3	24-Jun
34	2	30.1	24-Jun
35	2	32.5	25-Jun
36	2	34.5	25-Jun
37	2	35.8	25-Jun
40	2	43.0	27-Jun
45	2	66.4	6-Jul
33	3	12.1	21-Jun
34	3	14.9	22-Jun
35	3	17.3	22-Jun
36	3	19.3	22-Jun
37	3	20.6	22-Jun
40	3	27.8	24-Jun
45	3	51.2	30-Jun

Analysis for Virginia and North Carolina State Waters

An analysis was conducted that combined changes to size limits and vessel limits in both Virginia and North Carolina state waters at the same time (Table 5). The analysis assumed both Virginia and North Carolina implemented the same regulation. For example, if both Virginia and North Carolina implement a 35 inch fork length size limit and a vessel limit of 2 fish. This analysis provided a range of closure dates, and one option did not have any predicted closure date.

Table 5. Estimated closure dates for a combination of size limits and vessel limits for both Virginia and North Carolina state waters.

Both Size Limit and Vessel Limit Combined		Closure Date
Fork Length	Vessel Limit	
35	2	27-Jun
35	1	30-Jun
37	2	28-Jun
37	1	3-Jul
40	2	3-Jul
40	1	15-Jul
45	2	3-Aug
45	1	No Closure

The analysis assumes Virginia regulation changes will not be implemented until May 1st and North Carolina regulation changes will not be implemented until May 23, 2016. Therefore, any new size limits or vessel limits in North Carolina state waters are only applied to the landings on May 23rd to December 31st. The predicted daily landings in North Carolina are high for the month of May. Any new North Carolina regulations before May 23rd would further reduce the catch rates and likely extend the season even more.

This analysis only impacts predicted landings in the state water of Virginia and North Carolina. Any new regulations in federal waters or in the state waters of South Carolina and Georgia could potentially extend the season.

Cobia Management
(Revised April 2016)

History of Management

- Cobia has been under federal management since 1983, through the Coastal Migratory Pelagics Fishery Management Plan. This is a joint plan between the Gulf of Mexico and South Atlantic Fishery Management Councils.
    - 1983: established a minimum size limit of 33-inches fork length or 37-inches total (both sectors)
    - 1990: established a two-fish recreational bag limit and commercial possession limit (per person)
    - 1997: expanded the management unit through the Mid-Atlantic Fishery Management Council's jurisdiction (New York)
- Prior to 2012, cobia was jointly managed by the Gulf of Mexico and South Atlantic Fishery Management Councils as a single stock throughout both jurisdictions. There were no annual catch limits ("ACL" or quota) or commercial/recreational sector allocations. Amendment 18 to the fishery management plan modified this (approved in September 2011, regulations effective January 2012).
    - Cobia was separated into two stocks at the Gulf of Mexico and South Atlantic Fishery Management Councils' jurisdictional boundary (west of the Florida Keys). The Atlantic stock range was the east coast of Florida through New York.
    - Annual catch limits (quotas) were established for both Gulf and Atlantic stocks as required by the 2006 reauthorization of the federal Magnuson Stevens Act. The total annual catch limit (commercial + recreational combined) was set at 1,571,399 pounds whole weight.
    - Because there was no stock assessment for Atlantic cobia at that time, the annual catch limit was based on average commercial and recreational landings (average landings from 2000-2008, plus 1.5 times the standard deviation).
    - Commercial and recreational sector allocations were established for the Atlantic stock (92 percent recreational = 1,445,687 pounds whole weight; 8 percent commercial = 125,712 pounds whole weight).
- The 2013 stock assessment modified the Atlantic/Gulf stock boundary from the jurisdictional boundary between the councils to the Georgia/Florida state line based on genetic analysis (the transition zone was between Cape Canaveral and Georgia based on tagging information; for ease of management the Georgia/Florida boundary was selected).
- Modifications to the stock boundary and new annual catch limits from the 2013 stock assessment became effective in March 2015 through Amendment 20B to the fishery management plan. The assessment concluded that cobia was not overfished and overfishing was not occurring.
- The Gulf stock total annual catch limit for 2015 was 2.52 million pounds; the portion of the Gulf stock total annual catch limit allocated to east Florida for 2015 was 900,000 pounds (recreational = 830,000 pounds; commercial = 70,000 pounds). The sub-allocation of the Gulf stock total annual catch limit to east Florida is based on the average proportion of harvest from this area during the years 1998-2012 and is 36 percent of the Gulf stock total annual catch limit.
- The Atlantic stock (Georgia-New York) total annual catch limit for 2015 was set at 690,000 pounds whole weight (recreational = 630,000 pounds; commercial = 60,000 pounds).
- The Atlantic stock (Georgia-New York) recreational annual catch limit for 2015 was 630,000 pounds; estimates of harvest through the end of 2015 are 1.54 million pounds.
    - The majority of that harvest was landed in Virginia (~718,000 pounds) followed by North Carolina (~631,000 pounds)
    - This is primarily a Wave 3 (May/June) fishery for Georgia through North Carolina; Virginia does have significant harvest in Wave 4 (July/August) and caught the majority of fish in Wave 4 in 2015.

Annual Catch Limits and Accountability Measures

- Annual catch limits (quotas) are required by the 2006 reauthorization of the federal Magnuson Stevens Act.
    - Annual catch limits are required for all managed species, regardless of stock status (i.e., overfished or overfishing) and regardless of whether there is a stock assessment.
    - Each fishery management council has a Scientific and Statistical Committee that determines the maximum allowable biological catch for each species or species group. For species without a stock

assessment, landings-based approaches are often used (i.e., average landings or median landings over a time period).
    - The councils can set annual catch limits equal to the maximum allowable biological catch, but not above it. For cobia (as well as most species managed by the South Atlantic Fishery Management Council), the annual catch limit is set equal to the maximum allowable biological catch.
- Accountability measures are regulations meant to ensure that annual catch limits are not exceeded, and if they are exceeded, that adjustments are made to protect the resource. These are also required for all species under the federal Magnuson Stevens Act.
    - For almost all species managed by the South Atlantic Fishery Management Council, once an annual catch limit is met, the fishery – commercial or recreational – is closed in season.
- The recreational accountability measures for cobia do not include an in-season closure if the annual catch limit is met or projected to be met, due to the pulse nature of the fishery.
- The recreational accountability measures currently specify use of a three-year running average to determine if the recreational annual catch limit for a particular year has been exceeded except that:
    - The initial year "re-sets" when the annual catch limit is updated. Because the annual catch limit for cobia was changed in 2015, only 2015 recreational landings are compared to the 2015 recreational annual catch limit.
    - For 2016, the average of 2015-2016 will be compared to 2016 recreational annual catch limit; for 2017, the average of 2015-2017 will be used and a moving three-year average after that until the next stock assessment updates the annual catch limits.
- If the total (commercial + recreational) annual catch limit has been exceeded, the accountability measures require NOAA Fisheries to reduce the length of the recreational season in the following year by an amount that will constrain harvest to the annual catch target for that year.
    - The annual catch target is a level of catch set to account for management uncertainty. The 2016 annual catch target for cobia is 500,000 pounds.
    - NOAA Fisheries can also readjust this season length if available harvest data during the year indicates the recreational annual catch target has not been met.
    - If the total annual catch limit is exceeded AND the stock is overfished, the annual catch limit for the appropriate sector will be reduced in the following year; the 2013 stock assessment indicated Atlantic cobia is not overfished and overfishing was not occurring, so there will be no reduction in the recreational annual catch limit for 2016 (620,000 pounds).
- The 2016 annual catch limit of 620,000 pounds will remain in effect for future years until a new stock assessment is conducted.
- All harvest in state waters is counted against the federal annual catch limit.

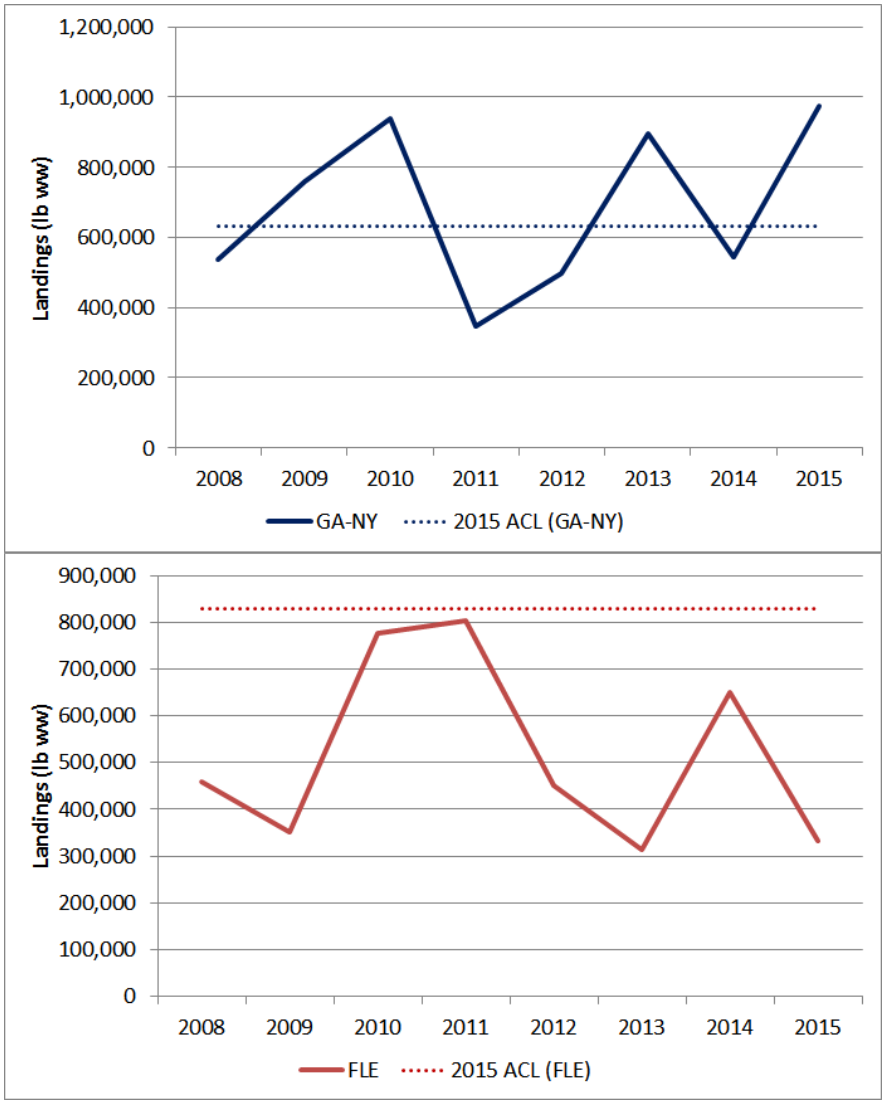
Management Measures

- The South Atlantic Fishery Management Council discussed the issue of 2015 recreational cobia harvest and impacts to the 2016 season at its December 2015 meeting in Atlantic Beach, and the certainty of a shortened season for cobia given the amount of the harvest overage in 2015.
- South Carolina has legislation moving forward to drop to a one-fish limit in state waters for a portion of their range (south of Edisto Island). The legislation is awaiting Governor Haley's signature.
- Florida and Virginia have had one-fish/person recreational bag limits in state waters for years. There are no regulations in Maryland state waters. New York and New Jersey each have two-fish/person recreational limits and sporadic catch.
- The South Atlantic Fishery Management Council reviewed an options paper for a cobia framework amendment at its March 2016 council meeting that would modify cobia management in 2017. The Council directed staff to develop a draft framework amendment to include the following actions:
    - Changes to accountability measures;
    - Changes to recreational vessel limits;
    - Combined recreational vessel limits with increased minimum size limits;
    - Combined recreational bag limits with increased minimum size limits;
    - Changing the start date of the fishing year;

- Changes to commercial measures to require a step-down to a one-fish possession limit when 75 percent of the commercial annual catch limit is met; and
- Requested the Atlantic States Marine Fisheries Commission consider a complementary fishery management plan for state waters

Additional Information

- Had the stock boundary change occurred in previous years, the graphs below show that the Georgia-New York recreational harvest has fluctuated above and below the 2015 annual catch limit; east Florida recreational harvest has been consistently below the east Florida 2015 Annual Catch Limit.
- The results of the 2013 stock assessment shows a consistent decline in spawning biomass (the poundage of fish able to contribute to the next generation) beginning in the late 1990s/early 2000s through the last year of data in the stock assessment.



Top panel: Recreational landings (in pounds whole weight) from Georgia-New York for the years 2008- September 2015 (solid line) vs. 2015 recreational annual catch limit (dotted line).
Bottom panel: Recreational landings from east Florida (pounds whole weight) for the years 2008-September 2015 (solid line) vs. 2015 recreational annual catch limit.

Motions from the Marine Fisheries Commission advisory committees on cobia.

Southern Advisory Committee	Northern Advisory Committee	Finfish Advisory Committee
Advise MFC to complement federal June 20 season closure in state waters.	Recommend MFC maintain the current minimum size limit (33 inches) and one fish per person possession limit through June 20, 2016. After June 20, 2016 implement a two-fish per vessel possession limit, becoming out of compliance with federal regulations. Recommend the MFC request NMFS to reconsider the biological boundary between the Gulf and Atlantic cobia stocks.	Recommend MFC maintain the current minimum size limit (33 inches) and one-fish per person possession limit through June 20, 2016. After June 20, 2016, implement a two-fish per vessel possession limit, becoming out of compliance with federal regulations. Recommend the MFC request NMFS to reconsider the biological boundary between the Gulf and Atlantic cobia stocks. Request MFC come up with ways to collect additional recreational catch data on cobia with a tag system being one option. Recommend MFC request commercial sector annual catch limit be reduced by same percentage as recreational sector annual catch limit. Request MFC work with Michelle Duval to develop coast wide state-by-state allocations for cobia.

Chairman's Report

A RESOLUTION
CONDEMNING THE ACTION
OF THE NORTH CAROLINA MARINE FISHERIES COMMISSION
TO USE THE SUPPLEMENT PROCESS TO
RESTRICT SOUTHERN FLOUNDER

WHEREAS, during their November 2015 meeting at Jennette's Pier, the North Carolina Marine Fisheries Commission (NCMFC) approved using a controversial "Supplement Process" to close down most of the state's fishing for southern flounder; and

WHEREAS, the established procedure for responsible fisheries governance is through the use of a Fisheries Management Plan (FMP), which is designed to incorporate peer reviewed science, stakeholder input, and other pertinent facts to establish fisheries policies in a deliberate, open, and transparent way; and

WHEREAS, instead of relying on a thoroughly vetted Amendment Process to the southern flounder Fisheries Management Plan, the NCMFC chose instead to invoke the use of the Supplement Process in spite of the fact that there is no scientific evidence to support such a drastic measure that will have draconian consequences; and

WHEREAS, when the NCMFC adopted the Supplement Process they violated and misused the statutory authority granted them in NCGS 113-182.1 which requires that the NCMFC provide a position on the supplement based on science from the Division of Marine Fisheries or from independent experts; and

WHEREAS, the North Carolina Marine Fisheries Commission also chose to ignore the will of the people as expressed in resolutions it received prior to their November meeting from the Counties of Bertie, Camden, Carteret, Currituck, Dare, Hyde, Pasquotank, and Tyrrell opposing the use of the Supplement Process to restrict southern flounder; and

WHEREAS, the arbitrary and capricious action taken by NCMFC at its November 2015 meeting threatens to harm North Carolina's commercial fishermen by depriving them of a traditional source of income that is fundamental to sustaining local economies throughout North Carolina's coastal communities without cause; and

WHEREAS, the Chowan County Board of Commissioners stands ready to vigorously support our Working Watermen in their efforts to prevent the implementation of the Supplement Process and asks all coastal communities to join in this endeavor; and.

WHEREAS, the Chowan County Board of Commissioners calls on the North Carolina Marine Fisheries Commission to determine if any changes are in fact needed for the southern flounder Fisheries Management Plan through the established Amendment Process whereby scientific and accurate stock assessment can properly be determined with the benefit of peer review and public input from all stakeholders including elected officials of coastal communities and commercial fishermen;

NOW, THEREFORE, BE IT RESOLVED, that the Chowan County Board of Commissioners strongly urges the North Carolina Marine Fisheries Commission to immediately suspend the use of the Supplement Process for southern flounder and undertake a deliberate, thoughtful, and methodical review of the Fisheries Management Plan to determine what, if any, changes are needed based on peer reviewed science and stakeholder input.

BE IT FURTHER RESOLVED, that the Chowan County Board of Commissioners calls on all coastal communities to adopt similar resolutions supporting North Carolina's working watermen who vitally depend on the southern flounder fishery to provide jobs, generate incomes, provide a freshly caught public trust resource to the tables of North Carolina families, and bolster the economy of North Carolina.

ADOPTED this the 1st day of February, 2016.

Jeffery Smith, Chair
Chowan County Board of Commissioners

Attest:

Susanne Stallings
Clerk to the Board

COUNTY MANAGER
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EDENTON, N.C. 27932-1030

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MFC

NC Division of Marine Fisheries
3441 Arendell St
Morehead City, NC 28557

28557320941

H. Devan Brown
10 Chippers Way
Durham, North Carolina 27705

February 28, 2016

North Carolina Marine Fisheries Commission
PO Box 769
Morehead City, North Carolina 28557

Dear Fisheries Commission:

This is my first letter to you and my first public comment – ever – to my North Carolina State Government. I am a native North Carolinian, have lived in our State for all of my sixty-eight years and for the past forty-five of those years have been an active salt water fisherman (our family did not have the resources to visit the coast when I was a youngster). I have fished from Currituck to Calabash, boat and surf, in shore and off shore and our salt water fishing has deteriorated to a level that is past discouraging. We all know the reason for this deterioration – despite the lame arguments by some, which is the nets in our sound system and we can look to other neighboring States and see the successful results of the elimination of the nets from estuaries.

I want to share with you an experience from this past season and hope you will think carefully about these facts. My son, age 46, and several of his college friends take an annual fishing trip. All went to college together here in North Carolina and these young men are now scattered across the country. But they look forward to getting together each fall to fish, reminisce about their college years and catch up. For some time, the group would visit our outer banks to surf fish, most often at Hatteras or Ocracoke, or other locations in our great state. Each year their fishing experience was poorer than the year before and then they gave up and began to go to Florida. This past fall, seven of these young men traveled – not to North Carolina – but to Florida and spent the week fishing. My estimate is that they spent around $25,000 collectively on this seven day trip: revenue that went to Florida rather than North Carolina. Unless you make meaningful changes, this fine group of young men will never return to North Carolina for their recreational fishing trip. They had a splendid trip to Florida and caught lots of fish (without a guide).

I am a hardnosed fiscal conservative who was raised by a depression era mother to pay my bills and look after my money. Your lack of stewardship of our fishery has caused our State to lose the revenue from my son's fishing trip not just this year, but permanently. I have read the arguments that this in shore net fishing was the way of the netters' fathers and grandfathers. I stood at the dock at Ocracoke years ago and saw a skiff come to the dock that was eighteen inches deep in flounder – more flounder in that skiff than I and all of our family has caught in a lifetime. I chatted with the netter and he told me in no uncertain terms that he was going to catch all the fish in the sound as long as he could, down to the last fish if necessary.

This argument that the netters are entitled to continue to earn a livelihood in the way of their grandfathers is not good for our state and is past selfish. In the economics of my youth, western North Carolina was the mainstay of the furniture industry, the piedmont was textiles and eastern NC was tobacco. All of that has changed and the cotton mill workers I grew up with in Rowan County have had to adjust to a different set of economic circumstances and find other ways to earn a livelihood. The

same is true for the furniture makers in western NC and the tobacco farmers in the east. Somehow the commercial fishermen have the view that they are entitled to continue to rake the estuaries regardless of the economic impact to our state. If you make an economic decision, our state would be tenfold enhanced to revive the recreational fishery – by eliminating the in shore netting – and the prosperity of the state is unquestionable enhanced in doing so. It is just simple, raw economic arithmetic.

Candidly, it is too late for me and I know it. I have a boat at the coast, but there is no reason for me to go fishing any longer and I just take the grandchildren to the Cape and let them look for sea shells – there are still sea shells on our coast. I have an eleven year old grandson who – unless you make a meaningful change in the way you care for our fishery – will never know how wonderful our salt water fishing could be. And, fortunately, I now have the resources to make an annual trip to the Chesapeake Bay, where removing the nets has made an amazing difference, so my grandson can experience the thrill of a successful fishing trip.

I am frustrated that this problem – and it is a problem – has been allowed to go on for so long and particularly frustrated at how much revenue this current policy is costing my state. The economics of good government and the stewardship of our fishery make it so remarkably clear that removing the nets is the right thing to do. Why will you not do so?

Respectfully,

H. D. Brown

CC: Governor McCrory

April 8, 2016

Dear MFC Commissioners,

I am writing this letter to ask you to take immediate action to stop the commercial harvest of striped bass in the Central Southern Management Area (CSMA). The three river systems in the CMSA (Tar/Pamlico, Neuse, and Cape Fear) are stocked each year with striped bass by the North Carolina Wildlife Resources Commission (WRC). Harvest of striped bass in the Cape Fear river is already closed in order to establish a breeding population that will be self-sustaining. Farther north in the CSMA, the Edenton National Fish Hatchery supplies the WRC with approximately 100,000 phase II fish (150-250 mm) each year for both the Tar/Pamlico and Neuse river systems (1,2). Like the Cape Fear striped bass program, these stockings have a goal of re-establishing a natural breeding population that is self-sustaining. Unfortunately, this project is failing due to overfishing by commercial fishermen.

Not only does the WRC stock these fish, but they have also conducted cutting edge scientific experiments aimed at understating the populations. What they have found is disturbing. Genetic marking studies by the WRC have shown that at least 93 to 97% of fish in the Neuse and Tar/Pamlico rivers are derived from hatchery stocks and that very little, if any, natural breeding is occurring (1,2). This finding is very troubling, but **these particular populations of striped bass offer a unique opportunity** that is quite rare in the complicated world of marine fisheries management. While most marine species are difficult to assess, a known number of phase II fish is added to the respective rivers each year. Natural mortality of these older fish has been well-studied so an accurate range of mortality rates can be used when evaluating the population. In addition, these fish don't emigrate. They stay within the river system in which they were stocked and swim upstream each year during a set season, passing through relatively small sections of water where they can be routinely sampled. Finally, a very limited recreational harvest is monitored via surveys while commercial harvest, which is limited to a yearly TAC of 25,000 pounds, is reported on trip tickets. In essence, the only unknowns in this system are the number of fish killed and discarded by commercial gillnetters, the commercial gillnet harvest that is not sold, and illegal harvest. Using all of this information, the WRC was able to complete a virtual population analysis (1). This analysis indicated that "cryptic mortality" was greater than the reported recreational and commercial harvest. Using even the highest known natural mortality rate in this analysis could not lessen this cryptic mortality to a level that would allow it to be explained (1). Considering this, the most likely explanation for the cryptic mortality of CMSA striped bass is that it derives from illegal and underreported commercial harvest, dead discards from gillnets, and ghost fishing gear (1). Taken together, the results of many years of studies on this fish population along with their recent genetic analysis have led the WRC to conclude that long term recruitment overfishing is occurring and that the stock would improve if this exploitation decreased (1). Since recreational harvest is minimal, this can only be achieved by stopping the commercial harvest of CMSA striped bass. Without stopping the commercial harvest of these fish, the joint effort of the WRC and the National Marine Fisheries Service to re-establish a self-sustaining population of striped bass in the Tar/Pamlico and Neuse river systems will continue to fail.

Now some will say that stopping this harvest will cause great hardship. However, that is not the case. At most, stopping the commercial striped bass harvest in all CMSA waters will

eliminate the legal sale of 25,000 pounds of striped bass each year. From 2005 to 2014, the average annual commercial harvest of striped bass from the CMSA was 23,623 pounds [only 168 commercial fishermen reported a striped bass sale in 2013, which is the latest available data (3)]. The CMSA striped bass harvest is on average, only 15% of the yearly harvest taken from **internal** waters in North Carolina, with the other 85% coming from the Albemarle Sound Management Area (ASMA) and Roanoke River Management Area (RRMA). In 2014, the reported commercial harvest from the CMSA was 25,085 pounds and this had a value of $68,607. This works out to an average of about $400 per commercial fishermen if about 168 fishermen reported sales in 2014 as was the case in 2013. The cost of stocking these fish is estimated to be approximately $600,000. These amazing numbers lead prudent people to ask a simple question - why does one state agency allow the harvest and sale of fish that cost other agencies nearly 10 fold more to stock? And this stocking is occurring to try to re-establish a breeding population of this species!! This just makes no sense, and that is why I am asking you to do the right thing and put an immediate stop to commercial harvest of striped bass in the CSMA.

Thank you,

Eb Pesci
Greenville, NC
ebpesci@gmail.com

Literature Cited

1. Rachels, K.T., and B. R. Ricks. 2015. Neuse river striped bass monitoring programs, populations dynamics, and recovery strategies. Federal aid in sport fish restoration project F-108. North Carolina Wildlife Resources Commission Inland Fisheries Division. Raleigh, NC.

2. Rundle, K.R. 2015. Striped bass fisheries and monitoring programs in the Tar river, North Carolina-2014. Federal aid in sport fish restoration project F-108. North Carolina Wildlife Resources Commission Inland Fisheries Division. Raleigh, NC. 3. 2013.

3. Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan. Prepared By The North Carolina Division of Marine Fisheries and North Carolina Wildlife Resources Commission with assistance from the Albemarle/Roanoke and Central Southern Management Area Fishery Management Plan Advisory Committees. North Carolina Department of Environment and Natural Resources, North Carolina Division of Marine Fisheries. Morehead City, NC. page 144.

From: Everett Blake (eblake) [mailto:eblake@cisco.com]
Sent: Wednesday, April 20, 2016 3:46 PM
To: Fish, Nancy <nancy.fish@ncdenr.gov>
Subject: Comments to be presented to the MFC for consideration at their May meeting.

Nancy Fish,

Could you please include these comments to the MFC for their May meeting. The comments are in regards the pending ASMFC closure of the Cobia fishing season. I will not be able to attend live, but I plan on listening to the meeting via the audio conference option.

Dear Commission Members:

I am a member of the Northern Advisory and we made several recommendations regarding the ASMFC reduction in the Cobia Fisheries total allowable catch (TAC) for 2016.

After hearing the concerns from the local fishermen including Recreational, Charter for Hire, and Commercial, I had an additional thought I would like for the NCMFC to consider and recommend to the ASMFC.

Since the catch history was so limited and focused toward the recreational catch of Cobia, I would ask that the NCMFC and the ASMFC consider raising the TAC for the Commercial Fleet and include the Charter Fleet landings under the Commercial TAC.

I would recommend a Bag limit: the Charter Fleet - 1 fish per person bag limit and the Commercial Fleet use the same Per Trip limits.

In addition, I would recommend raising the commercial TAC by an additional 150,000 lbs. My rationale for this number is based on past annual landings of Charter and Headboats of ~105,000 pounds. The additional 45,000lbs will allow for the extra trips that will be booked on Charter or Headboats, as they may be the only groups allowed to fish for Cobia once the June 20th deadline passes (if NCMFC does not act to change the closure date).

This would allow additional positive economic impact on the coast and scientific data. The information from Trip Tickets and Logs will provide accurate and real time data. This live data can help ASMFC and NCMFC get a better picture on the health of the Cobia Fishery.

Thank you,

Everett Blake
Virtual Product Sales Specialist at Cisco System
eblake@cisco.com
Phone: 408-922-5345

From: Jonathan French [mailto:french60wasp@gmail.com]
Sent: Friday, April 29, 2016 12:09 PM
To: Sammy Corbett <samjcorbett3@gmail.com>; Joseph Shute <captjoemfc@yahoo.com>; Mark Gorges <captgorgesmfc@gmail.com>; Chuck Laughridge <sobxl1@gmail.com>; Mike Wicker <amikewicker@gmail.com>; janetrosemfc@gmail.com; rds.mfc@gmail.com; awillis.mfc@gmail.com; Duval, Michelle <michelle.duval@ncdenr.gov>; Fish, Nancy <nancy.fish@ncdenr.gov>; preynolds@ncdoj.com; Hensley, Michelle L <Michelle.Hensley@ncdenr.gov>; Rawls, Kathy <kathy.rawls@ncdenr.gov>; Jim.Kelley@ncdenr.gov; Davis, Braxton C <Braxton.Davis@NCDENR.Gov>
Cc: Bill Gorham <Getbowedup40@gmail.com>; Zachery Hoffman <salttreatedfishing@gmail.com>; Chris DeMasi <Cobia4me@gmail.com>; Chris O'Brien <cobrien08@yahoo.com>; Hydrologicsportfishing@yahoo.com; PA@distco.hrcoxmail.com; Mike Avery <mike@averys.net>; Alex Field <alex.field.05@gmail.com>; Virginia Beach Anglers Club <vbanglersclub@gmail.com>; Jake Worthington <pelagicslayer@gmail.com>; Beth Synowiec <classicrockfish@icloud.com>; ccrussell001@gmail.com; Rick Caton <customsoundcharters@gmail.com>; lynn maynard <newriverangler@hotmail.com>; Todd.beck@vbschools.com; Bill Richardson <Wtrich@cox.net>; Will Bransom <will.bransom@gmail.com>; michael kidd <mkidd22@aol.com>; Finao Sportfishing <austinh@finaosportfishing.com>; brian lockwood <jetskibrian@verizon.net>; Lee Tolliver <lee.tolliver@pilotonline.com>; Tee Clarkson <tsclarkson@virginiafishingadventures.com>; seanhankinson@live.com; Aaron Kelly <rocksolidfishing@hotmail.com>; Reese Stecher <catchem@beachbumfishing.com>; jonesartgallery@cox.net; Head, Jorj <jhead@ycsd.york.va.us>; Wayne Fowlkes <Waynescustomtackle@cox.net>; Sam Walker <samwalkerobx@gmail.com>; dylan kressel <hornets54@gmail.com>; wlaine@cox.net; Guy Flibotte <gfmb_1@msn.com>; Parr Leslie@home <maparr@verizon.ne>; Helfrichtm@gmail.com; J Harrison <jimmy.l.harrison@gmail.com>; jkurowski97@gmail.com; trollpro@cox.net; Craig Miles <scremin23ftr@gmail.com>; don@fishingtidewater.com; Fishingwithmike921@yahoo.com; Captain@finfinder.com; Jordan Hennessy (Sen. Bill Cook) <Cookla@ncleg.net>; David Fonville <dtfonville@aol.com>; Rep. Paul Tine <Paul.Tine@ncleg.net>; joshua.bowlen@mail.house.gov; Christopher Wickline <cobiahunter99@gmail.com>; fish@doacharters.com; wsmith0571@yahoo.com
Subject: Public Comments on Cobia Fishery Policy In North Carolina

Dear North Carolina Marine Fisheries Commission Members,

I and the other undersigned recreational anglers, charter boat captains, and small business owners are writing to recommend that the NCMFC to not comply with the June 20th federal closure of the cobia fishery. This closure is the byproduct of the creation of regulatory levers created by the South Atlantic Council that repeatedly comes into conflict with the National Standards of Fishery Management authored by the Magnuson Stevens Act.

As one of hundreds of cobia fishermen who live and/or fish in the the areas most significantly impacted, please consider that travel to Morehead City is prohibitive for many of us. Please include the following comments in the record to reflect the opinions of all stakeholders, not only those who have the bandwidth and resources to attend the in person meeting.

Here are the reasons North Carolina should vote non-compliance:

1) As required by the Magnuson Stevens Act all stakeholders must have proper representation in the fisheries management and no entity (be it state, sector of industry, etc.) acquires an excessive share of the privilege.

National Standard 4 clearly states:

"Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (a) fair and equitable to all such fishermen; (b) reasonably calculated to promote conservation; and (c) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privilege."

National Standard 8 clearly states:

"Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirement of paragraph (2) [i.e., National Standard 2], in order to (a) provide for the sustained participation of such communities, and (b) to the extent practicable, minimize adverse economic impacts on such communities."

Virginia had no voting representation in the creation of the Fisheries Management Plan and the resulting ACL reduction and zone split. Proxy representation for Virginia from the Mid-Atlantic Fisheries Management Council did not speak one time on the record for the interests of Virginia. As result, Virginians face the most punitive closure date and an unfair allocation of the resource.

All the SAFMC representatives from North Carolina are from Raleigh or Morehead City southward. Not surprisingly, cobia fishermen south of Cape Lookout retain a full season, while boat fishermen north of Cape Hatteras lose most of their season. Northern Outer Banks pier anglers will lose their entire season, as the first cobia are often not landed on the Northern OBX piers until July.

South Carolina and Georgia have full representation, and due to the migratory pattern of cobia, their fishermen will not lose a single day of cobia fishing. East Florida had three votes and they received an excessive share of the privilege with a full season and more ACL than the other Mid-Atlantic states combined (880,000 pounds) in the zone split and ACL allocation.

NOAA even acknowledges that Florida and the Gulf management area will benefit from these policies at the expense of Virginia and North Carolina. In the Amendment20b draft language that was submitted to SAFMC for consideration in December, 2013, NOAA officials noted the following:

"Action 6, Preferred Alternative 3, Option d modifies the Gulf and Atlantic migratory group ACLs and recreational annual catch targets (ACTs) for cobia. The ACLs and ACTs for cobia needed to be set lower for the South Atlantic and higher in the Gulf of Mexico than they had been in the past based on the results of a stock assessment. In the South Atlantic region the combined annual value of expected losses for both commercial and recreational fisheries is

expected to be approximately $175,000 per year. However, these losses to fishermen in the South Atlantic region could nearly all be made up by increased opportunities to land more cobia in the Gulf of Mexico."

Source: SAFMC FMP DRAFT Amendment 20B Page 152 http://safmc.net/briefing-book/December-2013-briefing-book/Mackerel/MackerelAttach3a_CMPAm20BDocument.pdf

Virginia and North Carolina suffer inequitable burden, while Florida received an excessive share of the privilege. This is a CLEAR violation of National Standard 4 and 8. As result, North Carolina's attorney general should sue NOAA and North Carolina should not comply with the closure.

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Federal Register / Vol. 80, No. 17 / Tuesday, January 27, 2015 / Rules and Regulations
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NOAA has a responsibility to deliver fair and transparent policy that reflects the intent of the Magnuson Stevens Act and our state government has a responsibility to protect the rights and interest of the citizens of North Carolina and Virginia.

Thank You,

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Kill Devil Hills, NC
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Todd Beck
Recreational Fisherman
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Todd.beck@vbschools.com

Jones Art Gallary
Virginia Beach VA
jonesartgallery@cox.net

From: Travis Kemp [mailto:kempbrian6971@gmail.com]
Sent: Friday, April 29, 2016 12:25 PM
To: Sammy Corbett <samjcorbett3@gmail.com>; Joseph Shute <captjoemfc@yahoo.com>; Mark Gorges <captgorgesmfc@gmail.com>; Chuck Laughridge <sobxl1@gmail.com>; Mike Wicker <amikewicker@gmail.com>; janetrosemfc@gmail.com; rds.mfc@gmail.com; awillis.mfc@gmail.com; Duval, Michelle <michelle.duval@ncdenr.gov>; Fish, Nancy <nancy.fish@ncdenr.gov>; preynolds@ncdoj.com; Hensley, Michelle L <Michelle.Hensley@ncdenr.gov>; Rawls, Kathy <kathy.rawls@ncdenr.gov>; Jim.Kelley@ncdenr.gov; Davis, Braxton C <Braxton.Davis@NCDENR.Gov>
Subject: COBIA

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From: Evan Galvin [mailto:itsevandudee@gmail.com]
Sent: Friday, April 29, 2016 1:34 PM
To: Sammy Corbett <samjcorbett3@gmail.com>; Joseph Shute <captjoemfc@yahoo.com>; Mark Gorges <captgorgesmfc@gmail.com>; Chuck Laughridge <sobxl1@gmail.com>; Mike Wicker <amikewicker@gmail.com>; janetrosemfc@gmail.com; rds.mfc@gmail.com; awillis.mfc@gmail.com; Fish, Nancy <nancy.fish@ncdenr.gov>; preynolds@ncdoj.com; Hensley, Michelle L <Michelle.Hensley@ncdenr.gov>; Rawls, Kathy <kathy.rawls@ncdenr.gov>; Jim.Kelley@ncdenr.gov; Davis, Braxton C <Braxton.Davis@NCDENR.Gov>
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http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_sa/cmp/2014/am20b/documents/pdfs/cmp_am20b_fr.pdf

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NOAA has a responsibility to deliver fair and transparent policy that reflects the intent of the Magnuson Stevens Act and our state government has a responsibility to protect the rights and interest of the citizens of North Carolina and Virginia.

From: Brian Olszyk [mailto:stretchedoutfishing@gmail.com]
Sent: Friday, April 29, 2016 12:44 PM
To: Sammy Corbett <samjcorbett3@gmail.com>; Joseph Shute <captjoemfc@yahoo.com>; Mark Gorges <captgorgesmfc@gmail.com>; Chuck Laughridge <sobxl1@gmail.com>; Mike Wicker <amikewicker@gmail.com>; janetrosemfc@gmail.com; rds.mfc@gmail.com; awillis.mfc@gmail.com; Duval, Michelle <michelle.duval@ncdenr.gov>; Fish, Nancy <nancy.fish@ncdenr.gov>; preynolds@ncdoj.com; Hensley, Michelle L <Michelle.Hensley@ncdenr.gov>; Rawls, Kathy <kathy.rawls@ncdenr.gov>; Jim.Kelley@ncdenr.gov; Davis, Braxton C <Braxton.Davis@NCDENR.Gov>
Subject: Do Not Comply!!

Dear North Carolina Marine Fisheries Commission Members,

I and the other undersigned recreational anglers, charter boat captains, and small business owners are writing to recommend that the NCMFC to not comply with the June 20th federal closure of the cobia fishery. This closure is the byproduct of the creation of regulatory levers created by the South Atlantic Council that repeatedly comes into conflict with the National Standards of Fishery Management authored by the Magnuson Stevens Act.

As one of hundreds of cobia fishermen who live and/or fish in the the areas most significantly impacted, please consider that travel to Morehead City is prohibitive for many of us. Please include the following comments in the record to reflect the opinions of all stakeholders, not only those who have the bandwidth and resources to attend the in person meeting.

Here are the reasons North Carolina should vote non-compliance:
1) As required by the Magnuson Stevens Act all stakeholders must have proper representation in the fisheries management and no entity (be it state, sector of industry, etc.) acquires an excessive share of the privilege.

National Standard 4 clearly states:

“Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (a) fair and equitable to all such fishermen; (b) reasonably calculated to promote conservation; and (c) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privilege.”

National Standard 8 clearly states:

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Virginia had no voting representation in the creation of the Fisheries Management Plan and the resulting ACL reduction and zone split. Proxy representation for Virginia from the Mid-Atlantic Fisheries Management Council did not speak one time on the record for the interests of Virginia. As result, Virginians face the most punitive closure date and an unfair allocation of the resource.

All the SAFMC representatives from North Carolina are from Raleigh or Morehead City southward. Not surprisingly, cobia fishermen south of Cape Lookout retain a full season, while boat fishermen north of Cape Hatteras lose most of their season. Northern Outer Banks pier anglers will lose their entire season, as the first cobia are often not landed on the Northern OBX piers until July.

South Carolina and Georgia have full representation, and due to the migratory pattern of cobia, their fishermen will not lose a single day of cobia fishing. East Florida had three votes and they received an excessive share of the privilege with a full season and more ACL than the other Mid-Atlantic states combined (880,000 pounds) in the zone split and ACL allocation.

NOAA even acknowledges that Florida and the Gulf management area will benefit from these policies at the expense of Virginia and North Carolina. In the Amendment20b draft language that was submitted to SAFMC for consideration in December, 2013, NOAA officials noted the following:

"Action 6, Preferred Alternative 3, Option d modifies the Gulf and Atlantic migratory group ACLs and recreational annual catch targets (ACTs) for cobia. The ACLs and ACTs for cobia needed to be set lower for the South Atlantic and higher in the Gulf of Mexico than they had been in the past based on the results of a stock assessment. In the South Atlantic region the combined annual value of expected losses for both commercial and recreational fisheries is expected to be approximately $175,000 per year. However, these losses to fishermen in the South Atlantic region could nearly all be made up by increased opportunities to land more cobia in the Gulf of Mexico."

Source: SAFMC FMP DRAFT Amendment 20B Page 152 http://safmc.net/briefing-book/December-2013-briefing-book/Mackerel/MackerelAttach3a_CMPAm20BDocument.pdf

Virginia and North Carolina suffer inequitable burden, while Florida received an excessive share of the privilege. This is a CLEAR violation of National Standard 4 and 8. As result, North Carolina's attorney general should sue NOAA and North Carolina should not comply with the closure.

This fact, and NOAA cannot dispute that it is a fact, should end all discussion. Additional issues with data acuity will be debated endlessly, but reality is that NOAA violated these basic tenants of the federal law.

2) In the only year (after an ACL change) that a 1 year overage could trigger a closure, there was a 402% jump in the Virginia catch and a 180+% increase in the GA-NY catch. The Virginia catch was almost 400+% over the previous 7 year average. This is statistically dubious for the following reasons:

a. The jump is dependent on a massive increase (400 additional boats per day assuming 100 fishing days) from 2014 to 2015.

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https://www.st.nmfs.noaa.gov/Assets/Quality-Assurance/documents/peer-review-reports/2013/2013_02_19%20Cordue%20SEDAR%2028%20GM%20spanish%20mackerel%20cobia%20assessment%20report%20review%20report.pdf

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Regards,

Brian R. Olszyk

From: Lgobxbeachboy [mailto:lgobxbeachboy@aol.com]
Sent: Friday, April 29, 2016 6:33 PM
To: samjcorbett3@gmail.com; captjoemfc@yahoo.com; captgorgesmfc@gmail.com; sobxl1@gmail.com; amikewicker@gmail.com; janetrosemfc@gmail.com; rds.mfc@gmail.com; awillis.mfc@gmail.com; Duval, Michelle <michelle.duval@ncdenr.gov>; Fish, Nancy <nancy.fish@ncdenr.gov>; preynolds@ncdoj.com; Hensley, Michelle L <Michelle.Hensley@ncdenr.gov>; Rawls, Kathy <kathy.rawls@ncdenr.gov>; Jim.Kelley@ncdenr.gov; Davis, Braxton C <Braxton.Davis@NCDENR.Gov>
Cc: lgobxbeachboy@aol.com
Subject: East Coast Cobia Closures

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Larry Gray

From: Paul Kelley [mailto:paul.kelley52@ymail.com]
Sent: Sunday, May 01, 2016 7:37 PM
To: Joseph Shute <captjoemfc@yahoo.com>; Mark Gorges <captgorgesmfc@gmail.com>; Chuck Laughridge <sobxl1@gmail.com>; Mike Wicker <amikewicker@gmail.com>; janetrosemfc@gmail.com; rds.mfc@gmail.com; awillis.mfc@gmail.com; Duval, Michelle <michelle.duval@ncdenr.gov>; Fish, Nancy <nancy.fish@ncdenr.gov>; preynolds@ncdoj.com; Hensley, Michelle L <Michelle.Hensley@ncdenr.gov>; Rawls, Kathy <kathy.rawls@ncdenr.gov>; Jim.Kelley@ncdenr.gov; Davis, Braxton C <Braxton.Davis@NCDENR.Gov>
Subject: Cobia Fishing

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South Carolina and Georgia have full representation, and due to the migratory pattern of cobia, their fishermen will not lose a single day of cobia fishing. East Florida had three votes and they received an excessive share of the privilege with a full season and more ACL than the other Mid-Atlantic states combined (880,000 pounds) in the zone split and ACL allocation.
NOAA even acknowledges that Florida and the Gulf management area will benefit from these policies at the expense of Virginia and North Carolina. In the Amendment20b draft language that

was submitted to SAFMC for consideration in December, 2013, NOAA officials noted the following: "Action 6, Preferred Alternative 3, Option d modifies the Gulf and Atlantic migratory group ACLs and recreational annual catch targets (ACTs) for cobia. The ACLs and ACTs for cobia needed to be set lower for the South Atlantic and higher in the Gulf of Mexico than they had been in the past based on the results of a stock assessment. In the South Atlantic region the combined annual value of expected losses for both commercial and recreational fisheries is expected to be approximately $175,000 per year. However, these losses to fishermen in the South Atlantic region could nearly all be made up by increased opportunities to land more cobia in the Gulf of Mexico."
Source: SAFMC FMP DRAFT Amendment 20B Page 152 http://safmc.net/…/Ma…/MackerelAttach3a_CMPAm20BDocument.pdf
Virginia and North Carolina suffer inequitable burden, while Florida received an excessive share of the privilege. This is a CLEAR violation of National Standard 4 and 8. As result, North Carolina's attorney general should sue NOAA and North Carolina should not comply with the closure.
This fact, and NOAA cannot dispute that it is a fact, should end all discussion. Additional issues with data acuity will be debated endlessly, but reality is that NOAA violated these basic tenants of the federal law.
2) In the only year (after an ACL change) that a 1 year overage could trigger a closure, there was a 402% jump in the Virginia catch and a 180+% increase in the GA-NY catch. The Virginia catch was almost 400+% over the previous 7 year average. This is statistically dubious for the following reasons:
a. The jump is dependent on a massive increase (400 additional boats per day assuming 100 fishing days) from 2014 to 2015.
b. There was not a corresponding jump in Virginia citations (13% increase) despite NOAA claims that the average fish caught was 5 pounds higher than in 2014.
c. The calculation was based on peak wave data and appears to count fish being caught during August, where wind conditions significantly limited days on the water.
d. Data assertions are not corroborated by charter captains, recreational fishermen, or state fisheries officers.
Even members of the scientific community cast doubt upon NOAA's findings. NOAA commissioned noted marine scientists to review the methodology used for the SEDAR28 stock assessment and annual catch calculations. Patrick L. Cordue, an internationally recognized expert on fisheries management, submitted the peer review on the data collection methods for the SEDAR28 report:
"I cannot recommend any of the model runs for this assessment. The abundance indices are not defensible. The composition data were not properly prepared (and are over-weighted). The model was over-parameterized."
SOURCE SEDAR 28: Gulf of Mexico Cobia and Spanish Mackerel Stock Assessment Review P.L. Cordue Fisheries Consultant New Zealand For CIE Independent System for Peer Review https://www.st.nmfs.noaa.gov/…/2013_02_19%20Cordue%20SEDAR%…
3) If we want to go further, there has been a pattern of misinformation that has been presented by NOAA and SAFMC to justify these closures.
NOAA staff members were advocating for an ACL split and ACL reductions as early as September, 2010 on the record almost 3 years prior to the publication of the SEDAR28 Cobia Stock Assessment.
GREGG WAUGH: "And then when we get to cobia; one, the two councils are splitting that so that is one of the joint actions, but for the portion that we will be managing, our likely ACL is going to be considerably below the current catches, so we need to look at modifying our regulations. Right now there is a two-fish bag limit in place so we need to look at modifying those regulations to ensure that the ACL is not exceeded." Source: September 13, 2010 SAFMC Mackerel Meeting Minutes PAGE 3http://safmc.net/images/pdf/MackCmteMinSep10.pdf
The SEDAR28 Stock Assessment was then published in 2013. The stock assessment refuted the need for a lowered ACL.
"The South Atlantic cobia stock assessment presented by the SEDAR 28 Assessment Workshop (AW) provided the Review Panel (RP) with outputs and results from two assessments models.

Therefore, the RP concluded that the stock is not overfished and is not undergoing overfishing."
http://sedarweb.org/…/S28_SAR_SACobia_WithAddendumFinal_5.1…
Page 19
Then Amendment 20B was authored. Amendment 20B started the pattern of misinformation. Amendment 20B clearly states that the ACL should be INCREASED for both the Gulf and the Atlantic management zones:
"Cobia Zones, ACLs, and ACTs: Based on the results of the most recent stock assessment for Gulf and South Atlantic cobia, this rule divides Gulf migratory group cobia into a Gulf zone (Texas through the Gulf side of the Florida Keys) and a Florida east coast zone (east coast of Florida and Atlantic side of the Florida Keys, i.e., the area within the South Atlantic Council's jurisdiction). The Gulf ACL is allocated between the zones based on landings from the 1998–2012 fishing years. The South Atlantic Council is responsible for regulations for the Florida east coast zone, similar to management of the Florida east coast subzone for king mackerel. This rule also increases the ACLs for both migratory groups, the recreational ACT for the Atlantic migratory group, and the stock ACT for the Gulf zone."
Federal Register / Vol. 80, No. 17 / Tuesday, January 27, 2015 / Rules and Regulations
Page 4216 http://sero.nmfs.noaa.gov/…/am20b/doc…/pdfs/cmp_am20b_fr.pdf
This assertion is repeated in the FAQ document for Amendment 20B. Please note, fishermen often rely on the FAQ document due to a lack of bandwidth to read lengthy regulations.
"This option offers increases in the current annual catch limits for both Councils, and is viewed as a fair and equitable distribution of the resource."
SERO Cobia Fisheries Management Plan Amendment 20B FAQ
http://sero.nmfs.noaa.gov/…/documents/pdfs/cmp_a20b_faqs.pdf
NOAA asserts that this document required them to DECREASE the ACL. Somehow, in the FMP, they count the increase to East Florida's ACL as increasing the ACL for the entire Atlantic stock, even though East Florida was removed from the Atlantic management zone AND SAFMC has said repeatedly that they cannot transfer the East Florida ACL to the South Atlantic Management Zone as a solution to this problem.
"The applicable ACTs for the Atlantic migratory group of cobia are 550,000 lb (249,476 kg) for 2014, 520,000 lb (235,868 kg) for 2015, and 500,000 lb (226,796 kg) for 2016 and subsequent fishing years. The applicable ACLs for the Atlantic migratory group of cobia are 670,000 lb (303,907 kg) for 2014, 630,000 lb (285,763 kg) for 2015, and 620,000 lb (281,227 kg) for 2016 and subsequent fishing years."
http://sero.nmfs.noaa.gov/…/am20b/doc…/pdfs/cmp_am20b_fr.pdf
Note, this reduced ACL in the Atlantic directly conflicts with the guidance from the SEDAR28 that the cobia ACL should be increased in both management zones. In personal communication with me AND with communication with Rep. Rob Wittman (United States House of Representatives Virginia 1st District), NOAA staff emphasize that they were forced to split zones and reduce the ACL for the Georgia to New York zone. The communication ignores the other language calling for the ACL to be increased. The letter to Rep. Wittman can be provided if requested.
As result of these actions by NOAA, we recommend the following action:
1) NCMFC should not comply with the federal closure. NCMFC should maintain current creel limits. Any compliance and reduction in creel will be used to validate NOAA/SAFMC actions and data in the greater debate over changing federal fisheries management.
2) NCMFC should request that NOAA issue an interim final rule to suspend the closure, recalculate the ACL with a fair allocation that is equitable across states, and review catch data for the three year time period before re-issuing any closure if needed.
3) The North Carolina Attorney General should file a federal lawsuit against NOAA for violating National Standard 2, 4 and 8 due to the lack of representation in the development of Amendment 18 and 20b of the Cobia Fisheries Management Plan and the resulting inequitable allocation of the cobia ACL, resulting in more significantly greater burden to North Carolina and Virginia citizens versus those in other states within the management zone and the natural migration pattern of the cobia stock.

NOAA has a responsibility to deliver fair and transparent policy that reflects the intent of the Magnuson Stevens Act and our state government has a responsibility to protect the rights and interest of the citizens of North Carolina and Virginia.

Paul V. Kelley
Owner/Operator
Shamrock Landscaping Services, Inc.
2530 Broadmoor Court
Snellville, GA 30039

STATE OF NORTH CAROLINA
OFFICE OF THE GOVERNOR

PAT MCCRORY
GOVERNOR

March 30, 2016

Ms. Eileen Sobek, Assistant Administrator for Fisheries
National Marine Fisheries Service
1315 East-West Highway, Room 14636
Silver Spring, MD 20910

Dear Ms. Sobek:

Thank you for your agency's letter of Jan. 20, 2016, requesting that I nominate a slate of qualified candidates for consideration by the Secretary of Commerce in making at-large appointments to the Mid-Atlantic Fishery Management Council.

The N.C. Marine Fisheries Commission feels that North Carolina is well represented on the Mid-Atlantic Fishery Management Council by our current at-large appointee, Ms. Sara Winslow. The N.C. Marine Fisheries Commission recommended that a slate of nominees not be submitted for Mid-Atlantic Fishery Management Council at-large appointments. I concur with their recommendation and am not submitting a slate of nominees for 2016 at-large appointments to the Mid-Atlantic Fishery Management Council.

Thank you for the opportunity to participate in the nomination process for appointments to the Mid- Atlantic Fishery Management Council.

Sincerely,

Pat McCrory

cc: Donald van der Vaart
Louis Daniel
Sammy Corbett
Charles Duckett

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WWW.GOVERNOR.STATE.NC.US

STATE OF NORTH CAROLINA
OFFICE OF THE GOVERNOR

PAT MCCRORY
GOVERNOR

March 30, 2016

Ms. Eileen Sobek, Assistant Administrator for Fisheries
National Marine Fisheries Service
1315 East-West Highway, Room 14636
Silver Spring, MD 20910

Dear Ms. Sobek:

Thank you for your agency's letter of Jan. 20, 2016 requesting that I nominate a slate of qualified candidates for consideration by the U.S. Secretary of Commerce for an obligatory appointment to the South Atlantic Fishery Management Council.

N.C. General Statute 113-259 charges the N.C. Marine Fisheries Commission with the responsibility of compiling a list of nominees for consideration by the governor for South Atlantic Fishery Management Council appointments. The commission provided the names of Mr. Robert ("Tim") Griner, Mr. Samuel ("Sammy") Corbett, Mr. Joseph ("Andy") High and Mr. Everette ("Randy") McKinley for my consideration as nominees for an obligatory appointment to the South Atlantic Fishery Management Council. I concur with the commission recommendations and am forwarding these names to you as North Carolina's nominees. I have selected Mr. Robert Griner as a preferred nominee.

As a result of the statutory makeup of the N.C. Marine Fisheries Commission (please see enclosed list), compilation of the list of nominees by that body meets the requirements of the Magnuson-Stevens Fishery Conservation and Management Act, Section 302(b)(2)(C), that each nomination be made in consultation with the commercial and recreational fishing interests of the state. The commission makes every effort to encourage and seek out qualified women and minority candidates during this process. All of the nominees are residents of North Carolina. All nominees, by reason of their occupational or other experience, scientific expertise or training, are knowledgeable regarding the conservation and management of the commercial or recreational harvest of the fisheries resources of North Carolina.

Following is a brief summary of the experience that qualifies each nominee to serve as a member of the South Atlantic Fishery Management Council:

Mr. Robert ("Tim") Griner. Mr. Griner was born and raised in Charlotte, but grew up fishing the inshore and offshore waters of Brunswick County. He earned a B.S. in engineering from North Carolina State University and had a successful career in civil engineering, mostly in commercial construction. In 2009, Mr. Griner began spending more time fishing recreationally and sharing his catch with family and friends. After being approached by chefs to determine his interest in supplying fish commercially for a few local Charlotte restaurants, Mr. Griner obtained his state and federal dealer and vessel permits in 2010, and started the Charlotte Fish Company.

Since then Mr. Griner has focused on building a clientele of small Charlotte restaurants whose menus cater to use of locally-sourced ingredients. He now supplies over 60 restaurants in the Charlotte area. Mr. Griner holds federal vessel permits for snapper grouper, dolphin wahoo, and king and Spanish mackerel. In addition to the two vessels he owns, Mr. Griner also packs fish for two other vessels out of Brunswick County. Over the past several years, Mr. Griner has become more involved in management of the fishery, attending South Atlantic Council public hearings, including Snapper Grouper Visioning Project port meetings. He is dedicated to educating both chefs and consumers about the wide variety of available from North Carolina's offshore waters.

Mr. Samuel ("Sammy") Corbett. Mr. Corbett is an active full-time commercial fisherman and seafood dealer based out of Hampstead, North Carolina and serves as chairman of the N.C. Marine Fisheries Commission. He grew up on the waterfront in Wilmington and Wrightsville Beach, where he served as mate on numerous charter boats. He has held a commercial fishing license since he was 16 years old, participating in both offshore federal fisheries and inshore coastal fisheries. Mr. Corbett started snapper grouper fishing in 1977 and was one of the first fishermen in southeastern North Carolina in the longline fishery for sharks, snowy grouper, and golden tilefish; and was part of the initial development of the wreckfish fishery off Wrightsville Beach. He also ran a swordfish boat. In 1992 he suffered a back injury, and due to the extensive recovery period from surgery, was unable to meet the 50 percent income requirement to maintain his federal permits. Once he was able to fish again, Mr. Corbett shifted to inshore and nearshore fisheries. He has held a seafood dealers license for the past 15 to 16 years and now actively fishes for blue crabs, mullet, spot and Spanish mackerel. He also has productive oyster and clam leases.

Mr. Joseph ("Andy") High. Mr. High has been the owner/operator of a commercial fishing vessel since 1992, and holds federal South Atlantic commercial vessel permits for king mackerel, Spanish mackerel, and snapper grouper. He also participates in the black sea bass pot trap fishery and has been a member of the South Atlantic Council's Mackerel Advisory Panel since 2003. In addition, Mr. High has previously participated in fisheries for tuna, swordfish and sharks using a variety of gear types. He has also used gill nets for harvest of spot, croaker, Spanish mackerel and dogfish. Prior to devoting himself to commercial fishing full time, Mr. High was also the owner/operator of a charter/commercial fishing operation (Relentless Charters). In both instances, Mr. High handled all details and activities related to running both a commercial and charter fishing operation. Before running his own commercial/charter operation, Mr. High served as a corporate captain for Pritchard Paint & Glass. In that position he was responsible for all vessel and equipment maintenance and upkeep.

Mr. Everette ("Randy") McKinley. Mr. McKinley has owned and operated Hilltop Grocery Company for 31 years. This retail convenience store carries a full line of bait and tackle for recreational, charter and commercial fishing. He owns the commercial fishing vessel Lena Mac and has federal South Atlantic snapper grouper, king mackerel and dolphin/wahoo permits. He also operates McKinley Fisheries which is a fish packing business. Mr. McKinley attended East Carolina University from 1979 to 1985, receiving a BSBA in Business Administration in 1983 and MBA in 1985. He purchased Hilltop Grocery Company in 1985, and in 1986 began serving as crew on a commercial snapper grouper boat. Mr. McKinley obtained his federal vessel permits in 2002, and in 2006 he took over the fish house where his boat was docked. He obtained federal and state dealer permits and began McKinley Fisheries. Mr. McKinley has been involved with all aspects and regulations affecting his fishery. He has attended numerous meetings throughout the years. In 2013 he attended the Marine Resource Education Program (Southeast) Science workshop in Tampa, Florida, as well as Snapper Grouper Visioning Project port meetings.

Thank you for the opportunity to participate in the nomination process for a N.C. obligatory seat to the South Atlantic Fishery Management Council.

Sincerely,

Pat McCrory

cc: Donald van der Vaart
Sammy Corbett
James Kelley
Charles Duckett

N.C. Marine Fisheries Commission

Sammy Corbett
Chairman
910-620-1804
samjcorbett3@gmail.com
Commercial
A – 08/19/14
E – 06/30/17

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Vice-chairman
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Recreational Industry
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E – 06/30/17

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E – 06/30/16

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E – 06/30/16

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E – 06/30/17

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E – 06/30/16

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Commercial Fisherman

Rick Smith
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Recreational Fisherman
A – 09/15/15
E – 06/30/18

REMINDER

MANDATORY EDUCATION REQUIREMENTS

MANDATORY EDUCATION.

Public Servants and Ethics Liaisons. The State Government Ethics Act *requires* that every public servant and ethics liaison complete an ethics and lobbying education presentation/program approved by the State Ethics Commission *within 6 months* of the person's election, reelection, appointment, or employment and complete a refresher ethics presentation *at least every two years thereafter*.

The willful failure of a public servant serving on a board to comply with the education requirements may subject the person to removal from the board. The willful failure of a public servant who is a State employee to comply with the education requirement may be considered a violation of a written work order permitting disciplinary action. Therefore, if there are public servants in your agency or on your covered state board or commission who are past due for completing their ethics education requirements, **those individuals should attend a live presentation, distance video-streamed presentation *or* complete the online education as soon as possible.**

Legislators. The State Government Ethics Act *requires* that every legislator complete an ethics and lobbying education presentation/program approved by the State Ethics Commission and the Legislative Ethics Committee *within 2 months* of either the convening of the General Assembly to which the legislator is elected or the legislator's appointment, whichever is later, and complete a refresher ethics education presentation *at least every two years thereafter*.

The willful failure of a legislator to comply with these education requirements may subject the legislator to sanctions under the Legislative Ethics Act.

Legislative Employees. The State Government Ethics Act *requires* that every legislative employee complete an ethics and lobbying education presentation/program approved by the State Ethics Commission and the Legislative Ethics Committee *within 3 months* of the person's employment and complete a refresher ethics education presentation *at least every two years thereafter*.

The willful failure of a legislative employee to comply with these education requirements may subject the person to disciplinary action by their hiring authority.

Legislators and Legislative Employees may check the status of their ethics education by going to the General Assembly intra-net page. Legislators and legislative employees who are past due for completing their ethics education requirements should contact Denise Adams with the Research Division of the General Assembly at denise.adams@ncleg.net or 919-301-1991 to coordinate/schedule their ethics education training.

ETHICS AND LOBBYING EDUCATION TRAINING.

Public Servants and Ethics Liaisons may complete the required basic or refresher ethics and lobbying education training by either attending a live presentation, a distance video streamed presentation or completing the online education modules.

- **Live and Distance Video-Streamed Presentation Dates.** The State Ethics Commission has scheduled live ethics and lobbying education presentations and distance video-streamlined presentations for the remainder of 2014. Dates, locations, and registration information are on the Commission's website at: www.ethicscommission.nc.gov/education/eduSchedule.aspx.

- **Online Education.** The State Ethics Commission also offers online ethics and lobbying education. The education modules and instructions are on the Commission's website at: www.ethicscommission.nc.gov/education/eduOnline.aspx.

Legislators may complete the required basic or refresher ethics and lobbying education training by attending a live presentation at the beginning of the legislative session jointly provided by the Ethic Commission and the Research Division of the General Assembly.

Legislative Employees may complete the required basic or refresher ethics and lobbying education training by going online to the General Assembly intra-net page.

REGISTRATION AND QUESTIONS.

- **Public Servants and Ethics Liaisons** please contact Sue Lundberg at (919) 715-2071 or by e-mail at Education.Ethics@doa.nc.gov to register for ethics and lobbying education training or if you have ethics education questions.

- **Legislators and Legislative Employees** please contact the General Assembly ethics hotline at 919-301-1991 or email Denise Adams at denise.adams@ncleg.net if you have questions about the ethics and lobbying education training or have ethics education questions.

Thank you for giving this matter your immediate attention and for sharing this information with all members of your covered board, commission or committee, all staff and employees covered under the State Government Ethics Act, and all legislators and legislative employees.

2016 Meeting Planning Calendar

January

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- MFC
- ASMFC
- SAFMC
- MAFMC
- State Holiday
- Sea Turtle AC
- Southern Regional AC
- Northern Regional AC
- Finfish AC
- Habitat and Water Quality AC
- Shellfish/Crustacean AC

Committee Reports

Marine Fisheries
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: Marine Fisheries Commission
Northern Regional Advisory Committee

FROM: Katy West
Holly White
Division of Marine Fisheries

DATE: April 22, 2016

SUBJECT: Northern Regional Advisory Committee Meeting April 7, 2016

The Northern Regional Advisory Committee met at 6 p.m. on Thursday, April 7, 2016 at the Department of Environmental Quality Washington Regional Office. The following attended:

Advisers: Sara Winslow (Chair), Glenn Barnes, Raymond Pugh Jr., Riley Williams, Gilbert Trip, Everett Blake, Keith Bruno, Michael Blanton, Steve Bradshaw, and Jim Rice

Absent: Dell Newman

Staff: Kathy Rawls, Catherine Blum, Michelle Duval, Tina Moore, Jason Rock, Corrin Flora, Trish Murphey, Lee Paramore, Charlton Godwin, Joseph Facendola, Nancy Fish, Steve Murphey, Odell Williams, and Holly White

Public: Jerry Schill, Charles Carawan, Sharon Carawan, Charlie Beasley, Gilbert Baccus, Jimmy Noslos, Dossey Pruden, Chad Hemilright, Carl Mann, Reggie Bishop, Luke Midgett, John Midgett, Forrest Oakes, Eric Brals, Steve Braddy, Gregory Terrance, Jeremy Baccus, Donald Baccus, Chase Baccus, Chris Simpson, Robert Bass, Joey Swanner, Steve Midgette, Lee Morris, Perry Wood Beasley, Lauren Berry, Wayne Burch, Terry Pratt, Jimmy Nobles, Bill Rich, Blaudia Cahoon, Lyle Cahoon, Rusty Poole, Larry Gill, Patrick Clarke, Jerry Warren, Tara Forema, Dennis Foreman, Wiley Van Pelt, Cory Carawan, Calli Carawan, Josh Spencer, Wayne Twiford, Wayne Twiford III, Hunter Stuart, Scott Ankney, Gene Ashton, Kim Fong, Carroll Fong, Cameron Whitaker, Justin Revere, Rick Caton, Brent Fulcher, Jonathan Fulcher, Brian Hodges, John Silver, Zeb Mayo, Josh Halsey, Adam Spencer, Jared Jarvis, Jessica Jarvis, Phil Jethro, Anthony Sawyer, and Harvey Sawyer

An additional 17 members of the public signed in but their names were not legible.

Sara Winslow, serving as chair, called the meeting to order.

MODIFICATIONS TO THE AGENDA

There were no modifications to the agenda.

Motion by Steve Bradshaw to approve the meeting agenda. Seconded by Jim Rice. Motion passed unanimously.

APPROVAL OF MINUTES

There were two modifications to the April 9, 2015 Northern Regional Advisory Committee meeting minutes:

1. Remove Sara Winslow from the list of Advisers present at the April 9, 2015 meeting.
2. Correct spelling error in the 1st paragraph on page 3. "She also reviewed the environmental factors for both species ~~se~~ as well as the different threats to the environments of both species."

Motion by Jim Rice to approve the April 9, 2015 Northern Regional Advisory Committee meeting minutes with two corrections 1) remove Sara Winslow from the list of Advisers present and 2) correct a spelling error in the 1st paragraph on page 3. Seconded by Everett Blake. Motion passed unanimously.

REVIEW OF THE DRAFT ISSUE PAPER REDUCING SHELLFISH LICENSE OYSTER HARVEST LIMITS STATEWIDE

Joe Facendola, fishery management plan co-lead gave a presentation on the draft issue paper "Reducing Shellfish License Oyster Harvest Limits Statewide." He explained that the Commission at its meeting in February made a motion to reduce the bushel limits on oysters for shellfish license holders to 2 bushels per person/ 4 bushels per vessel statewide. This management strategy (for the entire state as opposed to just the southern area) was not presented to the public therefore the Commission requested that this be presented to the regional committees for their input. Facendola, reviewed the North Carolina Division of Marine Fisheries and committee recommendations as well as the Marine Fisheries Commission motions made at the February meeting.

Facendola provided background on the Shellfish License, described landings and participants data grouped by waterbody of harvest (4 regions), and license holder data grouped into 5 regions by county of residence of license holder. He noted that a license holder may have landings come from multiple harvest regions. He noted that not all license holders sell their catch. The southern region had the highest number of shellfish licenses sold and highest percentage of total licenses sold with trip ticket landings. He noted that some individuals just sell clams. Sixteen percent of the licenses sold show public bottom oyster trips. The number of licenses sold, peaked in 2002 and again in 2011. In 2015, 27 percent of Shellfish License holders' landings had trip ticket landings for oysters off public bottom. The increase in landings in bushels appear to be increasing due to the Shellfish License holders. Annual average number of trips by Shellfish Licenses holders with landings is also increasing. Roughly thirty-nine percent of the public hand harvest oyster trip ticket landings statewide come from Shellfish License Holders fishing in the southern and central areas. In the southern region the number of Standard Commercial Fishing License holders has stayed relatively stable; however, the overall number of participants has increased. Overall, we are seeing a decrease in the number of bushels per trip.

In the central region the Standard Commercial Fishing License participants has remained somewhat steady. There is also a slight decline in the number of bushels per trip in this region as well. In the Pamlico and Northern regions there is relatively small growth in the number of participants. Facendola indicated that the removal of oysters from the Shellfish License would eliminate recreational use of the Shellfish License to land commercial limits of oyster and potentially reduce commercial harvest pressure and impacts (greatest in the southern region). Facendola expressed enforcement concerns as well. He reviewed the three options for the committee to vote on which included: Status quo, reduce the Shellfish License oyster bushel limit to a lower specified amount statewide, and reduce the Shellfish License oyster bushel limit to a specified amount regionally.

Jim Rice pointed out that commercial Shellfish License landings are derived from trip tickets and estimates of recreational landings from Shellfish License holders are not available. He noted that the point of issuing a license is to know who the fishers are so effort and harvest data can be verified. He asked if there were people the Division could talk to in order to estimate their landings (for oysters harvested with a Shellfish License for personal consumption). Facendola replied there is a group of recreational fishers that we can talk to, but for the recreational harvest estimate as a whole we currently do not have a way to calculate that. Keith Bruno clarified that we were only talking about harvest restrictions for Shellfish License holders, not Standard Commercial Fishing License holders. Facendola replied that was correct. Riley Williams wanted to know if the Shellfish License holders were commercial or recreational. Facendola replied that sixteen percent of the licenses sold show public bottom oyster trips.

Keith Bruno said that the fifty dollar Shellfish License promotes black market harvest of oysters. He thought that the issue of harvest limits for Shellfish License holders by region and the removal of oysters from the Shellfish License should be split into two different issues. Jim Rice said that the concern is there is not a cap on harvest for Shellfish License holders and this is effecting oyster harvest from the part of the state with the most Shellfish License holders. Rice pointed out that it will be a lengthy process to remove oysters from the Shellfish License, requiring legislative action. Rice recommended reducing the number of bushels harvested by a Shellfish License holder as an interim measure.

Michael Blanton asked what the recreational harvest allowance is without a Shellfish License. Facendola replied that it is one bushel per day and two bushels per vessel. The discussion moved briefly into enforcement. Jim Rice questioned why there would be a negative associated with regional management for enforcement. Facendola explained that would be due to the boundary separating the regions. Odell Williams, Marine Patrol, clarified that enforcement is based on possession limits. Keith Bruno explained that different possession limits are currently in play for Pamlico Sound oyster dredging operations and did not see where additional burden would be placed on law enforcement if possession limits for Shellfish License holders were split by region.

Everett Blake wanted to know if the Division has looked into requiring annual harvest data from people requesting Shellfish Licenses similar to what WRC requires for game permits, for example Blake provides data to the Wildlife Resource Commission each year that helps him attain a certain license for a duck blind or a permit for the following year. Blake asked if the

Division could require the same data submittal in order to issue an annual license. Jim Rice commented that he has to report what he takes on an annual basis in order to meet the requirements of his scientific collection permit issued by the division. The big argument, Rice notes, with recreational licenses is that you need to know who your user groups are so you can query them whether it's by a phone survey or data reporting as a condition of renewal. He says that it has become increasingly easy to do these queries. Facendola responded that getting oysters put on the recreational marine fishing license has been a challenge, and that it will also require legislative action. Facendola explained that the intent of the Shellfish License was not for use as a recreational license. Rice questioned that comment noting that the price of the license is only fifty dollars.

Keith Bruno made a motion to advise the Marine Fisheries Commission to get the legislative action together to remove oysters from the Shellfish License. He recommended that the harvest of oysters be defined by user groups as commercial and recreational. Harvest by each user group should be monitored in order collect information on harvest. The motion was seconded by Jim Rice.

Nancy Fish clarified that the Commission has already voted on this issue and they are only requesting input on to reduce the possession limit for oysters for Shellfish License holders statewide or only in the southern region (south of the 58 bridge). Tina Moore also clarified that the Committee had made a similar motion in December. Rice said that the Commission could choose to ignore the motion, as they frequently do, and this Committee works to provide the Commission with more information than they request.

The motion passed unanimously.

Riley Williams made a motion to support Option 3, reducing the possession limit for Shellfish License holder south of the 58 bridge to 2 bushels per person and 4 per vessel. Everett Blake seconded the motion.

Blanton requests that the possession limit for shellfish holders be enforced statewide in order to prevent overharvest in the northern region. He believes that this would make it fair across the board. The Shellfish License holders with commercial landings could work towards obtaining a commercial license.

Michael Blanton made a substitute motion of the motion by Riley Williams to advise the Marine Fisheries Commission to adopt a statewide possession limit of 2 bushels per person not to exceed 4 bushels per vessel for Shellfish License holders harvesting oysters from public bottom (consistent with the commission motion passed at the February 2016 meeting). The motion was seconded by Everett Blake. The motion passed, 9-1.

PUBLIC COMMENT

Gene Ashton, asked how you can regulate the numbers of something that you don't have actual numbers of, in relation to numbers of oysters harvested by the Shellfish License holders. Mr. Ashton suggested to make Shellfish License holders call in harvest, similar to what you have to do when you kill a deer. Mr. Ashton wants to see the data collected before actions are taken.

Facendola replied that the harvest estimates we have are derived from trip tickets, if harvested recreationally or for personal consumption we do not know the amounts. Facendola noted a decline in the number of bushels landed per trip as participation and the number of licenses sold increases, illustrates that there is a problem. He also stated that the division has a long-term goal of creating a fishery independent index of oyster abundance.

Jerry Schill, North Carolina Fisheries Association, requested mirroring what the Southern Regional Advisory Committee recommendation to implement specific restrictions on Shellfish License holders south of the 58 bridge, not state wide.

RECOMMENDATIONS TO THE MARINE FISHERIES COMMISSION FOR THE SHELLFISH LICENSE

Keith Bruno made a motion to advise the Marine Fisheries Commission to get the legislative action together to remove oysters from the Shellfish License. He recommended that the harvest of oysters be defined by user groups as commercial and recreational. Harvest of by each user group should be monitored in order collect information on harvest. The motion was seconded by Jim Rice. The motion passed unanimously.

Riley Williams made a motion to advise the Marine Fisheries Commission to adopt a statewide possession limit of 2 bushels per person not to exceed 4 bushels per vessel for Shellfish License holders harvesting oysters from public bottom (consistent with the commission motion passed at the February 2016 meeting). The motion was seconded by Everett Blake. The motion carries 9-1.

REVIEW OF BLUE CRAB TRAFFIC LIGHT AND MANAGEMENT MEASURES

Jason Rock, Blue Crab fishery management plan co-lead gave an overview of the Blue Crab Traffic Light. He described the difference between qualitative and quantitative indicators as well as what the colors of the traffic light mean. Rock indicated that the Traffic Light was implemented in 2013 with Amendment 2 of the Blue Crab Fishery Management Plan. He described the indicators, management thresholds and management levels as well as the management triggers. He described the three year timeframe, noting that the timeframe was set in the Fishery Management Plan by the commission (and recommended by Division) to account of annual variability as well as providing safeguards for the stock. The adult abundance was tripped in 2015, reaching the 50 percent threshold. This was the third consecutive year that adult abundance was exceeded. The recruit abundance was also tripped in 2015 (75 percent threshold); this was the fifth consecutive year. The production trigger was not tripped in 2015 (44 percent Red).

Michael Blanton started off the discussion asking Jason Rock to clarify what the traffic light colors red, yellow, and green mean. He indicated (pointing to the crowd) that they do not understand where the colors fall concerning abundance estimates. Rock went through each of the indicators and described surveys incorporated, base years, and scaling used for each in order to qualify as red, yellow, or green. Blanton asked for further clarification of the traffic light indicators. Rock explained broadly that the Division conducts surveys and we compare our catch number or length frequencies to an average number from the set of base years (1987-2009). Rock additionally explained for any given year, that a bar would be 100% yellow if the number is

equal to the average for the base years. If the number is above the average the amount of yellow would decrease and the amount of green would increase. If the number is below the average the yellow would decrease and the red would increase.

Keith Bruno asked how the Division collected the numbers to put into the model to get the colors. He wanted to know who collected the samples and how they were collected. Rock explained that most of the numbers come from the different trawl surveys that the Division carries out. Sara Winslow explained that the data are collected from standardized sampling programs with set stations, and set periods of time that have been prosecuted from 1987 until present. Depending on the survey, the station location is fixed or random. This is also just surveys relative to recruits. Bruno moved the discussion on to how other data is collected, and used the example of the independent gillnet survey that is a random sample in areas where commercial fishermen do not work because of little to no catches. Winslow explained that many of the surveys, using the example of the Divisions' Program 120 sampling, are conducted in designated nursery areas. Steve Bradshaw asked if the surveys were conducted at the same time every year. Rock responded that they were.

Bruno moved the discussion back to the types of surveys other than drag/trawl. Rock explained that the Division uses different trawl surveys as well as commercial fish house sampling. Bruno explained that when staff are at his fish house he doesn't want them measuring the Jimmy crabs because they are worth the most money and are very fragile but he does allow them to measure Culls and Sooks. He asked if that would skew the results of the fish house data. Rock explained for the traffic light, the length at 50% maturity, is looking at the commercial female crabs. Blanton said that you cannot age a blue crab and the only thing that they have to go off of is the female whether it is mature of immature. Bruno then asked how the Division is calculating relative abundance. Rock explained that only data from the trawl surveys are used for that estimate.

Bruno described the crab harvest over the past two years. He said that two years ago crabs were terrible. Last spring crabbing was slow, but the week before the fourth of July the crabs started to show up in North Carolina, Virginia, and Maryland. He asked where those crabs came from because the data didn't show that they were there. He also said that the landings were not as high as they could have been because the markets were so flooded that the fish houses could only buy crabs a few days per week. He thinks that these lay days could have accounted for another 500,000 to 1,000,000 pounds. He has a hard time wrapping his head around the presentation because of what he has seen in the crab harvest at his fish house. He also said that with the increased gill net regulations, more crab pots have shown up in the water.

Everett Blake noted that there is a lot of red on the graphs but he does not see the relation in the landings or production. He said that for him personally he has caught more recreational crabs last year than he has in the past two years. Raymond Pugh echoed that commercial trip tickets from Dare County show that they are catching so many crabs that they cannot get rid of them. He just cannot see where there is a shortage of crabs. Bruno asked if there is any chance that the Division is wrong. Rock replied that there is always a chance. Rock also pointed out that the management plan requires that the Marine Fisheries Commission do something but does not specify what they have to do.

Bruno suggested that the (Northern) Advisory Committee send a strong message to the Commission that the sky is not falling in the crab industry. Winslow advised that regardless of what this Committee advises to the Commission, that each of the public in attendance should attend the next Commission meeting and comment.

Riley Williams commented that there is difference in someone that gets paid per hour to collect this data and someone that relies on it for their living. Williams personally does not feel comfortable with the Divisions numbers. If he was shown how many times we sampled and when we sampled then the colors would make more sense to him. Winslow explained that all of this information is contained in the Fishery Management Plan for Blue Crab. Williams questioned if it was done as it is outlined. Winslow replied that it was.

Blake asked if the Division could move to pot sampling. Blanton said that he has no faith in a summer trawl survey. He said that when these surveys are conducted crabs are extremely active, swimming fast, have a higher metabolism, and increased environmental factors (hypoxic or dead water) effect catch. He does not feel that a trawl is the correct method to survey crabs in the middle of the summer. He supports a winter dredge survey of dormant crabs. He feels that this is a better way to survey crabs. He said the summer trawl surveys are designed for finfish not crabs. Blanton requested that the committee ask the Commission to change the surveys used for crabs.

Jim Rice asked Rock if the Division collects water quality data at the sampling sites. Rock replied that they did. Rice asked if the Division ruled out data if there is evidence of hypoxic conditions at the site. Rock replied no. Winslow also pointed out that the surveys are conducted from March through October, not just during the summer.

Next Rock went through the Traffic Light Adaptive Management Measures (moderate and elevated for the adult and recruit abundances). Rock gave examples of what type of management measures could fall under the broad category. One option would be to increase the minimum size limit for male and immature female crabs. In doing so, going to 5.25 inches would be an estimated 35 percent reduction in landings (0 percent culling tolerance, 5 percent in rule). Going to 5.75 inches would give an estimated 52 percent reduction. Going to 6 inches, would be roughly a 69 percent reduction. Recoupment would be likely happen as crabs grow.

Another option would be to eliminate the harvest of v-apron crabs, immature hard crab females; however, this would have minimum reductions and recoupment would likely happen as crabs grow. Reducing the tolerance of sublegal crabs to a minimum of 5 percent, would have minimal reductions.

Moderate management measures also include removing escape ring exemptions for eastern Pamlico Sound and Newport River. Increasing the cull rings to 2 3/8 – 2 ½. Rock indicated that two studies looked at cull ring size and how it affected catch. The first study, catch rate of sublegal males was reduced by increasing cull ring size, legal males and mature females were maintained, body length of minimally legal male crabs was not less than the current minimum cull ring size.

Another gear modification would increase number of cull rings from 2 per pot. Rock also noted that it could be required that the cull ring be located near the floor of the upper chamber; 60 percent of sublegal crabs escaped in the first hour.

An adaptive management measure (recruit moderate) such as establishing a seasonal size limit on peeler crabs is another option. Establishing a 3.25 inch minimum size would yield roughly a 4.8 percent reduction, going up to 3.75 minimum size would yield roughly a 19 percent reduction. Another management measure would be to restrict trip level harvest of sponge crabs (tolerance quantity, sponge color). The committee could also chose to close crab spawning sanctuaries from September 1 through February 28 (now March 1 through August 31). Rock indicated that the sanctuaries are mostly in the northern part of the state. Another option is prohibiting the harvest of sponge crabs. The largest impact would be the Pamlico area, statewide it would be roughly a three percent reduction. Eastern Pamlico Sound would be impacted the hardest. This measure would require sponge crab excluders in specific areas. Rock noted that once eggs are damaged, the crabs typically release the eggs as some studies have indicated. Another management option would be to expand the existing and/or expand new crab spawning sanctuaries. The size of the new sanctuaries would vary with inlet size.

The harvest with dredges (currently around Oregon Inlet) could also be limited. Rock noted that the dredge landings mostly have been coming from oyster dredges (~2k lbs. /year). Another option would be to move the crab trawls back to the shrimp trawl lines in Pamlico and Neuse rivers; moving down toward the mouth of the rivers. Season closures are another adaptive management option for the recruit elevated scenario, closures could occur during periods where a lot of are sponge crabs are present in April and May (based on fish house data). Other season closures include (also related to peak sponge crab abundance). Gear modifications in the crab trawl fishery include increasing the tail bag minimum mesh to four inches statewide and also falls in the recruit elevated category. Some studies have shown a reduction in the number of sublegal crabs as you increase tail bag mesh size. Rock asked the committee to consider all the options listed and noted the members could also present options not listed.

Blake verified that because all of the traffic lights have been triggered the Commission has to do something. Rock replied that was correct but the severity of action is not defined in the FMP. Gilbert Trip said since something has to be done, the Committee should recommend the maximum reduction at a minimum expenditure to the commercial fishermen. Bruno partially agrees with the Trips' statement but does not think there needs to be a reduction, status quo is the least burdensome on the fishermen. Bruno recommends eliminating the possession of V-apron (immature female) hard blue crabs. He thinks that even though they would require more time culling they are easy to identify and remove. Additionally, he says that the crab is not worth as much so culling these V-aprons will not hurt the bottom line. Pugh asked about sponge crabs. Rock stated that Virginia only allows harvest of orange or yellow sponge (prohibit black and brown seasonally) whereas North Carolina allows harvest of all sponge colors.

The discussion moved to crab landings. Winslow stated that crab landings have remained relatively stable over the last five or six years, and Bruno added that landings had increased in the past three. Winslow continued that effort has increased due to attrition in the gill net fishery. Winslow said that if the population is growing and increasing the harvest would increase because

the fishing effort is increasing. Bruno contributed some of this to new crab fishermen not being familiar with crabbing, because they were from another commercial industry and also to the market being flooded (lay days).

Williams wanted to know if prohibiting the possession of V-apron crabs would mean no red or white line crabs. He also added that at this point in the season, adding any management measure involving cull rings would be burdensome to the fishermen. Rock said that he thought a cull ring management measure would not be implemented until next year because of the burden to the fishermen to modify pots.

Blake asked Bruno if the crab trawl line and shrimp trawl line could be the same. Bruno didn't know many crab trawlers, so he couldn't comment but he knew that a lot of fishermen trawl out of Engelhard, North Carolina during the spring/late winter. Blake thought that since the trawl numbers were low then that could be a management measure to entertain. Blanton then asked Rock what the Southern Advisory Committee recommended. Rock replied that the Southern advisory committee recommended 1) reducing the cull tolerance to 5% and gear modification but did not specify the type of modification, and 2) prohibiting the harvest of V-apron and black sponge crabs.

Pugh asked when crabs spawn. Rock replied they spawn from the spring through the fall, peak spawn is in spring.

Bruno wants the Committee to word something that says that we have so many conflicting reports of crab abundance as compared to the Divisions crab reduction. As a Committee we could not possibly recommend anything in good faith to do to crabs. Rice stated that the Commission is going to do something and that we have the opportunity to present something to influence them and possibly minimize the reductions. Bruno is only comfortable with recommending prohibiting V-aprons. Blake says that prohibiting V-aprons would help recruitment and suggest that we need to explore additional data gathering measures. Williams wants to clarify at what point are they going to identify immature crabs. Blanton recommends adding "hard crab".

Blanton said the percent of trips over the culling tolerance level is an issue. He thinks that crabbers need to fix the percent of trips over the current tolerance threshold of 10% and supports a 5% culling tolerance. He thinks that using a cull box will help. He said that the Committee needs to make a strong recommendation because the Commission will. Blanton also supports adding cull rings or changing the location of cull rings. The discussion moved to cull ring placement and phasing it in over a period of time. Most fishermen agreed that location of the ring makes a difference.

Keith Bruno made a motion to recommend the Commission prohibit the harvest of V-apron crabs, consistent with moderate management measure option A3 and keep a 10% cull tolerance across the board. Everett Blake seconded the motion.

Blanton does not support this motion because it is not enough of a reduction for the Commission.

The motion carried 9-1.

Bruno wanted to create a motion that would request the Division re-tool the surveys used for blue crab management. Rice explained that most fisheries do not have as substantial of a data set as the blue crab. He said that twenty years was a substantial amount of time. If this data isn't adequate then he recommended to the crabbers to suggest what would be. Bruno said that the Division needs to look into a winter dredge survey. Rice said that everything was fine with the data until something was a problem. Bruno stated that nobody cared about the data until there was a problem and then they didn't support the data.

Keith Bruno made a motion to recommend the commission investigate re-tooling the data collection system for the blue crab industry and work with the industry to identify a more appropriate sampling approach (ex. winter dredge survey). Riley Williams seconded the motion. The motion passed unanimously.

Michael Blanton made a motion to recommend the commission implement a 5% culling tolerance, eliminate the harvest of V-apron hard crabs, and add two additional cull rings. Glen Barnes seconded the motion.

Steve Bradshaw made a motion to amend the current motion to add install at least one cull ring within 1 full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 15, 2017.

> **Amended motion to recommend the commission implement a 5% culling tolerance, eliminate the harvest of V-apron hard crabs, and add two additional cull rings. Install at least one cull ring within 1 full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 15, 2017.**

Trip asked if there would be a size to the cull ring. Blanton responded that the cull ring would be phased in. Bruno does not see how we can vote this one in when we already have the 10% voted in and if both pass this it sends a mixed message to the Commission.

The motion failed, with a tied vote of 5-5.

Steve Bradshaw made a motion to add two additional cull rings with at least one cull ring within 1 full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 16, 2017. Jim Rice seconded the motion. The motion passed unanimously.

PUBLIC COMMENT

Dave Futrell, commercial crabber in Pamlico River, he questioned the Divisions lack of confidence with the data and using this data to implement management measures on blue crabs. He thinks that 1) sporadic weather events, 2) most crabbers are not trawlers, and 3) we have a good collection of data with trip ticket system. He thinks that the data we have across the state looks good and doesn't show a problem. He doesn't understand why we are using survey data we are not confident with to enact management measures.

Charlie Beasley, Dealer (OBX Seafood), he said that just a few crabbers (10) caught millions of dollars' worth of blue crabs from the Pamlico Sound since November of 2015, trip ticket data will show you. He described that the shed starts in Albemarle Sound in May. They catch them in June (females) and they become dormant in July. Sometime around mid-August they just reappear. In 2015, in the first of August the crabs appeared and had another shed, he set his peeler pots. Talking to the guys around the dock he said that they were going to have a big fall in 2015. Last fall in one day Wanchese said they sent 2,500 bushels north in one day. In Engelhard, the crab house was buying 380, 100 pound crates per day and was having to turn guys away. He moved his pots to Hatteras Inlet in November, and they work the flood tide and water temperature at 43 degrees. The set their pots along that temperature mark through February. A lot of crabbers depend on crabbing around Hatteras Inlet in the winter, if crabbing in that sanctuary was restricted it would affect many people that are making their living on the crabs coming in the inlet.

Jerry Warren, wanted to talk about data on page 23 of the division website (he did not clarify what document he was referring to on the division website), referring to the annual number of license holders. He recalled the number of license issued and the number of licenses used and by how many participants from 2000 to present. He said that the number of crabbers are not increasing. Mr. Warren then read a letter from his boss **Wayne Dunbar**, commercial crabber, he has been crabbing for 38 years. He requested recreational fishermen be able to keep 1 red drum over 28 inches. He thinks that the cownose ray population increase is effecting the harvest of crabs. He opposes size limits on peelers, reducing tolerance of sub-legal crabs, expanding spawning sanctuaries, closed seasons. He supports eliminating V-apron possession (excluding pink and red line crabs).

Gene Ashton, says that crabbers have changed the fishing practice from quantity to quality. They target high dollar crabs. When picking houses closed, the demand for quantity moved to target value. He then asked the average age of the staff conducting the survey, saying that the majority were in their 20's. Adviser Winslow said that the staff member age conducting the survey ranges from 20 to 60 years old.

Jimmy Nobles, commercial crabber Pamlico River, he said that the management measures presented is not what the Blue Crab Plan Development Team discussed. He said that there are a definite number of crabs and the more pots that are put out means that there are just more people sharing the crabs. He also advised that all public present should go to the Commission meeting.

Gilbert Baccus, he says that we can't control the crab and has issues with the staff conducting the study. Some years you catch hardly anything and other years with abundance. Environmental factors effect catch and crab pots are easy to find, for purchase, this year. Usually you are calling around to find crab pots for purchase and now people are calling asking how many do you want to buy. It's an expensive venture to get in.

Paul Bule, recommended amending the fishery management plan for blue crab, resending the traffic light management for blue crab and returning to a total allowable catch based on the three high years of production (1996-1998).

David Gallop, commercial crabber in Columbia, believes that the surveys have large gaps in them because the surveys have changed a lot. He thinks that crabs are migrating a lot later and thinks that the data is not good except for the trip ticket landings. He does not support a 5% cull tolerance, not in favor of prohibiting V-aprons without a 1% cull tolerance. He wants the management process improved.

Jerry Schill, North Carolina Fisheries Association, there were 45 crab processing plants in 1987 and about 6 today. Things have changed with the inability to move from fishery to fishery. North Carolina used to brag about how diverse our fishery was. The diversity was also a conservation component. There were people that got into crab fishing because they were forced out of what they did before for economic reason, now it's because of regulations. The informal recommendation from the North Carolina Fisheries Association would be to mirror the Southern Advisory Committees recommendation.

Perry Wood Beasley, North Carolina Watermen United, he says the crab fishery is sustainable. He does not trust the data or samples. He said that division said that was a problem with recruit in 2006 and in 2008 they caught a lot of crabs. Currently, there are 1,109 crabbers in the state now and only 3% of the crab harvest is from sponge crabs. He says that there have been more crabs caught with less crabbers. He asked for how many test sites we have for samples, he checked and it was 104. He said that he gets reports of bad techniques. He recommends including water quality in management. He recommends a commercial team, with grant funds, that gets paid to troll beside us with crab trawl gear not mongoose nets to catch crabs not finfish. He supports prohibiting V-aprons because they have no meat and are illegal to sell up the road.

Terry Pratt, commercial fishermen, doesn't trust the data or stop light method. He recommends that the Committee request that the Commission revisit the management of blue crabs with the stop light method. He requests a method that is more representative of the real world.

Watson Stewart, commercial crabber, thinks that he is raising the little crabs because they feed off of the bait in the pots and use the pots for shelter from predators. He doesn't understand the trip ticket system. When you have lay days due to harvest in other states or flooded markets. How do you get crab loss when you cannot work? The crabs are there but you can't catch them.

Lauren Berry, commercial crabber, do we take out outliers from the data. Rock replied that we would remove outliers. She was referencing the old assessment where the increase jumped dramatically. She also said that in the literature it says that it takes a crab 60 seconds to get out of the pot. She attributed that time to them feeding. She supports a grant to grow crabs in the shedders for release into a hatchery.

Forrest Oaks, commercial crabber in Columbia, says if we don't recommend some the Commission will do it for us.

Mandy Hooper, thinks it's time to ask the commission to look at a water quality and predators to the stock.

RECOMMENDATIONS TO THE MARINE FISHERIES COMMISSION FOR BLUE CRAB MANGEMENT MEASURES

Keith Bruno made a motion to recommend to prohibit the harvest of V-apron crabs, consistent with moderate management measure option A2 and keep a 10% cull tolerance across the board. Everett Blake seconded the motion. The motion carried 9-1.

Keith Bruno made a motion to recommend the commission investigate re-tooling the data collection system for the blue crab industry and work with the industry to identify a more appropriate sampling approach (ex. winter dredge surveys). Riley Williams seconded the motion. The motion passed unanimously.

Steve Bradshaw made a motion to add two additional cull rings with at least one cull ring within 1 full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 16, 2017. Jim Rice seconded the motion. The motion passed unanimously.

NATIONAL MARINE FISHERIES SERVICE 2016 RECREATIONAL COBIA SEASON

Michelle Duval, Executive Assistant for Councils gave an overview of the NOAA Fisheries 2016 Recreational Cobia season. Duval reviewed the Coastal Migratory Pelagic Amendment 20B and the event that led up to the June 20th closure. The presentation gave details of recreational harvest as well as additional information on size limit and bag limits and how they may prolong the season.

Since 1993, the fishery has been managed by NOAA. Duval described the catch limits and accountability measures. Noting that there are now two stocks of cobia; only one stock was identified in the old assessment. The average weight of fish has risen from 2013-2015. Duval also noted that there were targeted trips in 2015. Most recreational trips only had one fish and most all trips had fish greater than the minimum size of 33 inches fork length. The seasonal distribution of the landings are different for each state. North Carolina peaks in May/June, Virginia peaks in July/August. Overall the percent of landings and total number of pounds increased for all states; however, the percentages varied by state. The majority of harvest comes from private boats sight casting. In 2015, 82 percent of the harvest has occurred in state waters.

Next Duval reviewed the federal statutory requirements (annual catch limits, accountability measures, and averages used to determine annual catch limits). If only 2013 landings were used she noted that the fishery would close June 27. With one fish bag limit (commission recommendation), closure date would have be June 29. Duval noted that different years lead to different closure dates. This year NOAA choose to use the 2013-15 average, thus the June 20th closure date. The MFC requested that NOAA look at how an increase in size limit and lowering the vessel limit will affect the closure date. A May 23 start date was used for North Carolina. The date at which regulatory changes takes place really effects the days gained.

NOAA also looked at a combination of the two (vessel and size limits). Duval noted that whether you went with one or two fish that it really did not expand the fishery by much. A three fish vessel limit, would max out the season to June 30. NOAA used a May 1st start date for the North Carolina and Virginia combined analysis. If North Carolina puts regulations in before May

23 and Virginia puts regulation in before May 1, we could go to a 40 inch size limit with a two vessel limit and fish until July 3rd.

Next Duval reviewed the purpose of the interjurisdictional fishery management plan, describing the management measures in state waters. Duval noted that North Carolina can implement more strict measures or the state can challenge the federal measure with a simple majority. Next Duval reviewed the MFC Cobia management options, giving the pro and cons. Duval also noted that regardless of the option that the commission chooses, they may still want to appoint a compliance advisory panel. Next Duval reviewed the timeline (upcoming federal and state meetings) and asked for recommendations for the 2016 recreational cobia season.

Bradshaw said that based on the data everything was fine with cobia and the size of fish were increasing. They (NOAA Fisheries) even say that cobia are not being overfished. Rice wanted to know what the allowable catch target was before it was adjusted. Duval replied that it was 1.4 million pounds when Florida was included in the biological boundary, but now the boundary has been moved to the GA/FL boarder. Rice asked if we have information on size at age (sexual maturity). Duval replied that cobia are sexually mature at 31 inches. Winslow supports working with Virginia to extend the cobia season.

Duval told the Committee that the Southern Advisory Committee voted to complement the federal closure of June 20 in state waters.

Trip recommended to keep the current cobia minimum size limit at 2 fish per person until the ACL is met. Duval described the 45 day lag period in wave data, so it would be difficult to track when the ACL was met. Blake asked what the ramifications were for non-compliance. Duval said that we could end up with a shorter 2017 season because the quota would be recalculated for overharvest.

Everett Blake made a motion to recommend the Commission maintain the current minimum size limit (33 inches) and one fish per person possession limit through June 20, 2016. After June 20, 2016 implement a two fish per vessel possession limit, becoming out of compliance with Federal Regulations. Jim Rice seconded the motion. The motion carried 9-1.

Everett Blake made a motion to recommend that the Commission appoint a compliance advisory panel to help the North Carolina fishermen recoup the reduction in pound of allowable catch from the cobia reduction. Keith Bruno seconded.

Blake withdrew this motion, allowed by Keith Bruno.

Everett Blake made a motion to recommend the Commission request NOAA Fisheries reconsider the biological boundary between the Gulf and Atlantic cobia stocks. Steve Bradshaw seconded the motion. Motion carries unanimously.

PUBLIC COMMENT

Rick Caton, commercial fishermen from Hatteras, has been in the cobia fishery since he was 18 years old and is 58 years old now. He has problems with the numbers and pounds harvested in the presentation. If cobia is not overfished with no overfishing then why are we doing anything. Ocracoke, Hatteras, Oregon Inlet are big players in the cobia fishery. He has never been interviewed by an MRIP sampler for cobia in all of his years of fishing. He wants an updated economic impact statement. In the last 9 years he saw more cobia spawning. He wants to know if that is taken into account. He says that a vessel limit of 2 does not support their fishery. He supports in going out of compliance with the federal government and rising the size limit to between 37 or 40 inches. He opposes the captain and mate being excluded from the vessel possession limit.

Bill Gorham, passed out materials about the cobia reduction. He said that Virginia is being treated unfairly because they had no members working on the South Atlantic Amendments 18 and 20 that effects cobia. He also talked about discrepancies in minutes from previous South Atlantic Fishery Management Council Statistical Science Committee meetings concerning cobia. He supported going out of compliance with the federal regulations and need for additional data.

Cameron Whitaker, commercial fisherman from Hatteras, said he has never been sampled for and MRIP survey. He supports the state going out of compliance with the SAFMC.

RECOMMENDATIONS TO THE MARINE FISHERIES COMMISSION FOR 2016 RECREATIONAL COBIA SEASON

Everett Blake made a motion to recommend the Commission maintain the current minimum size limit (33 inches) and one fish per person possession limit through June 20, 2016. After June 20, 2016 implement a two fish per vessel possession limit, becoming out of compliance with Federal Regulations. Jim Rice seconded the motion. The motion carried 9-1.

Everett Blake made a motion to recommend the Commission request NOAA Fisheries reconsider the biological boundary between the Gulf and Atlantic cobia stocks. Steve Bradshaw seconded the motion. Motion carries unanimously.

The Meeting adjourned at 11:00 p.m.

Enclosures

Cc:

Catherine Blum	Jess Hawkins	Gerry Smith
Mike Bulleri	Dee Lupton	District Managers
Scott Conklin	Nancy Marlette	Committee Staff Members
Dick Brame	Katie Mills	Marine Patrol Captains
Braxton Davis	Phillip Reynolds	Section Chiefs
Charlotte Dexter	Jerry Schill	

Marine Fisheries
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: Marine Fisheries Commission
Southern Regional Advisory Committee

FROM: Trish Murphey
Chris Stewart
Division of Marine Fisheries

DATE: Apr. 25, 2016

SUBJECT: Southern Regional Advisory Committee Meeting

The Southern Regional Advisory Committee met at 5:30 p.m. on Wed. Apr. 6, 2016 at the Division of Marine Fisheries Central District Office, 5285 Highway 70W, Morehead City. The following attended:

Advisers: Charles Griffin, Pam Morris, Ron McPherson, Chris Medlin, Randy Proctor, Bob Lorenz

Absent: Fred Scharf, Tom Smith, Amy Dickson, Phillip Smith, Chris Hunt

MFC: Chairman Sammy Corbett and Alison Willis

Staff: Trish Murphey, Chris Stewart, Kathy Rawls, Joe Facendola, Jason Rock, Michelle Duval, Tina Moore, Forrest Nelson, Corrin Flora, Nancy Fish, Catherine Blum, Carter Witten, Gary Wright

Public: David Bush, Brent Fulcher, Federico Creekmore, Glen Skinner, Wayne Dunbar, Ken Seigler, Charlie Renda, Jr., Michael Shutak, Carolyn Wood, Dale Seaford, Cathy Fulcher, Andrea O'Neal, Steve Weeks, Charlie Renda, Jan Willis, Lauren Salter

Pam Morris, serving as chair, called the meeting to order. Morris reminded the audience that this committee provides advice to the Marine Fisheries Commission and that this committee does not make rules. She reminded the public to sign up to speak.

MODICATION TO THE AGENDA

No motion was made to approve or modify the agenda.

APPROVAL OF MINUTES

Randy Proctor made a motion to approve the Dec. 21, 2015 minutes. The motion was seconded by Charles Griffin. The motion passed unanimously.

REVIEW OF THE DRAFT ISSUE PAPER REDUCING SHELLFISH LICENSE OYSTER HARVEST LIMITS STATEWIDE

Joe Facendola, Fisheries Management Plan co-lead gave a presentation on the draft issue paper "Reducing Shellfish License Oyster Harvest Limits Statewide. He explained that the commission at its meeting in February made a motion to reduce the bushel limits on oysters for shellfish license holders to 2 bushels per person/ 4 bushels per vessel statewide. This management strategy was not presented to the public therefore the commission requested that this be presented to the regional committees for their input. Facendola reviewed the Division and Advisory Committee recommendations as well as the Marine Fisheries Commission motions made at the February meeting. Facendola provided background on the Shellfish License, described landings and participants data grouped by waterbody of harvest (four regions) and license holder data grouped into five regions by county of residence of license holder. He noted that a license holder may have landings come from multiple harvest regions and that not all license holders sell their catch. The southern region had the highest number of shellfish licenses sold and highest percentage of total licenses sold with trip ticket landings. He noted that some individuals just sell clams with a shellfish license. Sixteen percent of the licenses sold show public bottom oyster trips, 32 percent show landings for any shellfish species. The number of licenses sold, peaked in 2002 and again in 2011. In 2015, 27 percent of shellfish licenses holders had trip ticket landings for oyster off public bottom. The increase in landings in bushels seem to be increasing due to the Shellfish License holders. Annual average number of trips by Shellfish Licenses holders with landings is also increasing. Roughly 39 percent of the public hand harvest oyster trip ticket landings statewide come from shellfish license holders fishing in the southern and central areas. In the southern region the number of Standard Commercial Fishing License holders have stayed relatively stable; however, the overall number of participants has increased. Overall, we are seeing a decrease in the number of bushels per trip. In the central region the Standard Commercial Fishing License participants has remained somewhat steady. There is a slight decline in the number of bushels per trip in this region as well. In the Pamlico and Northern regions there is relatively small growth in the number of participants. Facendola indicated that the removal of oysters from the shellfish license would eliminate recreational use of the Shellfish License to land commercial limits of oyster and potentially reduce commercial harvest pressure and impacts which is greatest in the southern region. Facendola expressed enforcement concerns as well. He reviewed the three options for the committee to vote on which included: Status quo, reduce the Shellfish License oyster bushel limit to a lower specified amount statewide, and reduce the Shellfish License oyster bushel limit to a specified amount regionally.

Bob Lorenz asked why the shellfish license was originally established. Morris indicated that it was done to benefit shell fish lease participants who had others working their leases. Lorenz asked if 39 percent was really all recreational. Facendola, indicated that the 30 percent in the southern region was just the percent of the total hand harvest oyster landings from shellfish license holders. Lorenz asked if you remove oyster, what could be harvested. Facendola indicated, scallops and clams. Chris Medlin, noted that people in his area typically got the license because they were going through hard times. He added that most do not have boats and he would

hate to see these guys pushed out. Lorenz asked if it made more sense to get a true count of the numbers oysters taken and maybe not knock out the recreational guys. Morris indicated that if you have paid for a license and have not used it; taking it away is not right. Nancy Fish, Marine Fisheries Commission liaison clarified that the commission is asking the committees to comment on if they should extend the two bushel limit statewide verses south of the Highway 58 Bridge. Morris indicated the commission chose not to go with what the Oyster/Clam Fishery Management Plan Advisory Committee decided when first asked and that her opinion has not changed. Tina Moore, Fisheries Management Plan co-lead reminded the committee of the motions made at their last meeting in December. She noted that they voted to eliminate oysters from the shellfish license and that they did not vote on the two bushel limit in the south. Moore also indicated that they voted to expand sampling as well.

Facendola next reviewed the pros and cons of each option. Lorenz asked if we could manage oysters like what is done with crabs (i.e., traffic light), noting the southern region of the state would likely have a red light, the central a yellow and both the Pamlico and northern areas a green light. He felt that option 3 would be best. Asking, why penalize everyone if the problem is localized in the southern region. Morris agreed and noted that what the original committee motion went with something along those lines.

PUBLIC COMMENT

No public comment

RECOMMENDATIONS TO THE MARINE FISHERIES COMMISSION FOR THE SHELLFISH LICENSE

Bob Lorenz made a motion to support option 3 (Reduce the Shellfish License oyster bushel limit to a specified amount regionally) that reduces the southern region defined as south of the Highway 58 Bridge to two bushels per license (four bushels per vessel). The motion was seconded by Chris Medlin. The motion passed unanimously.

REVIEW OF BLUE CRAB TRAFFIC LIGHT AND MANAGEMENT MEASURES

Jason Rock, Blue Crab fishery management plan co-lead gave an overview of the Blue Crab Traffic Light. He gave a description of the difference between qualitative and quantitative indicators as well as what the colors of the traffic light mean. Rock indicated that the Traffic Light was implement in 2013 with Amendment 2 of the Blue Crab fishery management plan. He described the indicators, management thresholds and management levels as well as the management triggers. He described the three year timeframe, noting that the timeframe was set by the commission (and recommended by Division) to account of annual variability as well as providing safeguards for the stock. The adult abundance was tripped in 2015, reaching the 50 percent threshold. This was the third consecutive year that adult abundance was exceeded. The recruit abundance was also tripped in 2015 (75 percent threshold); this was the fifth consecutive year. The production trigger was not tripped in 2015 (44 percent Red). Next Rock reviewed the individual indicators for each component of the traffic light. Rock finished the presentation by showing how the traffic light tracked with the commercial hard crab landings 1987-2015.

Chris Medlin asked what changed from 1996-97. Rock indicated that there were several hurricanes; however, as of late we have not had too many. Morris asked if the division factored in the reduced number of commercial fishermen in the analysis. Rock indicated that effort data is not factored in; however, he did look at it. Rock noted that effort, number of trips, number of pots has remained stable for the last 10 years. Morris asked about independent data. Rock indicated the data comes from independent survey data. Morris asked if the 1990s were taken into account. Rock indicated that during the 1990s there were more trips; however, the number of pots was not as high. Morris noted that in the 1990s people were fishing over 2,000 pots each and indicated that there is much less effort in Core Sound now. She wanted to be sure that we are not penalizing crab fishermen because of biased data. Rock noted that when there was more effort there was more green years in the traffic light. However, landings data are not part of the traffic light and that they do not influence the results. Lorenz noted that he saw in the National Fishermen that 3 million plus pounds of blue crabs were harvested last year; the second biggest harvest in the last few years. He was under the impression that things were good. Rock indicated that the landings are half what they were in the 1990s; however, last year was a good year. Medlin noted that fishermen in his area have indicated that there has been a decline and that they suggest we eliminate sponge crabs, limit pots to 200-300 per fishermen, make Rich/Banks Channel a sanctuary, close south of Core Sound in February, and get more ghost pots out of the water. Medlin noted that this only represents the thoughts of fishermen in the Surf City / Topsail area. Both Lorenz and Medlin questioned why we still allow the harvest of sponge crabs. Morris indicated that in the 1950s a law was put in place to stop taking sponge crabs. Later this was rescinded, because the female crabs settle in grass beds and the scientists at the time indicated that only three crabs could support the fishery. Harvest in the Outer Banks would be severely limited if sponge crabs could not be harvested. Commission Chair Sammy Corbett wanted to clarify that the pot clean up lasted 11 days in the southern portion of the state and that no ghost pots were found following the end of the season; noting that he and Louis Daniel, Past Director, went out and could not find any along the ICW. Commissioner Corbett also commented on how the indices were calculated, noting that the data did not come from crab pots or shrimp trawls, but from several of the division's independent sampling programs as well as dependent fish house data. Rock described further how the fish house data were collected. Medlin asked if only three crabs could populate the sound. Rock indicated that on paper yes, but due to high mortality at that phase it would not be very likely.

Next Rock went through the Traffic Light Adaptive Management Measures (moderate and elevated for the adult and recruit abundances). Rock gave examples of what type of management measures could fall under the more broad measures. One option would be to increase the minimum size limit for male and immature female crabs. In doing so, going to 5.25 inches would be an estimated 35 percent reduction in landings (0 percent culling tolerance, 5 percent in rule). Going to 5.75 inches would give an estimated 52 percent reduction. Going to 6 inches, would be roughly a 69 percent reduction. Recoupment would be likely happen as crabs grow. Another option would be to eliminate the harvest of v-apron crabs, immature hard crab females; however, this would have minimum reductions and recoupment would likely happen as crabs grow. Reducing the tolerance of sublegal crabs to a minimum of 5 percent, would have minimal reductions. Moderate management measures also include removing escape ring exemptions for eastern Pamlico Sound and Newport River. Increasing the cull rings to 2 3/8 – 2 ½. Rock indicated that two studies looked at cull ring size and how it affected catch. The first study, catch

rate of sublegal males was reduced by increasing cull ring size, legal males and mature females were maintained, body length of minimally legal male crabs was not less than the current minimum cull ring size. Another gear modification would increase number of cull rings from 2 per pot. Rock also noted that it could be required that the cull ring be located near the floor of the upper chamber; 60 percent of sublegal crabs escaped in the first hour. An adaptive management measure (recruit moderate) such as establishing a seasonal size limit on peeler crabs is another option. Establishing a 3.25 inch minimum size would yield roughly a 4.8 percent reduction, going up to 3.75 minimum size would yield roughly a 19 percent reduction. Another management measure would be to restrict trip level harvest of sponge crabs (tolerance quantity, sponge color). The committee could also chose to close crab spawning sanctuaries from September 1 through February 28 (now March 1 through August 31). Rock indicated that the sanctuaries are mostly in the northern part of the state. Another option is prohibiting the harvest of sponge crabs. The largest impact would be the Pamlico area, statewide it would be roughly a three percent reduction. Eastern Pamlico Sound would be impacted the hardest. This measure would require sponge crab excluders in specific areas. Rock noted that once eggs are damaged, the crabs typically release the eggs as some studies have indicated. Another management option would be to expand the existing and/or expand new crab spawning sanctuaries. The size of the new sanctuaries would vary with inlet size. The harvest with dredges (one currently around Oregon Inlet) could also be limited. Rock noted that the dredge landings mostly have been coming from oyster dredges (~2k lbs. /year). Another option would be to move the crab trawls back to the shrimp trawl lines in Pamlico and Neuse rivers; moving down toward the mouth of the rivers. Season closures are another adaptive management option for the recruit elevated scenario, closures could occur during periods where a lot of are sponge crabs are present in April and May (based on fish house data). Other season closures include (also related to peak sponge crab abundance). Gear modifications in the crab trawl fishery include increasing the tail bag minimum mesh to four inches statewide and also falls in the recruit elevated category. Some studies have shown a reduction in the number of sublegal crabs as you increase tail bag mesh size. Rock asked the committee to consider all the options listed and noted the members could also present options not listed.

Lorenz noted that with all the available options presented it was a daunting task to make a motion. Lorenz indicated that he would like to limit bottom disturbance and to protect spawners. Lorenz asked Rock how many times a sponge crab can spawn. Rock indicated that once fertilized, a female crab can keep producing offspring throughout the year. Lorenz also asked about the planktonic stage of crabs. Rock indicated that there is a megalope stage and is distributed around the inlets. Rock indicated that they can have multiple sponges in the year. Medlin asked if they could have more sponges after being caught in a pot. Rock indicated yes they could have more. Corbett commented that he and fishermen in his area do not keep sponge crabs. Corbett also noted that he and other fishermen do not keep v-apron crabs either. He also does not have a problem with the five percent or three percent cull tolerance. The smaller crabs are not worth as much. Corbett went on to say, there are more pots, even though there are less crabbers/participants. He also noted that he would like to see the Amendment process started. Corbett clarified that the sponge crab excluder is more or less the terrapin excluder. Noting that he used them while working on a Sea Grant project. He saw a 100 percent reduction in stone crabs and he catches/sell a lot of stone crabs; thus his fear in going to excluders. As with flounder, seasonal closures will cripple the industry. Corbett also commented that season

closures will put the crab houses out of business and North Carolina will likely be importing of crabs from Virginia.

Morris, noted that the central area is quite different than the southern area. Core and Pamlico sounds are different; noting there are several members from this region who would like to talk. Morris opened the floor for public comment.

PUBLIC COMMENT

Glen Skinner – Commercial fisherman (crabber) from Carteret County - Really do not have an option he supports, noting that they are all valid options. He asked the committee strongly consider the diversity of the state, if you take sponge crabs away you will kill some areas. Please make your recommendation specific to each area.

Wayne Dunbar – President of Pamlico Co. Fisherman Association who has 38 years of crabbing, crabs are an annual crop (much like shrimp), he makes 90 percent of his living with crab pots. Pollution is the problem, let sport fishermen keep one drum over 28 inches (they take too many crabs, as well as cownose rays). As far as increasing the size limit of males and immature females; he is opposed to increasing the size limit for males (less money for everyone). He is opposed to a seasonal size limit for peelers; citing that size does not matter for soft crabs. In regards to reducing tolerance limits, it puts a burden on crabbers; we currently throw the little ones over. In regards to v-apron crabs, he is for this as it excludes pink and red line peeler crabs; this is a good idea. Restricting all harvest of sponge crabs, this will hurt everyone and excluders are bad as well. I am opposed to season closures opposed (February is high dollar time of year). He is opposed to expanding sanctuaries (limits crabbers even more). He is opposed to season and gear closures, we will face problems like what happened in Virginia (the price goes down after the market is flooded on opening day; the price fell below $0.80). Supply and demand is crab management in a nut shell. This year oystering got so bad, many went back to crabbing. We need to stay flexible, no more closures are needed. He opposes any gear modifications in the crab fishery. Alton Parker told him to be careful what you ask for, some of the rules he helped make are now causing me trouble. There is nothing wrong with the crab population. Last year we had one best years since the hurricanes. We had lay days due to many crabs on the market. Some scientists wants to justify their job. Crabs are an annual crop, regulations will not make a difference.

Ken Siegler – Commercial crabber – The excluder will eliminate stone crab market. The division is confused about the spawning areas, citing that crabs do not spawn directly in inlet areas, they are looking for grass to rub eggs on right off the shoals. He knows from experience. Spawning occurs outside the ocean front, tides are too great by inlets. “Transport” from recruitment abundance to adult abundance is limited due the red drum population (the crabs are being eating before they can be adults). Schools of red drum have wiped out the crabs. This has been seen in Virginia. Red drum were eating all the peelers and sponge crabs. Nobody is looking into this problem. We need to control the red drum population.

Brent Fulcher – 3rd generation commercial crab processor/dealer from Carteret/Craven County, Chair of North Carolina Fisheries Association - If you take sponge crabs out of the mix it will

not change anything; it will not increase production. Look at Virginia and Maryland, the do not allow harvest and things are no better there. He asked how the division got at the reduction from peelers. Noting that it does not relate to biomass. The problem is with management, big landings do not relate to CPUE due to the lack of participants (look at Cedar Island). There is less gear in most regions now than what was seen in the past. V-apron crabs is a good move, past that you will hurt the fishery. Look at the predation on crabs. Look at the huge landings in the shrimp trawls as bycatch in the 90s; that has now been reduced. The bycatch provides a good food source in past years, reductions in bycatch is related to reduced landings. Look at the Gulf States, the bycatch provides an additional food source. In regards to cull ring and their use in certain areas, there is another life phase/morphology of immature crab (Corbett – "Hickory Sook") that does not get any larger than three inches. The smaller rings were originally removed to exclude these crabs to limit the proliferation of these smaller crabs. Morris commented that she agreed with Brent and that the cull rings and sponge crab laws were rescinded because they were useless laws.

RECOMMENDATIONS TO THE MARINE FISHERIES COMMISSION FOR BLUE CRAB MANAGEMENT MEASURES

Morris noted again that certain regions will be hurt more than others. Morris went on to say that around Drum Inlet you find dead crabs everywhere; noting that they die shortly after they spawned, they only live 18 months. Morris did not want her people to be damaged by something that is not reality. Lorenz indicated that he was taking the other side and that with all due respect he trust the division's science over professional experience. Lorenz asked Rock to speak up, if he believes different than what has been said. Lorenz went on to say that he likes ideas of protecting spawners and that he does not agree with A1 due to other states' size restrictions. Lorenz said he likes A2, A3, R2, R4 and possibly R7. This is a starting point, his bias is to protect the spawners as much as possible. Corbett asked Lorenz to further detail his thought on restricting the level of sponge crabs with R2 and how it was different than what is in R4; what is his reasoning? Lorenz stated that this is the simplest way to start in his opinion. Corbett noted that if you put the excluders in, that you might as well do it all. If excluders are forced to be put in pots, the industry will shut down. Randy Proctor noted that we are mandated to do something. He asked Corbett and Fulcher what they would do. Corbett noted the v- apron rule is good, he does not keep sponge crabs. However, Fulcher uses them at the picking house. Corbett went on to say that R4 (excluders) will put everyone out of work. Proctor asked Fulcher what is the most tolerable solution. Fulcher noted that the industry is diverse and is regionally specific, you need to look at more than just the resource. In the 1990s there were 40 plus picking houses, now there are eight. Production is down. If there is no market for them the landings will be down. You have to look at other forms to sell the product, thus the industry needs year around access. Fulcher noted that the v-bellies would be a good solution and as far as sponge crabs goes he is not in favor and that has not helped Virginia. Fulcher went on to say that sponge crabs are off the table as far as he is concerned. He further noted that crab trawl production is not what it used to be, the bottom is stagnate and the crabs are not migrating. If you expand your sponge crab area this may work. It appears to be working. Production has been stable since 2000, effort is down, but this does not tell the whole story. There will be peaks and valleys in the landings. Something happened in the late 1990s, no plants, no production, nowhere to sell crabs. The shrimp trawl industry is down, there have been major hurricanes. Too much management has become a problem, changing the industry. We need to look at a shorter periods of time. Proctor also noted that clean water is

needed, but we have to do something. Morris reminded the committee can choose their own path with this matter and that they do not have to follow the division's recommendations.

Rock asked if it would help if he reviewed each of the Adaptive Management Measures. Morris suggested that we break down what the committee can vote on. Rock noted that they can vote on the moderate and elevated management measures in the adult and recruit abundance characteristics. Lorenz noted that the size limit was not a viable option right now. Proctor agreed. Lorenz, Proctor, and Ron McPherson indicated that they agreed with A2 and A3. Charles Griffin asked if this was statewide or regional, indicating that he would like to see regional recommendations. Rock indicated that Commission would have to motion to apply these regionally. Morris noted that many of the fishermen in each region already have a gentlemen's agreement, thus it may not be needed. Rock indicated the management measures would apply statewide as indicated in the fishery management plan. Griffin stated that he is good with A2 and A3. Medlin stated he was good A3 and asked with A2, what percentage of crabbers come in with more than 5 percent and if it will have an impact. Corrin Flora, Blue Crab Fishery Management Plan co-lead indicated that 13.2 percent of the trips come in with more than five percent v-apron immature crabs. Medlin indicated that he was good with A3. Proctor makes a motion to go with A2 and A3,

Randy Proctor made a motion to reduce the tolerance of sub-legal size blue crabs to a minimum of 5 percent and directed the Marine Fisheries Commission to look at gear modifications to reduce sublegal catch and to eliminate harvest of v-apron immature hard crab females. The motion was seconded by Ron McPherson. The motion passed unanimously.

Rock asked that they go back to and look at the gear modification part. Morris indicated that committee understanding was that the commission would look into gear modification to reduce sublegal crab; however, the committee did not vote for specific ones. Both Proctor and McPherson agreed with this clarification.

The 'R' options were discussed next. Randy asked that they eliminate R6, R3, R5, and R4. The committee asked that size limit of peeler crabs also be taken off the table. Sponge crabs are the issue. Medlin noted that they should get rid of R1 and R6. McPherson noted that if you make it illegal to take sponge crabs it will not matter he is hearing; thus, why is this a topic, it limits crabbers, many don't take them. Griffin requested that they remove R1, R3, R5, R6, and R7. Medlin agreed to drop R1, R3, R5, and R6 but he would like to discuss R2 and R4. Morris reviewed the recommendation to take R1, R3, R5, R6, and R7 off the table. Lorenz indicated that he did not want to limit peeler crabs due to their value. Lorenz also asked what the modifications would be in R7. Rock indicated that would include a tail bag mesh increase from three to four inches, to reduce sub-legal crabs, noting that some would lose a percentage of catch and have to get new tail bags. Overall the committee was agreeable to removing R2 and portion of R4. Proctor asked about black sponge crabs. Rock noted that brown and black sponges are the later stages sponges. Lorenz asked more about excluders and how it limits sponge crabs. Morris noted that it limits stone crabs too. Corbett noted that in his experience, excluders also reduces the number of high value jimmy crabs. The discussion focused on the harvest of sponge crabs. Medlin asked what would be the easiest to enforce, and in regards to cull tolerance, what would

be the easiest to enforce percentage or color. Marine Patrol Major Dean Nelson explained that it would be fairly easy to do. Glen Skinner, indicated that the market does not like the black sponges due to ammonia content. Virginia does not allow fishermen to the take of brown and black sponge crabs. Morris noted it would be too hard to tell the difference between brown and black. Griffin indicated that he would like a regional breakdown. He asked about what the Northern Committee decided. Morris indicated that the Southern Committee is the first to vote and noted that Core Sound has the majority of the sponge crabs, thus it is not as a big of an issue for people in the northern portion of the state. Morris indicated that up north, they have more 'whale' and 'dick' crabs. Proctor stated that he is ok with eliminating black sponge crabs.

Randy Proctor made a motion to designate no take on black sponge crabs with a cull tolerance of 5 percent. Ron McPherson seconded the motion.

Discussion of the motion followed. Griffin asked how long would the rule be in effect. Rock indicated that they would be in place for 3 years until the triggers fall back. Morris stated that it will never happen. David Bush, noted that the color could change overnight. Bush asked they consider a percentage of black. Lorenz stated that he has trouble voting for this motion, noting that it is too soft of a management measure and that he would prefer something more restrictive for sponge crabs like R2 with a regional component. He indicated that he cannot believe we still allow the take of sponge crabs; noting that it is for the good of the resource and that North Carolina is the only state that allows this. Morris agrees with the regional aspect. However, we are our own state. They process our crabs, they still have issues with their crabs with the no sponge regulations. Let us separate the state, the central region of the state does not like or need it. Proctor asked Lorenz about some sponges being taken regionally or if it was all or nothing. Lorenz indicated that he would like to include all sponges.

Motion passes 4-2.

NATIONAL MARINE FISHERIES SERVICE 2016 RECREATIONAL COBIA SEASON

Michelle Duval, Executive Assistant for Councils gave an overview of the NOAA Fisheries 2016 Recreational Cobia season. Duval reviewed the Coastal Migratory Pelagic Amendment 20B and the event that led up to the June 20th closure. The presentation gave details of recreational harvest as well as additional information on size limit and bag limits and how they may prolong the season. Since 1993, the fishery has been managed by NOAA. Duval described the catch limits and accountability measures. Noting that there are now two stocks of cobia; only one stock was identified prior to the assessment. The average weight of fish has risen from 2013-2015. Duval also noted that there were more target trips for cobia in 2015. Most recreational trips only had one fish and most all trips had fish greater than the minimum size of 33 inches fork length. The seasonal distribution of the landings are different for each state. North Carolina peaks in May/June, Virginia peaks in July/August. Overall the percent of landings and total number of pounds increased for all states; however, the percentages varied by state. The majority of harvest comes from private boats sight casting. In 2015, 82 percent of the harvest has occurred in state waters. Next Duval reviewed the federal statutory requirements (annual catch limits, accountability measures, and averages used to determine annual catch limits). If only 2013 landings were used she noted that the fishery would close June 27; including the North Carolina one fish bag limit (commission recommendation), closure date would have be June 29. Duval

noted that different years lead to different closure dates. This year NOAA choose to use the 2013-15 average, thus the June 20th closure date. The Commission requested that NOAA look at how an increase in size limit and lowering the vessel limit will affect the closure date. A May 23 start date was used for North Carolina. The date at which regulatory changes takes place really effects the days gained. NOAA also looked at a combination of the two (vessel and size limits). Duval noted that whether you went with one or two fish in combination with a size limit increase, that it really did not change the projected closure date by much (maximum July 6). A three fish vessel limit in combination with an increased size limit, would max out the season to June 30. For the North Carolina and Virginia combined analysis, if North Carolina puts regulations in on May 23 and Virginia puts regulations in on May 1, we could go to a 40-inch size limit with a two fish vessel limit and fish until July 3rd, or until July 15th with a one fish vessel limit. A 45-inch size limit and a one-fish vessel limit would result in no closure. Next Duval reviewed the purpose of the Interjurisdictional Fishery Management Plan, describing the management measures in state waters. Duval noted that North Carolina can implement more strict measures or the state can challenge the federal measure with a simple majority. Next Duval reviewed the Commission's Cobia management options, giving the pro and cons. Duval also noted that regardless of the option that the commission chooses, they may still want to appoint a compliance advisory panel. Next Duval reviewed the timeline (upcoming federal and state meetings) and asked for recommendations for the 2016 recreational cobia season.

McPherson asked about how the lengths were collected for the recreational fisheries and about the percentage of undersize fish. How was that number calculated? He indicated that he sees more undersized fish and thinks the numbers are off. Duval indicated that the numbers are just those fish that are harvested, based on at dock interviews and phone surveys. This is what is brought back to the docks. McPherson asked if the 900,000 pounds was extrapolated. Duval explained that it is estimated by Marine Recreational Information Program (MRIP) national protocol. Lorenz noted that all this reminds him of the black sea bass. He asked if he was wrong; that in 2015 lots for fish were caught, mostly big fish. The CPUE was the same, thus it appears stable and healthy to him. He asked, if this is true, what is the problem? Duval noted that federal law requires that there is a quota regardless if overfishing is happening; this assures we do not overfish. It may be time to update the stock assessment to determine if we have had good recruitment since 2011. Lorenz stated that he is worried that the commercial quota will be blown out of the water. Duval noted that it could happen. Duval noted that there is not a federal commercial cobia permit currently, but there is a federal charter/for-hire permit required to fish in federal waters. . Griffin noted that commercial guys do not typically target cobia while netting and long lining. He suggested if there was a regulation to set an equal amount of bycatch to keep two cobia that may work; this is merely a suggestion. Duval noted that some are concerned, a charter boat guy will buy a Standard Commercial Fishing License to keep two. McPherson noted that you cannot do that. Once a crew comes out, it is a charter, noting that you cannot use a commercial license at that point; this will not be problem. Medlin worried that some will try to cheat, thus changing trips mid trip. Medlin asked how long we have to pay this overage back. Duval noted that this is not a payback. The season is merely being shortened to make sure we do not go past the annual catch target. Next year we have the same annual catch limit (620,000 pounds) and annual catch target (500,000 pounds); however, the length of the season could be shortened again if the annual catch limit is exceeded in 2016. The average 2015 and 2016 harvest will be used to determine if the 2016 recreational annual catch limit was exceeded.

Duval noted that the South Atlantic Council is working to change this accountability measure as soon as possible. Morris noted that in North Carolina the cobia season around the Cape is May to June, so would it not be better to accept the June 20 closure and be done with it.

RECOMMENDATIONS TO THE MARINE FISHERIES COMMISSION FOR 2016 RECREATIONAL COBIA SEASON

Bob Lorenz made the motion to advice the Marine Fisheries Commission to complement the federal management measure in state waters for Cobia. The motion is seconded by Randy Proctor.

Discussion of the motion followed. McPherson indicated that he does not like it because he takes people on bottom fishing charters all the time, noting that people like catching and taking home big fish. He catches cobia more outside of June (August-September), thus limiting what his charters can keep. Medlin indicated that people gaffing cobia off the piers would be a problem because no one would use the nets. Duval asked the committee how they felt about an increase in the minimum size limits to increase season. Duval noted that the actions were for 2016 only with hopes to extend the season as much as possible. She stated that you would still be allowed to catch them; however you just could not keep them. Lorenz noted, why bother for one day. Morris agreed and worried that an increase in size limit would remain and would not go away. She suggest that the Commission not comply because it is only one year. McPherson asked that if number of pounds for 2016 were averaged with 2015 and it came out to be less than the 620,000 pounds then we would be ok. Duval, noted that she still has a few questions about how this will work, but because 2015 harvest was so high, that average would likely still exceed the 2016 annual catch limit. Proctor agreed with Chris about cobia on the pier and worried that this will be a problem noting that drop nets won't work for pier fishermen. Can we allow them as an exception? It was noted that no one gaffs big drum off piers, there was a big run off the Topsail piers this year and that if the word is out; no one will do it.

The motion passed 6-1.

PUBLIC COMMENT

Charlie Renda, Jr. – Member of Finfish Committee - We do not have a Joint Enforcement Agreement, we are a sovereign state, thus we do not have to comply, and most cobia are caught in state waters. This is a joint matter with eight states and we have been given a quota. The combination of the recreational and commercial catch will hurt the commercial catch. The recreational fish are not getting measured and counted like the commercial guys. Every commercial fish is accounted for. The recreational guys catch needs to be accounted for, especially the private fishermen. The estimation of 630k is just a guess. Combine these estimates with the commercial catch, is bad. Do not conform. We are the only place with no Joint Enforcement Agreement. Duval corrected a few comments Renda said, noting that the data are not combined. The accountability measure is what you are thinking about, not the data. If the total ACL is exceeded, the accountability measures get triggered. The commercial ACL was not exceeded, the recreational harvest was. They are not combined into one big quota. Renda did not

agree. Duval indicated that she would talk with him after the meeting. Morris indicated that she agreed and that we did not have to comply with this.

MARINE FISHERIES COMMISSION UPDATE

Fish review the agenda for the next Marine Fisheries Commission meeting to be held in Morehead City May 18-20, 2016. On the agenda are the Oyster/clam Shellfish License, Blue Crab Traffic Light, Cobia, reviewing several issue paper rules with voting in August. The Total Allowable Landings (Catch) TAL of southern flounder for pound nets by waterbodies will be presented at the May meeting. The will be other topics discussed as well.

Ron asked for a copy of the press release for what happened at the February Commission Meeting.

PLAN AGENDA ITEMS FOR NEXT MEETING

The next meeting will be July 6, 2016 in Morehead City. We met twice in row in Wilmington, thus the next meeting will be Morehead. Things will be back to normal afterwards. Morris commented for the record on red drum. She asked about the status of the Red Drum fishery management plan. Catherine Blum, Fishery Management Plan and Rules Coordinator, stated that the stock assessment was going to the ASMFC board in May. She also noting that the timeline has not been established and that the stock assessment is still undergoing peer review. We will know more in May. Morris stated that she thought the red drum were a scourge to other species. She stated that she felt that they have been not overfished for a while and the division has said they are recovered. She stated that the management measures need to be reviewed because of the predation impacts to other fisheries. She would like to see the slot limit and commercial limits reconsidered, among other things.

McPherson asked about recreational southern flounder closure. Chris Stewart, division biologist, stated that it would close October 16th and will open again on January 1st the following year.

The meeting adjourned at 9:35 PM.

Enclosures

Cc:

Catherine Blum	Jess Hawkins	Gerry Smith
Mike Bulleri	Dee Lupton	District Managers
Scott Conklin	Nancy Marlette	Committee Staff Members
Dick Brame	Katie Mills	Marine Patrol Captains
Braxton Davis	Phillip Reynolds	Section Chiefs
Charlotte Dexter	Jerry Schill	

Marine Fisheries
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MEMORANDUM

TO: Marine Fisheries Commission
Shellfish/Crustacean Advisory Committee

FROM: Trish Murphey
Anne Deaton
Division of Marine Fisheries

DATE: April 28, 2016

SUBJECT: Shellfish/Crustacean Advisory Committee Meeting

The Shellfish/Crustacean Advisory Committee Meeting met at 6 p.m. Thursday, April 14, 2016 at the Division of Marine Fisheries Central District Office, 5285 Highway 70 West, Morehead City, N.C. The following attended:

Advisors: Joe Shute, Ted Wilgis, Mark Hooper, Martin Posey, Mike Marshall, Tony Tripp, Bruce Morris, Adam Tyler, Janet Rose, Perry Beasley

Absent: Jim Hardin

Staff: Trish Murphey, Anne Deaton, Kathy Rawls, Katy West, Dean Nelson, Catherine Blum, Jason Peters, Garry Wright, Jason Rock, Corrin Flora, Jeff Dobbs, John McConnaughey, Nancy Fish, C.J. Alley, Steve Murphey, Tina Moore

Public: Jerry Schill, Pam Schill, Frank Helms, Brenda Helms, Glen Hadder, Chuck Laughridge, David Kielmeier, Glenn Skinner, Kenny Rustick, Forrest Oakes, Mike Blanton, Alison Willis, Randy Milam Jr., Gary Cannon, Bradley Styron, Dan Wheats, Tara Foreman, Patrice Clarke, Dennis Foreman, Josh Spencer

Joe Shute, serving as chair, called the meeting to order. He reminded the advisors that only management options for blue crab would be discussed at the meeting.

MODIFICATIONS TO THE AGENDA

Mark Hooper made a motion to accept the agenda. Martin Posey seconded the motion. The motion passed unanimously.

APPROVAL OF MINUTES

Mark Hooper made a motion to approve the minutes. Janet Rose seconded the motion. The motion passed 4 to 1 with 2 abstention.

REVIEW OF BLUE CRAB TRAFFIC LIGHT AND MANAGEMENT MEASURES

Jason Rock presented the blue crab traffic light update. Rock provided an overview of the traffic light, discussed indicators, colors, the three characteristics, and thresholds used in the traffic light. He provided the results of the traffic light and that the adult abundance had exceeded the 50 percent threshold for the third consecutive year. He also provided a comparison of annual patterns in the traffic light indices and the commercial landings, illustrating similar patterns. Janet Rose asked how the data for the traffic light was obtained. Rock replied that it was based on fishery independent trawl surveys and fish house sampling. Perry Beasley commented that the trip ticket data was not being used and stated that he did not believe that the independent trawl survey data was an accurate measure of abundance, especially for small crabs. He thought that the number of crab pots being fished may not be accurate but that the trip ticket data was, and that should be used in the assessment. He added that he thought the fishery independent data were bad, and the commercial industry as a whole did not believe it. He suggested that observers be used on crab pot boats. Rose asked how the fish house data are collected. Rock replied that the catch is subsampled after it is graded. Mark Hooper asked for clarification on length at maturity. Rock explained that length at maturity is the size at which 50% of female crabs are mature. Hooper stated that you need to consider the market and the weather. He believed that the traffic light needed to be more refined. Tony Trip commented that he had to turn crabbers away this season because there were so many crabs being harvested. Adam Tyler had concerns over the crabs that are being discarded and therefore not sampled at the fish house. Rose was concerned that the traffic light does not paint the whole picture.

Rock then presented the suite of adaptive management measures available for consideration based on results of the traffic light analysis. These include moderate management level management for the adult abundance characteristic and the elevated management level for the recruit abundance. Beasley commented that due to few picking houses, there is very little harvest of sponge crabs, and is therefore self-limiting. Hooper stated that in 2015 there were no sponge crabs harvested. Rock confirmed that they saw no sponge crabs in the fish house sampling as well.

PUBLIC COMMENT

Jerry Schill, North Carolina Fisheries Association, commented that if fishermen have faith in the process they will abide by the regulations. However the fishermen do not have faith or confidence in the Marine Fisheries Commission and Division of Marine Fisheries, primarily due to the southern flounder management decisions. He recommended that the committee share the recommendations of the other advisory committees, and to recommend minimal management measures to the Commission. He also recommended that the division have a workshop for the commercial industry explaining the data collection methods to improve industry understanding. He advocated for industry observers go on division independent sampling trips. He explained that one of the main issues limiting the number of picking houses in the state is stringent requirements on the H-2B visa program (allows nonimmigrant workers to temporarily work in the US for seasonal or intermittent employment). North Carolina has diverse fisheries and a lot of fishermen are moving into crab potting. Lastly, he recommended that the division look into the effects of blue catfish predation on blue crab abundances.

David Keilmeier, commercial crabber, asked what sponge crab excluders look like. Rock explained that they are a rectangular ring with a slightly smaller opening than a terrapin excluder. Keilmeier commented that he crabs commercially in several states and has seen moratoriums on sponge crabs have a positive impact on blue crab populations. He stated that it seemed like there were more crabs. He recommended that the Commission consider eliminating sponge crab harvest. He talked about the larval work done by Duke Marine Lab and that larvae travel many miles at sea. Crabs produce 800 million eggs. He wonders if climate is playing a role. He suggested experimenting with different harvest zones where sponge crabs are absent, and see if there are differences. He said there is less effort in other states and other states do not have the processors like we do.

Glenn Skinner, commercial crabber from Carteret County, said that crabbers are concerned about predation on blue crabs from a variety of species, especially red drum, rock fish and catfish. He stated that he had seen a study on red drum and that 51 percent of the diet was blue crabs. He recommended the Commission explore the issue.

Gary Cannon, commercial fisherman, said he had never seen a fish house sampler, or the trawl boat used for sampling. He stated that when the trawl lines were moved out, it killed the bottom. He commented that the market is bad because of Virginia. Now there are no crab pots in the areas indicating no crabs there as well. He stated there are no crab pots like there used to be. He did not support taking sponge crabs away. Rather, he suggested the theft of pots needs to be addressed. He did not think the current management measures make sense. He recommended the removal of those under an assigned standard commercial fishing license, and that part timers should not be allowed in the crab pot fishery to reduce effort from being eligible to fish commercially. Shute told him that the definition of a commercial fisherman will be discussed by the commission in the near future.

Bradley Styron, commercial fisherman, stated that he understood that something needed to be done but expressed his concern that the possible management measures presented by the division were draconian and overkill. He did not want a 3.5 million dollar industry wrecked. Do not stop all crab sponge harvest. He recommended a moratorium on the commercial harvest of black sponge crabs and v-apron crabs in the hard crab fishery. He also recommended that the division consult the industry to improve data collection methods. Do not operate on perception but on reality. Go to fishermen who know about fishing.

Tara Foreman, crab picking house owner and crab dealer, stated that she runs the largest picking house in North Carolina. She buys 80,000 crabs a day and she had never been sampled by division fish house samplers until she called and requested them to come. She stated that she did pick sponge crabs in 2015 and disagreed with statements made previously that there were no sponge crabs harvested in 2015. She also commented that increasing the size to 5.25 inches a day would put them out of business.

Adam Tyler asked who makes the division's nets used for the trawl sampling. Rock replied that the nets were made by professional net makers and a division employee with many years of experience.

VOTE ON RECOMMENDATIONS TO THE MARINE FISHERIES COMMISSION FOR BLUE CRAB MANAGEMENT MEASURES

Trish Murphey, Southern District Manager read through the recommendations from the Southern and Northern Advisory Committees.

Mike Marshall made a motion to recommend to the Commission to adopt the measures of no v-apron hard crabs and no black sponge crabs with a 5% tolerance for both excluding v-apron peelers. Janet Rose seconded the motion. Motion passed 8 to 1.

Beasley commented that he thought cull ring repositioning was the best management measure. Martin Posey expressed his confusion as to whether fishermen want to harvest black sponge crabs. Tony Tripp responded that the black sponge crabs are not desirable, but are difficult and time consuming to cull.

Perry Beasley made a motion to recommend to the Commission to use two cull rings (same legal size) but to reposition one ring within one full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 16, 2017. Martin Posey seconded the motion. The motion passed 8 to 1.

Hooper stated his concerns of water quality. He asked about what other divisions within the Department of Environmental Quality are doing to address land based issues. He felt that the department is falling back on regulations. Anne Deaton explained that a request to investigate this as a priority issue should be made through a Coastal Habitat Protection Plan Steering Committee. Hooper added that the Coastal Habitat Protection Plan should address primary nursery areas, water quality and habitat of our near shore waters. Posey commented that we need to know more about what the juvenile crabs are doing and what is impacting them; water quality, predation, or land changes.

Mark Hooper made a motion to recommend to the Commission to request that the Coastal Habitat Protection Plan Steering Committee look at division blue crab recruit abundance data, ask what the EMC and CRC have done to improve habitat and water quality conditions for blue crab and develop a suite of options that the EMC and CRC could implement to improve water quality habitat conditions in those areas. Tony Tripp seconded the motion. The motion passed unanimously.

Rose asked about the different studies on blue crab and if the division consult with Sea Grant on the Traffic Light. Rock stated that we did not consult with Sea Grant. However we use their studies as well as other studies in the process. Kathy Rawls, Section Chief Fisheries Management added that when the division develops fishery management plans, we look at all the literature.

Bruce Morris asked if we looked at studies done prior to hurricanes Irene and Isabelle. Crabs used to be on the west side of the sound, now they are on the east side because of flushing, they have moved from one side to the other. He stated that there should be more cooperative use of the fishermen as a tool to get better data. Ted Wilgis asked about funding and if it were needed. He stated his concern of no directed sampling program for our biggest fishery.

Bruce Morris made a motion to recommend to the Commission to request the division incorporate the cooperative use of commercial fishermen as observers as a tool for better data collection. Use crab pots as an additional sampling gear. Janet Rose seconded the motion.
Motion withdrawn.

Bruce Morris made a motion to recommend to the Commission to request division observers on commercial crab boats to collect data to assist with the Blue Crab Traffic Light assessment. Tony Tripp seconded the motion. The motion passed 6 to 3.

Hooper suggest that we look more at the industry and the habitat. He suggested to take fishery dependent data and make it better by taking into account changes in fishing effort due to market variability, storms, picking houses, closed seasons, etc.

Mark Hooper made a motion to recommend to the Commission to request division staff analyze the 21 years of commercial fishery data, refined by taking into account socio-economic information such as storms, prices, picking house availability, etc. that affects fishing effort, and align it with 21 years of division fishery independent data and summarize in a report. Adam Tyler seconded the motion. The motion passed 8 to 0 with 1 abstention.

Adam Tyler made a motion to recommend to the Commission to request division staff look at the effect of predation by striped bass, red drum, cow nose rays, or other species on blue crabs. Seconded by Martin Posey. The motion passed 8 to 0 with 1 abstention.

MARINE FISHERIES COMMISSION UPDATE

Anne Deaton gave an update on the Commission. She reviewed changes in the cobia recreational bag limits. She discussed the Oyster and Clam Fishery Management Plans and the need to bring a shellfish license issue back for public comment. The Coastal Habitat Protection Plan was approved by the Marine Fisheries Commission, and CRC, and conditionally approved by the EMC if some edits are made. After the EMC approves the edits, the plan will be sent the Department of Environmental Quality secretary and Joint Legislative Commission on Governmental Operations for final approval. She also told the committee that the Commission will be convening a subcommittee to discuss defining commercial fishermen.

Tony Trip made a motion to recommend to the Commission to look at dealer requirements and how they are enforced and if changes are needed. The motion was seconded by Mark Hooper. The motion passed 5 to 3 with 1 abstention.

Chairman Shute stated that this may be included in the discussion of defining commercial fishermen.

MEETING ARRANGEMENTS

Murphey reminded the committee that the next meeting was scheduled for July 14th, 2016. Hooper asked if the committee was going to meet regularly. Murphey stated that it is dependent on the commission requesting advice on an issue, but to pencil this date in your calendar.

Shute adjourned the meeting.

Cc:

Catherine Blum	Jess Hawkins	Gerry Smith
Mike Bulleri	Dee Lupton	District Managers
Scott Conklin	Nancy Marlette	Committee Staff Members
Dick Brame	Katie Mills	Marine Patrol Captains
Braxton Davis	Phillip Reynolds	Section Chiefs
Charlotte Dexter	Jerry Schill	

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MEMORANDUM

TO: Marine Fisheries Commission
Finfish Advisory Committee

FROM: Kathy Rawls
Lee Paramore
Division of Marine Fisheries

DATE: April 15, 2016

SUBJECT: Finfish Advisory Committee Meeting

The Finfish Advisory Committee met on Wednesday, April 13, 2016 at 5:30 p.m., at the Department of Environmental Quality Regional Office, Washington, N.C. The following attended:

Advisers: Sammy Corbett (Marine Fisheries Commission), Thomas Brewer, Jeff Buckel, David Clem, Brent Fulcher, Charlie Renda, Ken Seigler, Leland Tetterton, and Scott Whitley

Absent: Mike Wicker (Marine Fisheries Commission), Sara Winslow

Commissioners: Chuck Laughridge, Joe Shute

Staff: Kathy Rawls, Lee Paramore, Michelle Duval, Nancy Fish, Catherine Blum, Katy West, and Sergeant Carter Witten

Public: Jerry Schill, Jon Worthington, Jake Worthington, C.R. Frederick, Rick Scarborough, Rick Caton, Martha Barnette Caton, John Welch, Robert Feldhay, Rick Smith, Reese Stecher, Aaron Kelly, Cameron Whitaker, Justin Revere, Joey VanDyke, Ches Tyson, Bill Gorham, Sean Hankinson, John Hankinson, Anthony Nevine, Paul Penke, Taylor Griffin

Sammy Corbett, serving as chair, called the meeting to order.

MODIFICATIONS TO THE AGENDA

There were no modifications to the agenda.

Motion by Ken Seigler to approve the meeting agenda. Seconded by Scott Whitley. Motion passed unanimously.

APPROVAL OF MINUTES

Motion by Charlie Renda to approve the April 15, 2015 Finfish Advisory Committee meeting minutes. Seconded by Jeff Buckel. Motion passed unanimously.

NOAA FISHERIES 2016 RECREATIONAL COBIA SEASON

Dr. Duval presented information on federal cobia management and potential state waters options to extend the 2016 recreational cobia season. She provided the latest available data from the National Oceanic and Atmospheric Administration Fisheries.

PUBLIC COMMENT

The committee received public comment on potential state waters options to extend the 2016 recreational cobia season.

John Worthington, of Dare County is a recreational fisherman and charter captain from Camden. He said his problem is that it seems all of sudden there is a crisis. Questioned how the recreational data were collected and said he had never been interviewed. There is an economic impact to these captains that has not been considered. One fish will not be enough for customers to pay for a trip. He said he cannot get a clear picture on how this data is collected, either from the federal or state level. He recommended going out of compliance with the federal requirements to close in state waters.

C.R. Fredrick, of Swansboro is a commercial fisherman. He said he is not up to date on cobia fishing, but he hates to see it affect the charterboat captains. He understands that since the Annual Catch Limit was exceeded last year, something needs to be done to save the species from overfishing. He said it is high time we track every fish coming out of the water. The same kind of thing as trip tickets for the commercial sector is needed in the for-hire sector. Commercial fishermen make up the smallest group, but have the largest burden of accountability. If we want to practice conservation, he suggested considering no discards being allowed. This would reduce mortality and make it easier to track what is going on.

Rick Scarborough, of Hatteras has been a charterboat captain since 1987 and was a commercial fisherman before that. He said not one time has he been approached at the dock by a sampler or for a study regarding cobia. He has been approached about speckled trout and other species, but not about cobia. The Magnuson-Stevens Act came up in presentation and it requires an economic impact study to be completed. He said he has not heard of one being done. He does not agree with increasing the size limit above 33 inches just to add only an extra day or two of fishing. He also does not agree with a vessel limit for just an extra couple of days. He does agree with a per person limit. He said the three-mile limit for state waters was put in place for a reason: the State should control fishing within three miles of shore. The federal government has crammed so many laws down North Carolina's throat in the past, like with weakfish. The numbers being gathered from the recreational sector do not have a backbone. They look great on paper, but they are not accurate. He said when he is contacted for the for-hire phone survey, they ask what was targeted, but not what was caught. The recreational cobia closure is going to take about half of his customers away; financially it is going to hurt. It will affect customers, marinas, tackle shops, etc. He recommended going out of compliance with the federal requirements.

Discussion ensued among the committee members about how the for-hire phone survey works.

Rick Caton, of Custom Charters stated North Carolina should go out of compliance and stay with status quo. If overfishing is not occurring, he asked why we are here. He said it seems we are only here to have a crisis to manage. He would appreciate if the Marine Fisheries Commission would consider the amount of money the charter boat captains pay for the various license and permit fees that are required. As a result of that investment, the captain and mate should not be excluded from the fishery. He said two of the national standards of the Magnuson-Stevens Act have been violated. One of the "cons" in the presentation of going out of compliance was the Secretary of Commerce could choose to regulate the fishery in state waters. He wondered why the state has the three-mile line if that is the case. Charterboat fishermen have already been denied red snappers, snowy groupers, and blueline tilefish and the limits allowed in other fisheries are a joke. He expressed concern about how Florida can have 800,000 or more pounds of allowable landings, but then seven other states have to share an allocation. He said the main participants in the fishery are in Georgia, South Carolina, North Carolina, and Virginia. How the landings are divided is not "fair and equitable" as referenced in the national standards. There is not an up-to-date economic impact study, so we are just grabbing in the air to implement something. There are plenty of study panels for species under the North Carolina Marine Fisheries Commission and the South Atlantic Fishery Management Council, but there is not one just for cobia. The South Atlantic Fishery Management Council has one for King Mackerel that covers cobia, but those species are very different. He restated there is not a problem. He reiterated the need to take into consideration the amount the captain and mate pay for licenses and said they should be able to keep one or two fish and not be shut out.

Reese Stecher, of Oregon Inlet is a charterboat captain. He distributed handouts to the committee with information on the national standards in the Magnuson-Stevens Act and recited a portion of them. "Fair and equitable" was a phrase of interest to him. He said Florida is going to get 66 percent of this quota and the rest will be divvied up among four or five states. He said the very agencies that made the rules are breaking them. He asked if an economic study has been completed. (Dr. Duval said yes, as part of what was adopted to put the accountability standards in place.) He made a comparison to children bickering with each other about changing rules in the middle of a game and said the federal government is breaking the rules they made. Next, Mr. Stecher cited information from SEDAR-28 (the stock assessment for cobia.) He said the document states the stock is not overfished and is relatively robust. Finally, he provided information from the April 7, 2016 Northern Regional Advisory Committee meeting of the Marine Fisheries Commission and cited that committee's recommendation to the commission. He questioned the recent separation of the Gulf and Atlantic stocks of cobia. He said the commission has to look out for North Carolina's interest.

Brent Fulcher clarified the staff in attendance work for North Carolina, not the federal government.

Cameron Whitaker, of Hatteras is in the charterboat sector. He said he is young, but his father has been involved in the fishery for a long time. He expressed concern about Virginia charterboat fishermen coming to North Carolina to fish, potentially causing the Annual Catch

Limit to be exceeded again this year. He said once you lose something in a fishery you never get it back. He said the charterboat sector can survive a one-fish limit, but not a closure.

Bill Gorham, of Southern Shores stated that he was representing charterboat captains, recreational fishermen, and commercial fishermen from Maryland to Hatteras Inlet. He has been working to find the root cause of this issue. He said he was tasked with reading the cobia stock assessment (SEDAR 28) and other related documents, which amounted to hundreds of pages of information. If this issue was science-based, fishermen would have to accept this because no one benefits from overfishing. Amendment 20B to the Coastal Migratory Pelagics Fishery Management Plan split the stock within Florida between the Gulf and Atlantic stocks of cobia. The Annual Catch Limit in 2015 has been exceeded at least half the time going back at least 10 years. He said the federal government knew there were going to be issues, but they did not lower the limits beforehand. He said there will be a lot of comments and discussion about the stock assessment and genetics defining where the line is between the two stocks. Commercial and recreational fishermen suggested the Florida-Georgia line based on tagging data. He provided a handout and focused the committee's attention on the potential federal closure date and the dates of peak harvest in Virginia. He said Virginia did not have adequate representation from the beginning of this issue because their representatives were not in attendance at meetings where these decisions were being made. He stated that the South Atlantic Fishery Management Council committee meeting minutes showed the federal government wanted to pursue a landings reduction and rolling closures in 2009. But the stock assessment was not approved until 2013. He asked how this was possible. Looking at the harvest in 2013 and 2014, there was a tremendous increase in Virginia; there was also a large increase in North Carolina. Regarding how the Annual Catch Limit was set, the federal government knew it would be exceeded and now we are faced with this closure. A limit of one fish per vessel at a 45-inch minimum size limit is the only way to avoid the closure. He said that is designed to favor the peak harvest time in Virginia.

Joe Shute, Marine Fisheries Commission commissioner posed a question to the audience from his vantage point as a charter captain. He said there was a similar problem in the early 1990s with bluefin tuna. North Carolina was proactive and set up a tagging system for the state. It showed a 40-45-percent decrease from the level the federal government showed. He asked if those in the audience would be opposed to a harvest tagging system for cobia. Recently, he supported a North Carolina for-hire logbook but it was not supported. Now, a federal for-hire logbook will be implemented in the near future. He said this is the same kind of thing; North Carolina has data that could help and a tagging system would provide that data. The industry is going to have to make up its mind, especially the younger participants. If we like it or not, the federal government is going to control cobia. A couple of fishermen in the audience provided general feedback to Commissioner Shute about the pros and cons of going out of compliance with the federal requirements and how reductions are calculated.

Jerry Schill, president of the North Carolina Fisheries Association, said he has never heard of the Secretary of Commerce intervening, especially on a fishery that is not overfished and where overfishing is not occurring. It is unprecedented to have a closure for a fishery in that condition. North Carolina Fisheries Association will submit formal comments on this issue separately before the upcoming commission meeting. North Carolina Fisheries Association

board members have discussed data collection numerous times. He said they discussed the recreational data and logbooks too. The lack of data is not from the commercial folks, but rather from recreational participants. There is always a question if data will hurt us or help, but in this case, more data would help. Separately, Mr. Schill discussed the invasive species of blue catfish. Nixon Fishery alerted the North Carolina Fisheries Association to part of the 2015 farm bill that will require on-site inspectors for any processing of catfish. That will affect fishermen, packers, and others. Blue catfish is an invasive species that is prolific and aggressive. Virginia is ahead of North Carolina on addressing this as an invasive species. North Carolina is aware of it, but is not doing anything about it yet. He would like to see this committee recommend the Marine Fisheries Commission ask the Division of Marine Fisheries to address this. If we are shut out of processing catfish in 2017, there is no incentive to fish for them. We need to kill all the blue catfish because they are an invasive species that will hurt natural stocks.

VOTE ON RECOMMENDATIONS TO MARINE FISHERIES COMMISSION FOR 2016 RECREATIONAL COBIA SEASON

There were no additional public comments, so the committee proceeded to discuss the issue. Mr. Fulcher asked the audience what they think will help them. He said good data is important. He asked Dr. Duval for the number of recreational and commercial cobia trips. Dr. Duval showed the corresponding slide from the presentation again. Chairman Corbett summarized the public comments for Mr. Fulcher and said the recommendation from the public was to go out of compliance with the federal requirements.

Mr. Renda said most of the harvest is in state waters. The closure is in federal waters. He suggested not worrying about it since all the fishing is in state waters. It will take a couple of years for the federal government to work through its process, so stay with status quo.

Mr. Fulcher said he is trying to balance accountability for the resource with what the audience has expressed. Chairman Corbett referenced previous discussions about logbooks. Mr. Fulcher described the ramp surveys and how the data is extrapolated. Mr. Renda said the director issued a proclamation in February to reduce the recreational limit of cobia down from two to one fish in February, so that shows we are trying to do the right thing and be accountable.

Mr. Seigler is concerned about the split of cobia off the east coast of Florida between the Gulf and Atlantic stocks. He asked why Florida is getting 66 percent of the Annual Catch Limit. Dr. Duval corrected the information and said Florida is not getting that amount. The data is being confused with data about the Gulf stock of cobia; she elaborated on the boundaries between the different populations of cobia. Dr. Duval reiterated that annual catch limits are required for all federally-managed species. She provided a comparison to when closures have been put in place in the past in various commercial and recreational fisheries when an annual catch limit is exceeded, not as a result of the condition of a particular stock.

Dr. Buckel said genetics were used to tell the difference between the Gulf and Atlantic stocks of cobia, even though you cannot tell the difference just by looking at the fish. Chairman Corbett said the debates about the stock assessment and genetics would be best continued at the Marine Fisheries Commission level.

Cameron Whitaker asked Chairman Corbett what the real impacts of going out of compliance would be. Chairman Corbett described some examples from his personal perspective of the consequences.

Mr. Tetterton focused the discussion on the Atlantic stock of cobia. Mr. Renda said the Annual Catch Limit dropped 10,000 pounds from 2015 to 2016 for both the recreational and commercial sectors. Even though that sounds even, from a percentage standpoint, it is not even. He expressed concern about going over in 2016 too and asked his fellow committee-members what they thought about not complying with the federal requirements.

Dr. Buckel was asked his thoughts by Mr. Fulcher. Dr. Buckel said the bottom line is the stock assessment was completed, reviewed by experts, and was deemed usable for management. It is a species that some folks feel cannot be overfished, but if you asked Gulf fishermen, they wish they had done more in the past because the stock is not what it once was there. A little short-term pain would probably be worth it in the long run. He supports the formation of a Compliance Advisory Panel; that would be ideal. Going out of compliance has the potential to come back and bite North Carolina by shutting the state down completely. If we focus just on 2016, we may be worse off in 2017. He said as the biologist representative, he tries not to get too much into management and just focus on the science.

Mr. Tetterton said he fished commercially off-shore several years ago. He said the charter boats had limits even back then. If we stay with a one-fish bag limit and keep fishing in state waters past the federal closure date and there is no tagging program or analysis, we need to do something to account for the fish. He suggested giving fishermen a certain number of tags that would have to be turned in to account for the harvest of cobia. That would help dispute the stock assessment information. He said we need some kind of data to keep up with what is caught.

Mr. Seigler said 80 percent of the catch is coming from recreational harvest, but there is no way to account for it. That is the problem. Mr. Whitley confirmed that North Carolina is dependent on the federal numbers. So we need our own numbers, or there is no way to combat that. Chairman Corbett said that problem happened recently with the need for a regional stock assessment for southern flounder. But even doing that may result in a stock assessment that is not usable for management.

Mr. Renda said the federal government goes with a one-size-fits-all approach. What Florida and North Carolina are doing are two totally different things. Just when the tourist season starts up, we are going to get shut down. He asked if there is a way to push the federal government for state quotas. Dr. Duval said the South Atlantic Fishery Management Council made a motion to do just that and look at state-by-state quotas though the Atlantic States Marine Fisheries Commission. That is probably the only way to pursue this because the federal process is cumbersome; working through the Atlantic States Marine Fisheries Commission is a more flexible process.

Dr. Buckel asked if appointing a compliance advisory panel would be part of developing state-by-state quotas at the Atlantic States Marine Fisheries Commission. Dr. Duval said yes; that would be the best way to develop some parity.

Mr. Fulcher said it is going to take a lot of horsepower to get the jurisdiction of the Atlantic and Gulf cobia stocks to be changed. Chairman Corbett said the focus of this committee is to give the Marine Fisheries Commission a recommendation about what to do for the 2016 season.

Mr. Renda made a motion to only go in compliance with the closure in federal waters, not state waters. (Dr. Duval read the regional advisory committee recommendations at the committee's request.) Mr. Renda withdrew his motion.

Mr. Tetterton asked Dr. Duval to clarify what happens in state waters after June 20 when the federal closure will occur and she reiterated the status. Mr. Whitley asked what the intent of the Marine Fisheries Commission was by reducing the bag limit to one fish in February. Commissioner Shute said it was to extend the recreational season. Mr. Seigler asked what impact time restrictions might have, for example closing Mondays and Tuesdays each week. Chairman Corbett said a motion could be made recommending North Carolina's representatives on the South Atlantic Fishery Management Council ask the National Oceanic and Atmospheric Administration Fisheries to request data be calculated based on particular requests like a day-of-the-week closure.

The committee continued to ask clarifying questions of Dr. Duval about how the federal closure date is calculated. Dr. Duval said the calculations rely on all states closing their waters when federal waters close to determine the federal closure date. Chairman Corbett entertained a motion from the committee.

Mr. Renda made a motion for status quo. Motion died for lack of a second.

Mr. Tetterton made a motion to maintain the 33-inch size limit and one-fish recreational bag limit through June 20. After June 20, implement a two-fish per vessel limit, going out of compliance with the federal closure. Seconded by Brent Fulcher.

The committee continued to discuss the issue. Mr. Fulcher continued to question the data and supported some type of tag system to obtain more data. He said we have to balance the resource and harvest for all sectors. Mr. Tetterton stated that there is not enough recreational data like there is for the commercial sector.

Dr. Buckel asked the committee to consider the possibility that the data on 2015 harvest is correct. He asked Dr. Duval what the scenario would be from the federal government’s perspective. Mr. Fulcher said Dr. Duval already said that the 2017 season would likely be shorter, but these guys will be out of business June 20. Dr. Duval clarified that the Annual Catch Limit will not change until after the next stock assessment; it is set in regulation. What would potentially change is the length of the next season; this is based on the average catch over three years for when the Annual Catch Target will be reached. Discussion about the data continued.

Dr. Buckel reiterated Mr. Seigler's suggestion of day-of-the-week closures; he also asked if there is precedent for sector allocations (for-hire, private, pier, etc.) Dr. Duval said there is precedent

and referenced 2014 management actions for the management of striped bass. Dr. Buckel asked his fellow committee-members if that is something worth pursuing.

Mr. Fulcher supported state-by-state allocations and recognized it is more difficult for North Carolina to obtain those if they go out of compliance with the federal requirements. In the meantime, we need more data. If we go out of compliance and we exceed the Annual Catch Target again, it is going to get worse.

Mr. Fulcher asked if Coastal Recreational Fishing License funds could be used for cobia data collection. Commissioner Shute said it would need to go through the committee for that fund, but he did not see a reason why it could not be considered. It would need to be put in the funding cycle for next year though based on the timing of that process.

Chairman Corbett called for the vote. The motion passed 6-2. (Mr. Buckel and Mr. Renda opposed; Chairman Corbett did not vote.)

Dr. Buckel asked about consideration for getting a group of stakeholders together to consider alternative management measures, such as prohibiting harvest on certain days of the week, or sector allocations. Dr. Duval reiterated that the Marine Fisheries Commission must vote to appoint a compliance advisory panel, as required by the North Carolina Fishery Management Plan for Interjurisdictional Fisheries [note: North Carolina Commission Chair appoints members to the Compliance Advisory Panel and all panel recommendations go through Finfish and regional Advisory Committees before being presented to the full North Carolina Commission for consideration].

Mr. Fulcher made a motion to request the Marine Fisheries Commission ask the National Oceanic and Atmospheric Administration Fisheries to reconsider the biological boundary between the Gulf and Atlantic cobia stocks. Seconded by Ken Seigler. Following a brief discussion, Chairman Corbett called for the vote. The motion passed 8-0. (Chairman Corbett abstained.)

Mr. Whitley made a motion to request the Marine Fisheries Commission investigate ways to obtain additional data on recreational cobia catch, including a tagging system as one option. Seconded by Mr. Tetterton. Following a brief discussion, Chairman Corbett called for the vote. Motion passed 8-0. (Chairman Corbett abstained.)

Mr. Tetterton made a motion to restore the percentage of the commercial Annual Catch Limit that was reduced more than the recreational Annual Catch Limit (so that the percentage reductions were equal.) Seconded by Mr. Render. Chairman Corbett clarified that Mr. Tetterton's intent was the reduction should have been made on a percentage basis, not a poundage basis; Mr. Tetterton concurred. Following a brief discussion, Chairman Corbett called for the vote. Motion passed 8-0. (Chairman Corbett abstained.)

Mr. Fulcher made a motion for the Marine Fisheries Commission to work with North Carolina's representatives on the South Atlantic Fishery Management Council to develop coastwide state-by-state allocations for cobia management. Seconded by Mr.

Seigler. Following a brief discussion, Chairman Corbett called for the vote. Motion passed 8-0. (Chairman Corbett abstained.)

MARINE FISHERIES COMMISSION UPDATE

Mr. Paramore provided a brief update on recent actions of the Marine Fisheries Commission. He reviewed the commission's actions at its February 2016 business meeting and March meeting that was held for the sole purpose of nominating additional candidates to be considered for North Carolina's obligatory seat on the South Atlantic Fishery Management Council. He added that the Atlantic States Marine Fisheries Commission approved a small amount of funding to support a regional southern flounder stock assessment which is beginning this year and is scheduled to be completed in 2017.

OTHER BUSINESS

Chairman Corbett entertained a motion about the earlier public comment pertaining to the invasive species of blue catfish.

Motion by Mr. Fulcher to send to the Marine Fisheries Commission concerns about the impacts of the invasive species of blue catfish. Seconded by Mr. Tetterton. Following a brief discussion, Chairman Corbett called for the vote. Motion passed 7-0. (Chairman Corbett abstained; Mr. Tetterton left by the time of the vote.)

Mr. Renda provided comments about red fish (red drum.) From 2004-2016 the stock status has been listed as "recovering." He would like to see some kind of movement. Chairman Corbett said we are waiting for the federal stock assessment first. Mr. Paramore said a report on the results of the assessment is expected to be presented to the Atlantic States Marine Fisheries Commission the first week of May.

Seeing no further business, Chairman Corbett adjourned the meeting at 8:25 p.m.

Cc:
Catherine Blum
Mike Bulleri
Scott Conklin
Dick Brame
Braxton Davis
Charlotte Dexter
Jess Hawkins
Dee Lupton
Nancy Marlette
Katie Mills
Phillip Reynolds
Jerry Schill
Gerry Smith
District Managers
Committee Staff Members
Marine Patrol Captains
Section Chiefs

Marine Fisheries
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Tina Moore
Division of Marine Fisheries

DATE: April 12, 2016

SUBJECT: Oyster and Hard Clam Fishery Management Plan Advisory Committee Meeting

The Oyster and Hard Clam Fishery Management Plan Advisory Committee Meeting met at 6 p.m. Monday, April 11, 2016 at the North Carolina Division of Marine Fisheries, Central District Office, 5285 Highway 70 West, Morehead City, N.C. The following attended:

Advisers: Bob Cummings, Adam Tyler (via phone), Ted Wilgis, Jeff Taylor, Stephen Swanson, Ami Wilbur (via phone), Niels Lindquist, Joey Daniels (via phone)

Absent: Nancy Edens, Dell Newman, Lee Setkowsky

Staff: Tina Moore, Steve Anthony, Kathy Rawls, Joe Facendola (via phone), Catherine Blum, Nancy Fish, Steve Murphey, Jeff Dobbs, John McConnaughey, Garry Wright, Curt Weychert (via phone)

Public: Jerry Schill and David Keilmeier

Ted Wilgis, serving as chair, called the meeting to order.

MODIFICATIONS TO THE AGENDA

Jeffrey Taylor made a motion to accept the agenda. Bobby Cummings seconded the motion. The motion passed unanimously.

APPROVAL OF MINUTES

Cummings made a motion to accept the minutes. Niels Lindquist seconded the motion. The motion passed unanimously.

PUBLIC COMMENT

No public comments were offered.

REVIEW PUBLIC AND MARINE FISHERIES COMMISSION REGIONAL ADVISORY COMMITTEE'S INPUT ON THE ISSUE REDUCING SHELLFISH LICENSE OYSTER HARVEST LIMITS STATEWIDE

Plan Development Team co-lead Tina Moore presented the issue reducing shellfish license oyster harvest limits statewide. She referred the committee to the provided meeting materials and explained how the Marine Fisheries Commission, and the northern and southern advisory committees had voted on this issue. Moore explained that the committee could change its recommendation to the commission, but the previous motion from the committee's January 2016 meeting would need to be rescinded. Cummings asked for clarification on the southern region boundary. Moore answered that it is usually considered all waters south of the highway 58 bridge. Wilgis asked if landings were increasing. Moore replied that they were, but effort and number of participants had increased more significantly, leading to a lower catch per unit effort in the southern region.

Wilgis opened the floor for any questions or comments regarding the presentation. Adam Tyler asked if the issue would affect lease holders. Moore replied that it would not because the issue was only regarding public bottom. Cummings commented that he would like to return to status quo for the Shellfish License being inclusive of oyster harvest (separate issue) to protect shellfishermen without a Standard Commercial Fishing License. Stephen Swanson agreed with Cummings' comment. Tina explained that under the guidance of the commission, only the bushel limit issue was under discussion.

Lindquist asked how this season's commercial oyster harvest went in the southern region. Joe Facendola responded that due to high levels of rain, the season was quite short, but he did not have any specific harvest statistics available yet. Moore added that at the Southern Regional Advisory Committee meeting in December one of the members, who is a dealer, said the quality of oysters coming into his fish house was poor. Cummings said he saw poor quality too with a lot of undersized oysters in the catch and had to turn people away until they brought in more legal-sized catches.

Swanson made a motion to rescind the previous motion. Cummings seconded the motion. The motion failed 2 to 6.

Swanson said if there is a problem with the stock why not hold all license holders accountable and asked why there is no equity between license types. Facendola replied that the Shellfish License is open access to all state residents and difficult to track the landings of since a significant portion of the shellfish license holders do not have trip tickets for commercial landings; there is a cap on the number of Standard Commercial Fishing licenses.

Cummings asked if the decision made by the commission to pursue the elimination of oyster harvest under the Shellfish License, and the current issue would be disseminated to the public. He expressed concern that oystermen that currently harvest under the Shellfish License will need to obtain a Standard Commercial Fishing License, which he believed was difficult and time-consuming to accomplish. He further questioned if there were enough licenses left in the existing pool of commercial licenses to accommodate the oystermen who would need them. Adam Tyler replied that he believed there were approximately 3,000 still available in the pool and that likely has not declined since then. Tyler asked if the committee could recommend that the commission promptly disseminate the rule changes and outcome of the commission votes to the public in order to provide oystermen an appropriate amount of time to make accommodations for the

changes. He suggested sending a letter to all shellfish license holders about the changes that will be coming into effect. Wilgis replied that the question was best addressed in the next agenda item.

BRIEF OVERVIEW OF THE NEXT STAGES IN THE FISHERY MANAGEMENT PLAN PROCESS

Moore explained the next stages in the fishery management plan process to the committee. Both plans, if approved by the commission in May for the next steps, will go for further department and legislative review and if they pass, then through the rulemaking process for any of the preferred management options that require rule changes. Any suggested legislative changes are out of the commission's hands and will depend on whether the legislature decides to pursue the suggested changes. Final adoption of both plans is not scheduled until February 2017; we will need to get the word out in conjunction with these steps. The division publishes the plans on the websites and will issue a news releases about the changes. Wilgis asked how long it would take to determine if these changes to the shellfish license holders will show improvement or no improvement to the oyster stock. Facendola said it will take at least three more years, and more likely five years or longer to see the results of these changes.

OTHER BUSINESS

Swanson commented that he disagreed with the removal of the harvest of oysters from the Shellfish License. Wilgis asked if there was sufficient marine patrol to enforce the pending rule changes and if there was any resources that the Marine Patrol will need to help them with the enforcement. Swanson added that a non-harvest tag could be put on someone's catch because of inferior culling so they couldn't peddle the product. Fishermen should report to marine patrol more often when they see issues. We need more markets not less fishermen. Wilgis said those are issues that will need to be taken through the plan review process in the future.

MEETING ARRANGEMENTS

Moore mentioned to the advisors the handout that provides the commission preferred management options for all the issues in the two plans. Moore explained that the fishery management plan process for oysters and clams was wrapping up, and the next review would be in five years, unless something unexpected comes up to re-open the plan. This meant that no more meetings would be necessary for the foreseeable future for this advisory committee and Moore thanked everyone for their time and effort in providing their advice. Wilgis also thanked everyone and staff for preparing the information for this meeting.

Chairman Wilgis adjourned the meeting at 6:50 p.m.

/jmd

Cc:
Catherine Blum
Mike Bulleri
Scott Conklin
Dick Brame
Braxton Davis
Charlotte Dexter
Jess Hawkins
Dee Lupton
Nancy Marlette
Katie Mills
Phillip Reynolds
Jerry Schill
Gerry Smith
District Managers
Committee Staff Members
Marine Patrol Captains
Section Chiefs

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Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: Marine Fisheries Commission
Sea Turtle Advisory Committee

FROM: Chris Batsavage
Division of Marine Fisheries

DATE: April 5, 2016

SUBJECT: Sea Turtle Advisory Committee Meeting

The Sea Turtle Advisory Committee met at 4 pm on Thursday, March 17, 2016 at the Department of Environmental Quality Regional Office at 943 Washington Square Mall, Washington, NC. The following attended:

Advisers: Bob Lorenz (Chair), Adam Tyler (Vice Chair), Matthew Godfrey, Craig Harms, Tricia Kimmel, Brent Fulcher, Troy Outland, Richard Peterson, and Chris Hickman

Absent: Charles Aycock

Staff: Chris Batsavage, Jacob Boyd, John McConnaughey, Evan Knight, Nancy Fish, Katy West, Garland Yopp, Phillip Reynolds, Sam Hayes, and Katie Mills

Public: Bill Foster, John Hudnall, George Leone, Glenn Hadder, Kenny Rustick, Adam Harris, Wade Austin, Cecil Simons, Roger Harris, Kerry Harris, Wayne Twiford, Steve Weeks, Jerry Schill, Wayne Twiford III, Wayne Twiford, Sr., Phillip Goodwin, Sr., Phillip Goodwin, Jr., Bradley Styron, Cathy Fulcher, David Bush, Sarah Finn (N.C. Wildlife Resources Commission), and Sara McNulty, Joanne McNeill, and Larisa Avens (National Marine Fisheries Service)

Marine Fisheries Commission: Alison Willis and Janet Rose

Bob Lorenz, serving as chair, called the meeting to order and asked the committee members to introduce themselves to the public before he provided opening remarks. He said that tonight's discussion about a pound net incidental take permit will be educational and there will not be any recommendations made by the committee. Lorenz also stated that the original Sea Turtle Advisory Committee discussed sea turtle interactions with pound nets. He also asked why National Marine Fisheries Service staff were in attendance and Chris Batsavage explained that staff from the National Marine Fisheries Service Office of Protected Resources offered to provide information about the incidental take permit process. In addition, Batsavage contacted staff from the National Marine Fisheries Service Southeast Fisheries Science Center office in

Beaufort, North Carolina to see if they were willing to present information on the sea turtle research they conducted from pound nets.

Lorenz also introduced and welcomed Marine Fisheries Commissioners Alison Willis and Janet Rose as well as the staff from the National Marine Fisheries Service.

MODIFICATIONS TO THE AGENDA

No modifications were made.

APPROVAL OF MINUTES

Richard Peterson motioned to approve the minutes of the September 17, 2015 Sea Turtle Advisory Committee meeting and was seconded by Adam Tyler—motion passes.

DISCUSSION OF POTENTIAL POUND NET INCIDENTAL TAKE PERMIT

Lorenz went over the order of presenters on information regarding a pound net incidental take permit.

Sara McNulty with the National Marine Fisheries Service Office of Protected Resources in Silver Spring, MD presented an overview, the purpose, and the requirements of incidental take permits under Section 10 (a)(1)(B) of the federal Endangered Species Act. Incidental take permits authorize a specific amount of "take" of Endangered Species Act listed species during otherwise lawful activities that do not have a federal link. Unauthorized takes are illegal. These permits also promote the conservation and recovery of Endangered Species Act listed species and develops partnerships for endangered and threatened species conservation. McNulty described how incidental takes are established, the conservation plan development, the applicant's responsibilities, and National Marine Fisheries Service's responsibilities. She also explained the implementation of the permit as well as potential permit modifications. She acknowledged that the permit application process can be lengthy (6 months to over 2 years) depending on the complexity of the permit.

Brent Fulcher asked how the National Marine Fisheries Service surveys the number of sea turtles, and McNulty answered that there are various types of surveys used to monitor sea turtles across the country including nesting beaches.

Fulcher followed up by asking if any of the surveys and monitoring have been interrupted by lack of funding, and McNulty replied that it depends on whether or not the monitoring is required and the purpose of the program.

Fulcher asked what is considered mitigation of incidental takes and McNulty responded that for sea turtles, it is the severity of the take (ex. dead interaction instead of live interaction). She continued by explaining the number of takes by a permitted activity is considered when determining if that activity poses jeopardy on the population.

Fulcher finished up by asking how long are scientific permits under the Endangered Species act and McNulty answered that they range from a couple of months up to 5 years. This time frame also applies to incidental take permits because much can change in a 5-year period.

Adam Tyler asked if state and federal fisheries agencies are required to have an incidental take permit for fisheries-independent sampling, and McNulty responded that a federal agency or a federally-funded activity requires a Section 7 consultation under the Endangered Species Act, but non-federal activities require an incidental take permit.

Craig Harms presented rationale for an incidental take permit for the North Carolina pound net fishery. He started by saying he is not advocating for an incidental take permit to restrict the fishery, and he recognizes the potential consequences an incidental take permit could have on the fishery. His reasons for an incidental take permit are the legal protection for pound net fishermen who have incidental sea turtle takes, a permit would allow for the collection of sea turtle abundance data by researchers that would result in better informed fishery management decisions, and a permit would facilitate collaboration with fishermen and researchers. He also stated that although sea turtle mortalities sometimes occur in pound nets, sea turtles captured in pound nets have fewer physiological effects than sea turtles captured in trawls and in gill nets.

Troy Outland asked if any research has been done on the impacts of sea turtles caught by recreational hook and line and Harms replied that Dr. Amanda Southwood-Williard with UNC-Wilmington attempted a study of the physiological effects of sea turtles caught on fishing piers, but she had a very difficult time collecting samples because these interactions are very rare and some of the fishing piers were not willing to cooperate.

Adam Tyler presented reasons why an incidental take permit is not needed for the North Carolina pound net fishery. He said mortality rates from pound nets were low compared to other gears and cited multiple references.

Harms asked what are the mesh sizes currently used for pound net leads and Tyler thought they ranged from 5 to 8 inches, stretched mesh. Outland added that pound nets in the Albemarle Sound region typically use 6-inch stretched mesh, but the mesh size will shrink due to the anti-fouling material applied to the leads.

Tricia Kimmel asked Tyler if he is saying that he would support pursuing an incidental take permit for the pound net fishery as long as a permit is also pursued for the recreational hook and line fishery or is he saying that an incidental take permit should be done for the recreational hook and line fishery instead, and Tyler responded that gears that pose the highest threat level for sea turtles should be prioritized for incidental take permit consideration instead of fisheries that provide the most research benefits with lower threat levels.

Joanne McNeill with the National Marine Fisheries Service Southeast Fisheries Science Center in Beaufort, North Carolina presented information on the in-water sea turtle surveys from pound nets. The pound nets were sampled from 1995 to 1997, 2001 to 2003, and 2007 to 2009. Sampling ceased after 2009 because sea turtle takes in the pound net fishery are not authorized under the Endangered Species Act. Nearly 2,300 sea turtles were recorded (mostly loggerhead

sea turtles) with only 50 mortalities. Green sea turtles accounted for the majority of animals entangled in the pound net gear, and consequently, the majority of the mortalities (44 out of 50). The occurrence of green sea turtle entanglements increased as the water temperatures decreased (below 16 degrees Celsius).

Fulcher asked if they correlated hurricanes or other adverse weather with sea turtle catch rates during the study periods and McNeill said they did not.

Chris Hickman asked if she thinks that the protection provided for the sea turtle hatchlings have contributed to the increased abundance of sea turtles, and McNeill deferred to Matthew Godfrey since her agency does not monitor nesting sea turtles. Godfrey said not much because the predation of sea turtle hatchlings is higher in the water than on the beaches. Hickman responded that the cumulative effect of protective measures for sea turtles has resulted in a higher abundance. Godfrey added that counting sea turtles on land is much easier than counting them in the water and based on recent nest counts, it appears that loggerhead and green sea turtles are increasing.

Fulcher asked if there are other methods, besides sampling pound nets, to sample sea turtles and McNeill replied that sea turtles are sampled from trawl gear in South Carolina and Georgia.

Fulcher followed up by asking if there are any gear modifications for pound nets that would reduce interactions and McNeill said her agency is pursuing a study to use sound deterrence to prevent sea turtles from entering pound nets.

Lorenz asked if most of the sea turtles caught in pound nets were juveniles and if so, why? McNeill responded that it is because there are many more juvenile sea turtles than adults in the sounds.

Tricia Kimmel presented an overview of sea turtle interactions in the Maryland pound net fishery and efforts by the Maryland Department of Natural Resources to obtain an incidental take permit. Her presentation was based on her experience as a biologist with the Maryland Department of Natural Resources. The agency had a sea turtle research project involving pound nets, but it ended due to the incidental takes being unauthorized. Loggerhead sea turtles accounted for the majority of the sea turtles examined from pound nets and there were no documented mortalities in this gear. The agency applied for an incidental take permit for sea turtles and shortnose sturgeon incidentally captured in pound nets, gill nets, fyke nets, crab pots, and eel pots. The biggest concern regarding the incidental take permit application was the lack of information to base the take requests. As such, the Maryland Department of Natural Resources chose not to pursue an incidental take permit.

Fulcher asked if the Maryland Department of Natural Resources consider the threat level of the different gears to sea turtle takes (gill nets and hook and line versus pound nets) and Kimmel responded that gill nets were included in the application, but that fishery occurs at a time when sea turtle abundance in Maryland's portion of the Chesapeake Bay is low.

Chris Batsavage presented things to consider if the division was to develop a pound net incidental take permit application. The main considerations were which species to cover, allowed take requests, observer coverage, potential gear modifications, available staff and equipment, and funding. Unlike the estuarine gill net fishery, there is not much data available on incidental takes of sea turtles or Atlantic sturgeon in pound nets, which poses a challenge for developing take requests. The existing staff and equipment in the division's Observer Program are fully obligated to the gill net incidental take permits, so additional staff and equipment would be needed to monitor and administer a pound net incidental take permit. And finally, incidental take permits require adequate funding, so a long-term funding source must be identified.

Fulcher asked how many times Virginia's pound net fishery has closed due to reaching their allowed takes, and Batsavage replied that Virginia's pound net fishery does not operate under and incidental take permit. Instead, federal regulations to reduce sea turtle interactions are in place for the Virginia pound net fishery.

Fulcher followed up by asking how you request allowed takes for the gill net fishery that, in retrospect, does not allow for the fishery to operate due to numerous closures from meeting the allowed takes, and Batsavage responded we have even less available information for the pound net fishery compared to the examples in the gill net incidental take permits with limited information. The division would need to work very closely with the National Marine Fisheries Service to develop allowed takes for the pound net fishery with very little available data from a fishery that could potentially have many takes. Batsavage added that the National Marine Fisheries Service cannot authorize more incidental takes than anticipated.

Hickman asked if a pound net incidental take permit is developed, would it impact the number of allowed takes in the gill net incidental take permits and Batsavage said it would not. Batsavage also stated that the division has no plans to develop a pound net incidental take permit application at this time.

Richard Peterson said since takes are already happening with few mortalities, then the take requests can be very high. In terms of funding, groups interested in the information gathered from the incidental take permit could provide volunteers to help monitor the fishery. Batsavage responded that the division would need to work with the National Marine Fisheries Service to develop allowed takes for the pound net fishery based on this, and volunteers for monitoring raise concerns regarding liability, adequate training, and experience. However, the division will need to explore different funding options than were considered for the gill net incidental take permits.

Fulcher asked if it was possible to apply for a research incidental take permit for the pound net fishery, and McNulty answered that a research incidental take permit for a fishery does not exist so the only options are the incidental take permit or for National Marine Fisheries Service implementing management measures for the fishery.

Harms added that it is a "catch 22" situation when it comes to protected species because there is not a stock assessment for these species, which is needed to develop appropriate take levels.

However, incidental take permits are needed in order to collect the needed data (unless Congress appropriates more funding for this effort).

The committee discussed the delisting criteria for sea turtles without accurate population estimates, which is a continued source of frustration to the fishing industries as well as the committee. Lorenz stated that perhaps the National Marine Fisheries Service could attend a future meeting to explain the delisting process.

Fulcher added that the commercial industry encouraged National Marine Fisheries Service Office of Protected Resources staff through political action to meet with them regarding incidental take permits and delisting criteria for sea turtles. A conference call recently occurred, but Office of Protected Resources staff have not agreed to a sit-down meeting with industry; however, they agreed to attend this meeting.

OUTPUT/SUMMARY OF POUND NET DISCUSSION

Lorenz asked Sara McNulty and Joanne McNeill to join the committee in the continued discussion and questions about a pound net incidental take permit.

Harms asked McNulty how would an incidental take permit application for pound nets be evaluated if the effect of takes are already minimal and would the agency want an application for this fishery or not? McNulty responded that the conservation plan could include things such as more frequent checks of gear that could help sea turtles without impacting fishing operations, and since these are illegal takes, they would review a permit application if the state submitted it. She added that they recognize the benefits of research and monitoring opportunities as well as legal protection for the fishery. The agency cannot require a state or other entity to apply for an incidental take permit.

Peterson asked if there is a way to develop an incidental take permit that would not result in the fishery closing and McNulty answered that she is not sure, but there needs to be a set of numbers or a goal for allowed takes that is based on best available science.

Tyler asked if there is a true stock assessment for any sea turtle species, and McNulty responded that status reviews are conducted every 5 years, but no stock assessment exists.

Tyler followed up by asking then how can allowed take numbers for incidental take permits be developed without stock assessments, and McNulty replied that take numbers for incidental take permits are related to takes observed in the fishery in the past (if available) and if those takes pose a risk to the overall population.

Lorenz asked who would do a population assessment for sea turtles and McNulty said they are jointly managed by the National Marine Fisheries Service and U.S. Fish and Wildlife Service so both agencies would be responsible.

Kimmel asked if take numbers increase based on more reports of interactions, should that be factored into the allowed takes, and McNulty said factors that are likely to happen should be considered, but the situation depends on the fishery.

Fulcher does not understand how there is no correlation between allowed takes and population size, and McNulty said that they have to rely on the available information, and since population size is not available, other sources must be used.

Fulcher asked what geographic area and sampling frequency are needed for a scientific permit, and McNeill responded that they have reporting guidelines and are required to stop if they encounter a dead sea turtle. McNeill added that the Southeast Fisheries Science Center has a permit that covers sampling activities throughout the Gulf of Mexico and the south Atlantic.

Lynwood Odom asked how far south pound nets are found and do other states have incidental take permits for pound nets and the committee replied North Carolina is the southern extent of the fishery and no pound net incidental take permits exist.

Tyler asked McNeill how the sea turtle aerial surveys work, and McNeill explained that the aerial surveys were one part of the research conducted for sea turtles (volunteer sighting reports and pound net research were the others). All three components have advantages and disadvantages. The airplane flew at 500 feet and researchers would document the sea turtles they observed, but species identification was difficult for all species except leatherback sea turtles.

Fulcher asked how sea turtles underwater are accounted for, and McNeill said satellite and radio telemetry tags on sea turtles are used to account for these animals.

Odom asked what the age range of sea turtles caught in pound nets and Larisa Avens responded that most are juveniles with most green sea turtles from ages 1 to 7 and Kemp's ridley sea turtles from ages 1 to 5. Odom asked if the adults are in the ocean and McNeill and Avens said yes.

PUBLIC COMMENT

Lorenz provided the public to comment and ask questions regarding the presentations.

Before the committee members provided specific comments on each option, Lorenz provided the public to comment on the potential amendment items.

Bill Foster commented that if the recreational fishery would ever have to comply with the same rules as the commercial fishery, the science would change. Accountability measures in the Magnuson-Stevens Act held the fisheries accountable for overharvesting, and fish species began to recover. The same rules should apply to the recreational fishery as the commercial fishery in order to get good science on sea turtles. The federal agencies tend to apply regulations to the commercial fishery to protect sea turtles but not on the recreational fishery. The number of sea turtle takes by the North Carolina recreational fishery far exceeds the takes in the pound net fishery.

Roger Harris said he opposes incidental take permits and anything else the government proposes.

Cecil Simons stated that the incidental take permits destroyed the estuarine gill net fishery and they will do the same to the pound net fishery.

Kerry Harris said that the incidental take permits regulated the estuarine gill net fishery to the point where fishermen are unable to fish. He had to purchase $18,000 worth of crab pots in order to support his family because gill net fishing is not a viable option under the incidental take permits. He is upset that a pound net incidental take permit is being considered. Lorenz said the committee chose to discuss the pound net incidental take permit, but it is not being promoted by the National Marine Fisheries Service. Harris continued that no one will deny that there are more sea turtles than before, and this is all about money. He asked how many allowed sea turtle takes National Marine Fisheries Service would recommend for a pound net incidental take permit. McNeill said if it was up to her, it would allow for an unlimited number of takes because of the minimal amount of mortality, but those decisions are not hers to make. McNulty declined to answer.

Wayne Twiford commented that he fishes pound nets in Currituck Sound and has never seen a sea turtle where he fishes. He added that a pound net incidental take permit would shut down the fishery in the lower portions of the sounds.

Steve Weeks asked McNulty, McNeill and Batsavage a number of questions including how many sea turtles were observed in large mesh gill nets and the number of trips observed by the Observer Program in 2015. Batsavage answered there were 47 observed takes out of 995 trips. Weeks followed up by asking Batsavage to confirm that 47 observed takes crippled the large mesh gill net fishery, and Batsavage reminded Weeks that these are observed takes and not the estimated takes based on observer coverage. Weeks responded that he is not talking about estimated takes. Weeks asked what changed 8 years ago that prevented National Marine Fisheries Service from researching sea turtles caught in pound nets and no one had a confirmed answer. After several more questions from Weeks, Lorenz reminded him that this is not a trial and to please move onto his comments. Weeks commented that each species has a recovery plan and the recreational hook and line fishery is considered a greater threat than pound nets in the recovery plans, especially for Kemp's ridley sea turtles. He passed out a table showing reported hook and line interactions that showed 41 reported sea turtle takes and only 9 from pound nets. He thinks the level of threat to sea turtles should be considered when it comes to considering incidental take permits.

Phillip Goodwin, Sr. stated he is against a pound net incidental take permit. He depends on the pound net fishery for his livelihood and it is a clean gear.

Bradley Styron said that he was on the Marine Fisheries Commission for 11 years. He agrees with Harms about collecting more information on sea turtles, but he thinks there are other ways to accomplish this besides and incidental take permit. An incidental take permit would cripple the fishery based on what the incidental take permits did to the estuarine gill net fishery. He claimed that Batsavage is already preparing information for a pound net incidental take permit

and Batsavage corrected Styron by saying he presented considerations for an incidental take permit, but that does not mean the division is moving forward with applying for one.

David Bush from the North Carolina Fisheries Association asked if there are other ways to collect sea turtle data, and McNeill said yes, such as National Marine Fisheries Service using gill nets to tag and release sea turtles in Cape Lookout Bight, but the data are limited. Bush asked Batsavage if the division updated the take numbers from the incidental take permits and Batsavage said no, but the Atlantic sturgeon incidental take permit requires the division to reexamine the expected takes after three years of observer coverage data, and the sea turtle incidental take permit requires an examination of loggerhead sea turtle takes compared to the allowed takes after three years. Bush followed up by asking Batsavage if we could justify requesting more sea turtle takes considering the numerous fishery closures the past few years, and Batsavage responded that the division would need to analyze the take numbers and would need to talk to National Marine Fisheries staff first; an increase in requested takes would also require a new application. Bush asked what it would take to initiate a new incidental take permit application now, and Batsavage was not sure who would make the decision. Batsavage said since this would require a new application, it opens up all aspects of the conservation plan to National Marine Fisheries Service review and to public comment, which is a long process and that the public opinion about the estuarine gill net fishery varies.

Adam Harris said he is completely against a pound net incidental take permit and wonders why it is being discussed now.

Fulcher asked Batsavage if the commercial industry arranged a meeting with the National Marine Fisheries Service Office of Protected Resources staff to discuss additional allowed sea turtle takes, would the division participate, and Batsavage answered that he would not oppose it if the discussion included an explanation of the process and if the National Marine Fisheries Service was willing to discuss the information they would need from the division in order to review a request for more allowed takes.

Lorenz offered Commissioners Willis and Rose and opportunity to comment and Willis declined.

Rose commented that her family is in the pound net fishery and speaking personally (not as a Commissioner), she agrees with the fishermen because they work with the division and they get slapped in the face every time. She also has concerns pursuing an incidental take permit if there are no other states with incidental take permits.

SEA TURTLE STRANDING DISCUSSION

Matthew Godfrey motioned to adjourn the meeting after the sea turtle stranding discussion and was seconded by Craig Harms—motion fails.

Godfrey led the discussion about the high number of green sea turtle strandings that occurred in Pamlico Sound last December. He handed out information that showed the weekly number of strandings in December compared to the rest of the year. The December strandings are usually the result of cold stun events, but last December was warmer than average and the number

stranded was very high. It was difficult to determine the cause of death due to the degree of decomposition. Necropsies did not indicate anything abnormal about the animals. Some people speculated that they were pound net strandings, but there was no evidence to suggest this. Virginia also witnessed a peak in green sea turtle standings in November, which is unusual. Since the sea turtles were necropsied, Godfrey was unable to collect samples from the animals, so there is no way to determine the cause of death. However, plans are being made to collect samples if this occurs again in the future to determine the cause of death.

Kimmel asked if the strandings in Virginia were concentrated in a particular area, and Godfrey replied that they occurred in the Chesapeake Bay region.

Harms commented that these sea turtle strandings would have been associated with a cold stun event if the air and water temperatures were normal last December.

Jacob Boyd asked what would the decomposition rate be for a sea turtle when the water temperatures are in the 60s (which occurred last December), and Godfrey said at least a couple of days to become moderately decomposed, so it is possible that they floated in from somewhere else.

OBSERVER PROGRAM UPDATE

In the interest of time, no presentation was given. The committee was asked to contact Batsavage or Boyd if they had any questions.

OTHER BUSINESS

Peterson and Lorenz asked if it is possible to meet more often and Batsavage said that it comes down to the available budget and staff availability. He will pass this request along to staff.

Peterson is concerned that the committee is not accomplishing much or reaching any conclusions, which is why he would like to meet more often.

Peterson asked if the committee could discuss agenda items via email, and Batsavage said that would violate the state's open meetings laws.

FUTURE MEETING TOPICS AND PLAN AGENDA ITEMS FOR NEXT MEETING

Fulcher commented that much information was presented that he will need to think about and Tyler agreed.

Lorenz said a future action item is for Batsavage to ask the division about discussing a new gill net incidental take permit application with National Marine Fisheries Service and to get a better understanding what it would take and the risks involved with requesting more sea turtle takes. Lorenz added that the committee could eventually make a recommendation to the Marine Fisheries Commission about whether or not to pursue an incidental take permit.

MEETING ARRANGEMENTS

The next meeting is scheduled for Thursday June 23, 2016 at the Department of Environmental Quality Regional Office in Washington, North Carolina.

The meeting adjourned at approximately 8:45 pm.

/cb

Cc:
Catherine Blum
Mike Bulleri
Scott Conklin
Dick Brame
Braxton Davis
Charlotte Dexter
Jess Hawkins
Dee Lupton
Nancy Marlette
Katie Mills
Phillip Reynolds
Jerry Schill
Gerry Smith
District Managers
Committee Staff Members
Marine Patrol Captains
Section Chiefs

Marine Fisheries
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Wayne Johannessen
Division of Marine Fisheries

DATE: April 19, 2016

SUBJECT: Coastal Recreational Fishing License Committee Meeting

The Marine Fisheries Commission Coastal Recreational Fishing License Committee met at 2 p.m. on Tuesday April 19th, 2016 at the Division of Marine Fisheries Central District Office, 5285 Highway 70W, Morehead City. The following attended:

Committee: Mark Gorges (call in), Joe Shute, Rick Smith, Col. Jim Kelley

Advisory Members: Galen Maxwell, Alexander Rich, Richard Sear, Jan Willis

Staff: Dee Lupton, Suzanne Guthrie, Beth Govoni, Steve Murphey, Don Hesselman, Nancy Fish, Laura Lee, Kathy Rawls, Trish Murphey, Call in: Charlton Godwin, Anne Deaton

APPROVAL OF AGENDA AND MINUTES

Division of Marine Fisheries Col. Kelley called the meeting to order.

The meeting agenda was approved by consensus with no modifications.

The minutes from the December 14, 2015 meeting were approved by consensus with no modifications.

PUBLIC COMMENT

There was no public comment offered.

UPDATES

The committee received updates on the Coastal Recreational Fishing license sales report. The committee was updated on the status of on-going/previously funded Coastal Recreational Fishing License projects from 2007-2015 with semi-annual progress reports, Technical Monitor Reviews, and annual progress reports.

Commissioner Joe Shute questioned the Wildlife Resources commission Transaction Fee of approximately $7 million. Beth Govoni explained that the transaction fee is in the statute and is up to $2.00 (Beth later corrected the information that there is actually a Memorandum of Understanding (MOU) between the Division of Marine Fisheries and Wildlife Resources commission that dictates this fee. The fee cannot exceed $2 per the MOU).

ADDITIONAL-YEAR FUNDING PROJECTS

2007 update provided on the Five Year Plan projects with budgets and expenditures. Also Status of filled and vacant positions as of February 19, 2016.

2010 no projects need additional year of funding for fiscal year 2016 – 2017

2011 no projects need additional year of funding for fiscal year 2016 – 2017

2012 no projects need additional year of funding for fiscal year 2016 – 2017

The committee unanimously approved funding for two 2013 multi-year projects, requesting funding in the amount of $131,445 for fiscal year 2016 – 2017:

Mark Recapture Study of Cape Fear Striped Bass (2013-F-010) - $9,335
The Mark Recapture study is a four-year Division of Marine Fisheries project to research the sustainability of the Cape Fear River striped bass population.

Sources of Mortality and Movements of Weakfish (2013-F-011) - $122,110
Sources of Mortality and Movements of Weakfish is a four-year North Carolina State University project to study factors affecting weakfish stocks.

Motion by Rick Smith to approve the two 2013 projects requesting funding in fiscal year 2016 - 2017, seconded by Joe Shute, Mark Gorges approved - motion carried by consensus.

The committee unanimously approved funding for three 2014 multi-year projects, requesting funding in the amount of $265,576 for fiscal year 2016 – 2017:

Mortality for Southern Flounder (2014-F-015) - $137,216
The Mortality for Southern Flounder is a four-year University of North Carolina Wilmington project to provide direct estimates of mortality of Southern Flounder using combined telemetry and conventional tagging.

Carcass Collection Program (2014-F-016) - $7,750
The Carcass Collection Program is a three-year Division of Marine Fisheries project to establish coast-wide carcass collection program in order to collect data such as length, age and sex for recreationally important fish stock assessment models.

Multi-Species Tagging Program (2014-F-017) - $120,610
The Multi-Species Tagging Program is a three year Division of Marine Fisheries project to maximize tagging opportunities and optimized cost. The resulting tag-return data will provide

independent estimates of *F*, *M*, abundance/biomass, and migration rate and can be combined with traditional catch data to obtain precise and accurate results that improve management.

Motion by Joe Shute to approve the three 2014 projects requesting funding in fiscal year 2016 - 2017, seconded by Rick Smith, Mark Gorges approved - motion carried by consensus.

The committee unanimously approved funding for twelve 2015 multi-year projects, requesting funding in the amount of $708,578 for fiscal year 2016 – 2017:

Improving water temperature data recording for monitoring spotted seatrout cold stuns (2015-F-024) - $5,955
Improving water temperature data recording is a three-year Division of Marine Fisheries project to grant to begin a statewide water temperature logging program.

Full Time Law Enforcement Officer (2015-F-025) - $83,194
Full Time Law Enforcement Officer is a two-year Division of Marine Fisheries project to fund salary and purchase equipment for a full time law enforcement officer.

Temporary Tele-Communications Employee (2015-F-026) - $83,194
Temporary Tele-Communications Employee is a two-year Division of Marine Fisheries project to fund a temporary tele-communication employee for Marine Patrol.

Evaluation of Changes in Available Spawning and Nursery Habitats for River Herring in North Carolina (2015-F-032) - $48,299
Evaluation of Changes in Available Spawning and Nursery Habitats for River Herring is a two-year North Carolina State University project to fund the tracking of population growth of river herring.

Linking water quality, food quality, and larval fish condition to determine strategic habitat area quality (2015-H-036) - $80,506
Linking water quality, food quality, and larval fish condition to determine strategic habitat area quality is a four-year East Carolina University project to fund a study to determine strategic habitat area contribution to increased fish production.

Quantifying fish enhancement and erosion protection provided by marsh sills: "a living shoreline" alternative to bulkheads and revetments (2015-H-038) - $84,562
Quantifying fish enhancement and erosion protection provided by marsh sills: "a living shoreline" alternative to bulkheads and revetments is a two-year University of North Carolina at Chapel Hill project to fund a comprehensive evaluation of the recreational fish habitat services and erosion protection provided by marsh sills in comparison to revetments, bulkheads, and naturally occurring marshes.

Understanding and prediction the frequency and duration of hypoxic exposure in fish habitats in the lower Neuse River estuary (2015-H-041) - $98,275

Understanding and prediction the frequency and duration of hypoxic exposure in fish habitats in the lower Neuse River estuary is a two-year University of North Carolina at Chapel Hill project to fund a study to quantify and develop predictive models for salinity variability and the frequency and duration of hypoxic conditions.

Enhancing the quality of fish habitat and quantity of oysters by refining reef-restoration techniques (2015-H-042) - $107,077
Enhancing the quality of fish habitat and quantity of oysters by refining reef-restoration techniques is a three-year University of North Carolina at Chapel Hill project to fund a study to provide important guidelines for intertidal and subtidal reef restoration that will maximize the quality of the fish habitat.

Take a Kid Fishing (2015-P-030) - $25,000
Take a Kid Fishing is a three-year Take a Kid Fishing Foundation project to fund an annual event that provides disabled and disadvantaged youth an opportunity to go saltwater fishing while teaching them about ethical fishing practices, conservation and the ocean environment.

Improving fish production of artificial reefs by testing reef design and function (2015-P-033) - $85,758
Improving fish production of artificial reefs by testing reef design and function is a two-year University of North Carolina at Chapel Hill project to fund a study to assess how artificial reefs function to help the Division of Marine Fisheries continue to enhance, restore, manage, protect, and develop these reefs.

North Carolina Saltwater Fishing Tournament (2015-P-035) - $21,500
North Carolina Saltwater Fishing Tournament is a three-year Division of Marine Fisheries project to fund the continuation and improvement of this program which recognizes recreational anglers for exceptional catches of marine finfish.

North Carolina Recreational Fishing Digest (2015-P-037) - $36,750
North Carolina Recreational Fishing Digest is a two-year Division of Marine Fisheries project to fund the continuation of the annual publication for the Recreational Fishing Digest.

Discussion by Jan Willis of the Marine Fisheries Commission Advisory Panel to not fund the project:

Marine Fisheries Fellowship Program (2015-F-031) - $51,285
Marine Fisheries Fellowship Program is a five-year North Carolina State University project to fund the program which pairs M.S., Ph.D. students or recent graduates with biologists at North Carolina Division of Marine Fisheries.

Due to the current project studying the bycatch hotspots of the gillnet fisheries related to turtles and Atlantic sturgeon. The study being used to determine the potential effects of large and small mesh gillnet closures on sturgeon bycatch. Ms. Willis recommend do not fund based on a more suitable research project be chosen, suitable meaning “will enhance or improve the recreational

fishing experience or educate angles about salt water fishing". The project does not seem to have any benefit to the recreational fishing industry

Beth noted that the project was identified in the original proposal

Motion by Joe Shute to not approve funding of year two of the Marine Fisheries Fellowship Program (2015-F-031) in fiscal year 2016 - 2017, seconded by Rick Smith, Mark Gorges approved - motion carried by consensus.

Motion by Joe Shute to approve the other twelve 2015 projects requesting funding in fiscal year 2016 - 2017, seconded by Rick Smith, Mark Gorges approved - motion carried by consensus.

REQUEST FOR PROPOSALS

The 2016 Request for Proposals has been revised; division staff with consultation from Wildlife Resources Commission have reviewed the Coastal Recreational Fishing License request for proposal application and made recommendations to align with the Coastal Recreational Fishing License Strategic Plan.

Motion by Joe Shute to approve the 2016 Request for Proposal, seconded by Rick Smith, Mark Gorges approved - motion carried by consensus.

ADDITIONAL BUSINESS

Beth Govoni offered an update to the Committee on Division of Marine Fisheries Proposal 2016-H-052 *Developing methodology for assessing recreational fish use in Strategic Habitat Areas*. Vote for approval was differed in the December meeting to give the principal investigator time to re-evaluate the scope of sampling and field work in the proposal. Clarification has been provided by Anne Deaton, but due to the Coastal Habitat Protection Plan Biologist position currently being vacant she has requested the proposal be withdrawn from consideration and plans to re-submit the proposal in the upcoming 2016 Request for Proposals.

Division of Marine Fisheries Proposal 2016-F-035 *Validating and updating maturation schedules for better management of North Carolina fisheries* has requested a reallocation of funds. The current principal investigator has requested re-allocating the $30,301 in year 3 that was originally for the 11-month temporary technician. They would like to budget the funds for a temporary Biologist II in the following manner.

- Year 1 $12,120.40 (526 hrs.)
- Year 2 $12,120.40 (526 hrs.)
- Year 3 $6,060.20 (263 hrs.)

Staff who has since left the Division was planning to perform these duties. At this time, hiring a part-time temporary fish biologist II with reproductive fisheries biology experience instead of an 11-month temporary technician would greatly enhance to success of achieving the goals of this grant.

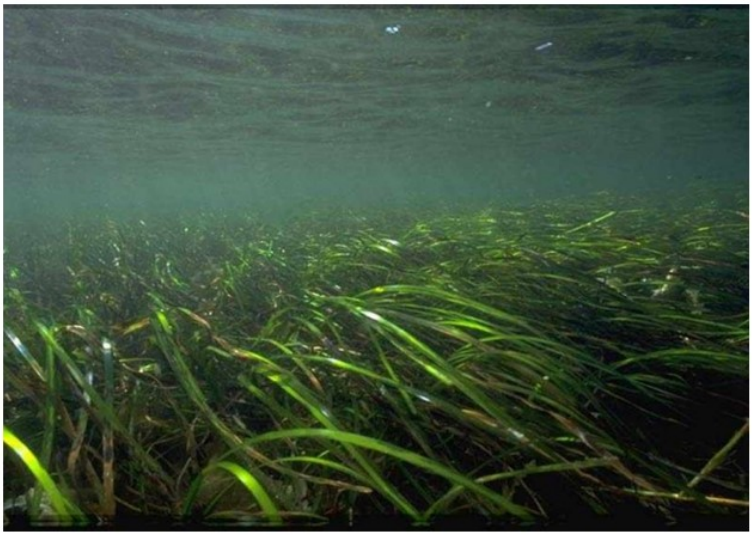
Motion by Mark Gorges to approve the budget revision which will require $12,120.40 added to year 1 and year 2, and $24,240.80 will be reduced in year 3, seconded by Rick Smith, Joe Shute - motion carried by consensus.

No Additional Business discussed.

Meeting adjourned at 3:08 p.m.

Enclosures

Cc:
Catherine Blum
Mike Bulleri
Scott Conklin
Dick Brame
Braxton Davis
Charlotte Dexter
Jess Hawkins
Dee Lupton
Nancy Marlette
Katie Mills
Phillip Reynolds
Jerry Schill
Gerry Smith
District Managers
Committee Staff Members
Marine Patrol Captains
Section Chiefs



NORTH CAROLINA COASTAL HABITAT PROTECTION PLAN

2016 Plan

NC Department of Environmental Quality

Protecting fish habitat from the headwaters to the sea...

NC Environmental Quality

North Carolina Marine Fisheries

Albemarle - Pamlico National Estuary Partnership

NC Division of Coastal Management

DWR Division of Water Resources

EXECUTIVE SUMMARY

This document is intended as a resource and guide compiled by Department of Environmental Quality staff to assist the Marine Fisheries, Environmental Management, and Coastal Resources commissions in the development of goals and recommendations for the continued protection and enhancement of fishery habitats of North Carolina. Implementation of any of the recommendations through specific rules or policies will involve further discussion with stakeholders as well as the balancing of competing ecological and economic values. By adopting this update, the commissions agree to cooperatively manage aquatic habitats towards the goal of coastal fishery resources long-term viability. The "Source Document" continues to be a work-in-progress as more scientific data, inventories, and indicators become available. G.S. 143B-279.8 requires that a Coastal Habitat Protection Plan (CHPP) be drafted by the Department of Environmental Quality, (renamed from Department of Environment and Natural Resources, effective July 1,2015), and reviewed every five years. The purpose of the plan is to recommend actions to protect and restore habitats critical to enhancement of North Carolina's coastal fisheries. This is the third iteration of the plan. The Marine Fisheries, Coastal Resources, and Environmental Management commissions are required to approve the plan recommendations.

The 2015 Coastal Habitat Protection Plan summarizes the economic and ecological value of coastal fish habitats to North Carolina, their status, and the potential threats to their sustainability. Goals and recommendations to protect and restore fish habitat, including water quality, are included. The appended Source Document, compiled by staff of the Department of Environmental Quality, provides the science to support the need for such recommendations. Throughout the plan, there are references to the chapter of the Source Document where more details and references can be found.

The 2015 plan and Source Document describe many of the accomplishments that have occurred since the first iteration of the plan in 2005. Most have been non-regulatory, collaborative efforts across divisions. Continued progress will require cooperation across additional agencies.

2016 Goals and Recommendations

Goal 1. Improve effectiveness of existing rules and programs protecting coastal fish habitats.

Includes 5 recommendations regarding enhancement of compliance, monitoring, outreach, coordination across commissions, and management of invasive species.

Goal 2. Identify and delineate strategic coastal habitats.

Includes 2 recommendations regarding mapping and monitoring fish habitat, assessing their condition, and identifying priority areas for fish species.

Goal 3. Enhance and protect habitats from adverse physical impacts.

Includes 8 recommendations on expanding habitat restoration, managing ocean and estuarine shorelines, protecting habitat from destructive fishing gear, and dredging and filling impacts.

Goal 4. Enhance and protect water quality.

Includes 8 recommendations to reduce point and non-point sources of pollution in surface waters through encouragement of Best Management Practices, incentives, assistance, outreach, and coordination. This applies not only to activities under the authority of the Department of Environmental Quality, such as development and fishing, but to all land use activities, including forestry, agriculture, and road construction.

The Coastal Habitat Protection Plan and Source Document can be viewed and downloaded from:
http://portal.ncdenr.org/web/mf/habitat/chpp/downloads

The 2016 North Carolina Coastal Habitat Protection Plan

North Carolina's approximately 2.3 million acres of estuarine waters comprise the largest estuarine system of any state along the Atlantic seaboard. Located at the confluence of warm southern and cool northern currents, North Carolina's waters support a high diversity of aquatic species and six distinct, but interdependent, marine habitats. These waters are vital not only for the state's important fish species, but also for fish that migrate along the east coast.

North Carolina, with its billion dollar commercial and recreational fishing industries, ranks among the nation's highest seafood producing states. Aquatic species important to these industries depend on sufficient quality and quantity of habitats in our rivers, sounds, and ocean waters. From shellfish beds in the lower estuaries, to swamps in the upper estuaries, fish habitats are at risk. Activities causing habitat loss and degradation threaten more than the fishing industry vital to North Carolina's economy. They also threaten coastal tourism, outdoor recreation, and residential development.

Recognizing the critical importance of healthy fish habitat, the NC General Assembly passed the Fisheries Reform Act (GS.143B-279.8), requiring three of the state's regulatory commissions - the Marine Fisheries, Environmental Management, and Coastal Resources commissions - to adopt a plan to protect and restore resources critical to North Carolina's fisheries. The Department of Environmental Quality (DEQ) developed a Coastal Habitat Protection Plan (CHPP) through a cooperative, multiagency effort. The CHPP was written by DEQ staff, adopted by the three commissions in 2004, and updated in 2010.

The CHPP is a guidance document providing the latest science on North Carolina's coastal fish habitats, their ecological functions, values, and threats, as well as goals and recommendations to protect, enhance, and restore fish habitat. By adopting the revised plan, the commissions are committing to implement these goals and recommendations. To this end, each DEQ division develops a biennial implementation plan that includes tangible and achievable actions to progress forward.

In this 2015 plan, there is information on past implementation progress, updated recommendations, and priority issues to focus actions. Background on the six fish habitats, their status, and pertinent threats are included. Full details are in the 2015 CHPP Source Document (**http://portal.ncdenr.org/web/mf/habitat/chpp/downloads**). A key to acronyms is provided at the end of this document.

Value of NC's coastal fish habitats: *

- 2013 Economic impact of NC fisheries: commercial - $305 million; recreational - $1.7 billion.
- Submerged aquatic vegetation produces food, improves water quality. In Bogue Sound, NC, pollution removal services value - $3,000/ac/yr. Ecosystem services of seagrass and algae - $7,700/ac/yr.
- Oyster reefs remove pollutants, increase fish production, stabilize shorelines – ecosystem services estimated $2,200 - $40,200/ac/yr, without value of fishery. Recreational fishing from reef restoration value estimated - $640,000/yr.
- Coastal wetlands provide storm protection valued at $25.6 billion/yr.
- Property values adjacent to open shellfish harvest waters are higher than next to closed waters.
- NC hard bottom fishery generated more than $4.2 million average annually for each of three years between 2011-2013.
- For every $1 invested in land conservation in NC, ~$4 return from natural resource goods and services.
- Beach property 80' wide ~35% more valuable than same property 79' wide.

* Refer to the Source Document for details and literature references.

Water Column | Submerged Aquatic Vegetation | Shell Bottom | Wetlands | Hard Bottom | Soft Bottom

CHPP Implementation

The overarching goal of the CHPP is to enhance fisheries by protecting and restoring important coastal habitats. The plan includes *recommendations* that fall under four broad goals and address issues such as minimizing habitat impacts from fishing gear and channel dredging, as well as reducing water quality impacts from point and nonpoint sources.

To fulfill these recommendations, each DEQ division and department develops biennial *implementation plans* that include tangible achievable actions. Implementation actions have varied over time based on needs and changing priorities. Implementation actions are carried out by DEQ, the Marine Fisheries Commission (MFC) and Division of Marine Fisheries (DMF), the Coastal Resources Commission (CRC) and Division of Coastal Management (DCM), the Environmental Management Commission (EMC) and Division of Water Resources (DWR), the Sedimentation Control Commission (SCC) and Division of Energy, Mineral, and Land Resources (DEMLR), and other partnering agencies. Implementation progress is tracked on a regular basis (Ch. 1).

In the 2015 CHPP, four *priority habitat issues* were selected for the focus of implementation plans. Suggested implementation actions for these issues were developed and are included in the plan. The four issues are oyster restoration, living shorelines, sedimentation, and developing metrics to assess habitat trends and management effectiveness (Ch. 12).

Department of Environmental Quality

DEQ is the lead stewardship agency for the preservation and protection of North Carolina's outstanding natural resources. The organization, which has offices from the mountains to the coast, administers programs designed to protect and enhance water quality, aquatic resources, public health, fish, wildlife, and wilderness areas.

The department is responsible for drafting the habitat plan. The CHPP Team, consisting of staff from DEQ divisions, draft the plan with guidance from the department.

DEQ implementation actions include those of the Albemarle-Pamlico National Estuary Partnership, Office of Land and Water Stewardship, and Division of Mitigation Services. Other participating state agencies include the Division of Soil and Water Conservation, NC Forest Service, Wildlife Resources Commission, and the Department of Agriculture and Consumer Services.

CHPP Steering Committee

The CHPP Steering Committee consists of two commissioners from each of the three commissions specified in the Fisheries Reform Act - MFC, CRC, and EMC. Their role is to review and approve of the draft plan, be an advocate for the plan to their full commission, meet regularly as a committee to discuss solutions for difficult and cross-cutting habitat and water quality issues, and review implementation progress to ensure that the plan is implemented.

CHPP Implementation

The primary divisions responsible for implementing CHPP recommendations are the Division of Marine Fisheries, Division of Coastal Management, Division of Water Resources, and Division of Energy, Minerals, and Land Resources (Ch. 1).

Division of Marine Fisheries

The division, under the rulemaking authority of the MFC, manages the commercial and recreational fisheries in North Carolina's estuarine and ocean waters. The division protects habitats through fishing gear rules, planning, research, and enhancement activities. The division's mission is to ensure sustainable marine and estuarine fisheries for the benefit of the people of North Carolina.

Division of Coastal Management

Under the rulemaking authority of the CRC, this division manages coastal development in accordance with the NC Coastal Area Management Act and the NC Dredge and Fill Law. The DCM works to protect, conserve, and manage North Carolina's coastal resources through an integrated program of planning, permitting, education, and research.

Division of Water Resources

The DWR's mission is to protect, preserve, enhance, and manage North Carolina's surface water and groundwater resources for the health and welfare of the citizens of North Carolina and the economic well-being of the state. This division functions under the rulemaking authority of the EMC.

Division of Energy, Mineral, and Land Resources

The division, under the rulemaking authority of the EMC, manages and provides technical assistance related to sediment and erosion control, stormwater management, mining, dams, and energy. The mission of DEMLR is to promote the wise use and protection of North Carolina's land and geologic resources.

Implementation Progress

Substantial implementation progress has been made over the past ten years, with some positive habitat signs evident. In addition, some fishery species' populations have rebounded or are showing strong signs of recovery. Examples include spotted seatrout, red drum, gag grouper, black sea bass, oysters, and bay scallops. While this advancement cannot be directly or solely related to habitat improvement, it is a positive indication for management overall. Some examples of implementation success are below (Ch. 1).

Oyster restoration

- Since 2005, oyster sanctuary development has greatly expanded. DMF has constructed 13 oyster sanctuaries in the Pamlico Sound system, each ranging from 5 - 60 acres of permitted area, and totaling 159 acres of developed reef (Ch. 3 & 12).
- Creation of an oyster shell recycling program provided additional shell material to supplement the division's shell planting activities. Recycled and purchased shell and rock material is used to create additional oyster reef habitat that supports the oyster fishery and provides fish habitat. The area of oyster reef created annually through shell planting varies based on funding and availability of material. Despite budget cuts, efforts continue through partnerships, grant funding, and mitigation contract work (Ch. 3 & 12).

Improving strategies to reduce nonpoint runoff

- EMC adopted coastal stormwater rules to reduce further degradation of receiving waters (Ch. 14).
- DWR and DEMLR incorporated low impact development techniques as acceptable Best Management Practice options for controlling runoff from development (Ch. 14).

Mapping and assessing habitat condition

- Since 2005, much progress has been made in submerged aquatic vegetation (SAV) mapping. Through a coordinated partnership of APNEP, DMF, DCM, DWR, and others, the entire coast was mapped in 2007-2008, with portions repeated in 2013 and 2015. A monitoring plan was developed to improve mapping methods in low salinity waters and to allow repeat mapping to evaluate change over time (Ch. 4).
- DMF accelerated estuarine shellfish bottom mapping (to a maximum water depth of 15 ft). Mapping is now over 95% complete (Ch. 3).
- DCM mapped the coastal estuarine shoreline and shoreline structures such as bulkheads and piers (Ch.8).
- DMF has developed and begun a process to identify a subset of strategic habitats, based on their condition and location. This will allow conservation measures to focus on priority areas (Ch. 13).

Implementation Progress

Managing shorelines

- DCM developed sediment criteria for beach nourishment and a Beach and Inlet Management Plan that provides guidelines for ocean beach nourishment to minimize ecological impacts and address socioeconomic concerns (Ch. 8).
- DCM has taken several actions to encourage greater use of living shorelines for estuarine shoreline stabilization. Working with DMF, DWR, and other agencies, DCM surveyed living shorelines for success, and agencies worked to simplify the permitting process. Outreach to multiple audiences through workshops, written material, and websites continues (Ch. 8).

Coordination and compliance

Regular CHPP Steering Committee meetings and CHPP quarterly permit reviewer meetings have greatly improved collaboration among divisions and problem solving on cross-cutting issues. New compliance positions were established in several divisions through appropriated funds, allowing greater assessment of compliance. However, due to budget shortfalls and resulting staff reductions over the past few years, divisions have maintained compliance monitoring through reorganization, reprioritization, and placing additional responsibilities on staff. (Ch. 1).

Research and outreach

- The Coastal Recreational Fishing License grant program funded multiple research projects that were identified as priorities in CHPP Implementation Plans or that will expand our understanding of the link between habitat condition and fish use (Ch. 1).
- The National Estuarine Research Reserve has produced educational materials on the value of different fish habitats and environmentally friendly shoreline stabilization techniques. The NERR also held workshops to promote living shorelines (Ch. 14).
- Several educational kiosks and displays on the value of fish habitat were constructed at a variety of museums and public access locations using Coastal Recreational Fishing License funds (Ch. 14).

Restoring fish passage

- In 2012, a rock ramp fish passage was constructed around Lock and Dam #1 on the Cape Fear River by the US Army Corps of Engineers to allow anadromous fish to migrate farther upstream to spawn. The work was done collaboratively with DMF, WRC, USFWS, and other partners (Ch. 9).

Goals and Recommendations

GOAL 1:

IMPROVE EFFECTIVENESS OF EXISTING RULES AND PROGRAMS PROTECTING COASTAL FISH HABITATS

North Carolina has a number of programs in place to protect coastal fisheries and the natural resources that support them. The Marine Fisheries Commission has adopted rules addressing the impacts of certain types of fishing gear and fishing practices that may damage fish habitats. The Coastal Resources Commission regulates development impacts on certain types of critical habitat, such as saltwater marshes and Primary Nursery Areas. The Environmental Management Commission has water quality standards that address pollution of all waters, from direct discharges to dredge and fill impacts. The Division of Energy, Mineral, and Land Resources addresses erosion and sediment control from land development or mining, and regulates energy activities. The Coastal Habitat Protection Plan identifies strategies that could continue to improve rule compliance, coordination of environmental monitoring, and outreach, which in turn will result in greater success in protecting critical fish habitats (Ch. 15).

RECOMMENDATIONS:

1. Continue to ensure compliance with Coastal Resources Commission (CRC), Environmental Management Commission (EMC), and Marine Fisheries Commission (MFC) rules and permits.
2. Coordinate and enhance:
    a. monitoring of water quality, habitat, and fisheries resources (including data management) from headwaters to the near-shore ocean.
    b. assessment and monitoring of effectiveness of rules established to protect coastal habitats.
3. Enhance and expand educational outreach on the value of fish habitat, threats from land use and other activities, and explanations of management measures and challenges.

4. Continue to coordinate among commissions and agencies on coastal habitat management issues.
5. Enhance management of invasive species with existing programs. Monitor and track status in affected waterbodies.

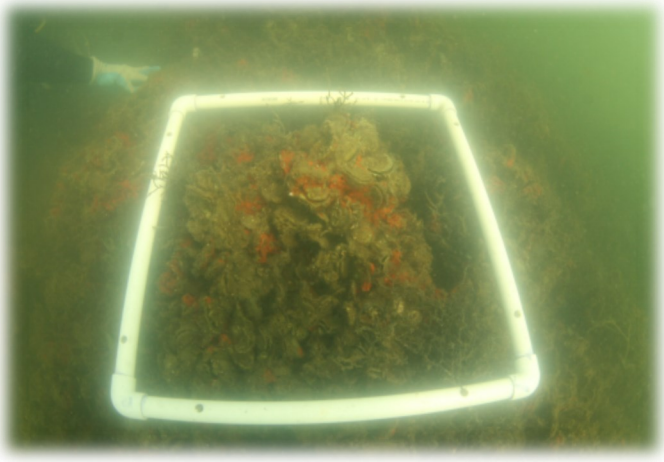
GOAL 2:

IDENTIFY AND DELINEATE STRATEGIC COASTAL HABITATS

Maintaining healthy coastal fisheries requires consideration of the entire ecosystem and the way different types of fish habitats work together. For example, coastal marshes help prevent erosion of shallow soft bottom habitat, which provides a food source and corridor for juvenile finfish. Shell bottom reduces sediment and nutrients in the water column, which enhances conditions for submerged aquatic vegetation. Together these habitats provide different functions for fish and protective stepping stones for their migration through coastal waters. Fragmenting these habitats, or damaging one of a series of interrelated habitats, makes it more difficult for aquatic systems to support strong and healthy coastal fisheries. The Marine Fisheries Commission identified a need to locate strategic habitats. These areas are a subset of all coastal habitats and consist of strategically located complexes of fish habitat that provide exceptional ecological functions ("best of the best"), or are particularly at risk due to vulnerability or rarity. These areas merit special attention and should be given high priority for research, monitoring, and possibly conservation (Ch. 15).

RECOMMENDATIONS:

1. Support assessments to classify habitat value and condition by:
    a. coordinating, completing, and maintaining baseline habitat mapping (including seagrass, shell bottom, shoreline, and other bottom types) using the most appropriate technology.
    b. selectively monitoring the condition and status of those habitats.
    c. assessing fish-habitat linkages and effects of land use and other activities on those habitats.
2. Continue to identify and field groundtruth strategic coastal habitats.



NC Fishing

GOAL 3:

ENHANCE AND PROTECT HABITATS FROM ADVERSE PHYSICAL IMPACTS

The CHPP identifies a number of ways in which fish habitats can be damaged by direct physical impacts. Some examples include filling of wetlands, navigational dredging of soft bottom habitat, destruction of shell bottom and hard bottom areas, damage to submerged aquatic vegetation by use of certain types of fishing gear, and physical obstructions that block fish movement to and from spawning areas. While large impacts can directly contribute to the loss of habitat functions, the accumulation of many small impacts can make a habitat more vulnerable to injuries from which it might otherwise recover quickly. In some cases, historic damage to a habitat can be mitigated through the creation of sanctuaries where the resource can recover. One such program involves creation of protected oyster reefs. In other cases, the cumulative impacts of multiple projects can be more effectively managed through comprehensive planning (Ch. 15).

RECOMMENDATIONS:

1. Expand habitat restoration in accordance with restoration plan goals, including:
    a. increasing subtidal and intertidal oyster habitat through restoration.
    b. re-establishing riparian wetlands and stream hydrology.
    c. restoring SAV habitat and shallow soft bottom nurseries.
2. Sustain healthy barrier island systems by maintaining and enhancing ecologically sound policies for ocean and inlet shorelines, and implement a comprehensive beach and inlet management plan that provides ecologically based guidelines to protect fish habitat and address socioeconomic concerns.
3. Protect habitat from adverse fishing gear effects through improved compliance.

Goals and Recommendations

GOAL 3:

ENHANCE AND PROTECT HABITATS FROM ADVERSE PHYSICAL IMPACTS

RECOMMENDATIONS:

4. Improve management of estuarine and public trust shorelines and shallow water habitats by revising shoreline stabilization rules to include consideration of site specific conditions, and advocate for alternatives to vertical shoreline stabilization structures.
5. Protect and restore habitat for migratory fishes by:
    a. incorporating the water quality and quantity needs of fish in water use planning and management.
    b. restoring fish passage through elimination or modification of stream obstructions, such as dams and culverts.
6. Ensure that energy development and infrastructure is designed and sited to minimize negative impacts to fish habitat, avoid new obstructions to fish passage, and, where possible, provide positive impacts.
7. Protect and restore important fish habitat functions from damage associated with activities such as dredging and filling.
8. Develop coordinated policies including management adaptations and guidelines to increase resiliency of fish habitat to ecosystem changes.

Seasonal restrictions on navigational dredging are an effective means of protecting fish during critical times of their lives, such as during spawning periods or when early juvenile fish are growing in nursery areas.

GOAL 4:

ENHANCE AND PROTECT WATER QUALITY

Clean water is essential to coastal fisheries. Water conditions necessary to support coastal fish include the right combination of temperature, salinity, and oxygen, as well as the absence of harmful pollutants. Achieving and maintaining good water quality for purposes of fish productivity requires management of both direct discharges to surface waters and nonpoint runoff from land activities. While there have been great improvements to water quality management, support through funding and technological advances is needed to sustain water quality as coastal uses increase. The CHPP recommends strategies to address water quality impacts by maintaining rule compliance through inspections, local government incentives, and developing new technology to reduce point and nonpoint pollution through voluntary actions. Maintaining the water quality necessary to support vital coastal fisheries will benefit not only the fishing industry, but also a large sector of the entire coastal economy built around travel, tourism, recreational fishing, and other outdoor activities (Ch. 15).

RECOMMENDATIONS:

1. Reduce point source pollution discharges by:
    a. increasing inspections of wastewater discharges, treatment facilities, collection infrastructure, and disposal sites.
    b. providing incentives and increased funding for upgrading all types of discharge treatment systems and infrastructure.
    c. developing standards and treatment methods that minimize the threat of endocrine disrupting chemicals on aquatic life.
2. Address proper reuse of treated wastewater effluent and promote the use of best available technology in wastewater treatment plants (including reverse osmosis and nanofiltration effluent), to reduce wastewater pollutant loads to rivers, estuaries, and the ocean.

3. Prevent additional shellfish closures and swimming advisories by:
    a. conducting targeted water quality restoration activities.
    b. prohibiting new or expanded stormwater outfalls to coastal beaches and to coastal shellfishing waters (EMC surface water classifications SA and SB) except during times of emergency (as defined by the DWR's Stormwater Flooding Relief Discharge Policy) when public safety and health are threatened.
    c. continuing to phase out existing outfalls by implementing alternative stormwater management strategies.
4. Enhance coordination with, and provide financial/technical support for, local government/private actions to effectively manage stormwater and wastewater.

Goals and Recommendations

GOAL 4:

ENHANCE AND PROTECT WATER QUALITY

RECOMMENDATIONS:

5. Continue to improve strategies throughout the river basins to reduce nonpoint pollution and minimize cumulative losses of fish habitat through voluntary actions, assistance, and incentives, including:
    a. improving methods to reduce pollution from construction sites, agriculture, and forestry.
    b. increasing on-site infiltration of stormwater.
    c. encouraging and providing incentives for implementation of Low Impact Development practices.
    d. increased inspections of onsite wastewater treatment facilities.
    e. increasing use of reclaimed water and recycling.
    f. Increasing voluntary use of riparian vegetated buffers for forestry, agriculture, and development.
    g. increasing funding for strategic land acquisition and conservation.
6. Maintain effective regulatory strategies throughout the river basins to reduce nonpoint pollution and minimize cumulative losses of fish habitat, including use of vegetated buffers and established stormwater controls.
7. Maintain adequate water quality conducive to the support of present and future mariculture in public trust waters.
6. Reduce nonpoint source pollution from large-scale animal operations by:
    a. Ensuring proper oversight and management of animal waste management systems.
    b. Ensuring certified operator compliance with permit and operator requirements and management plan for animal waste management systems.

For every $1 invested in land conservation in NC, there is estimated to be a $4 return in economic value from natural resource goods and services alone, without considering other economic benefits.

Priority Habitat Issue - *Oyster Restoration*

Oyster populations in North Carolina have declined by as much as 90% from historic levels. Overfishing, habitat destruction, disease, and pollution have contributed to the significant decline and slow recovery rates of oyster reefs. Recognized as an ecosystem engineer, oyster reefs are critical economically for the seafood industry, and ecologically for improving water quality and providing fish habitat. For 100 years, DMF has been "planting" oyster shell in open harvest areas to provide additional hard substrate for oyster recruitment. The planted shell soon becomes a living oyster reef, enhancing the oyster fishery and providing fish habitat. Since 1998, DMF has constructed 13 subtidal oyster sanctuaries where shellfish harvest is not allowed. Oysters growing in the protected sanctuaries serve as broodstock, providing larvae that recruit onto hard substrate in surrounding waters. Despite these efforts, oyster populations remain well below historic levels, fishing pressure increases, and water quality declines. Lack of additional funding to purchase and deploy hard material and conduct research limits the ability to expand oyster restoration activities. The CHPP Steering Committee considers this one of the most important activities that could be done to improve habitat and water quality in North Carolina's coastal waters (Ch. 12).

Proposed Implementation Actions

Cultch Planting

- ◊ Increase spending limit per bushel of shell to compete with other states.
- ◊ Develop a cooperative public/private, self-sustaining shell recycling program by providing financial incentives in exchange for recycled shell.
- ◊ Work with the shellfish industry to institute an "oyster use fee" to help support the cultch planting program.
- ◊ Identify alternative substrates for larval settlement in intertidal and subtidal reefs, including a cost-benefit analysis.
- ◊ Establish long term monitoring program to support future decision making.
- ◊ Utilize new siting tools and monitoring protocols to maximize reef success.

Hatchery Oyster Seed Production

- ◊ Explore options for increasing funds to support UNCW oyster hatchery.
- ◊ Identify regional genetic variability within NC.
- ◊ Improve availability of seed oysters genetically suited to respective regions.

Oyster Sanctuaries

- ◊ Identify alternative substrates for larval settlement in intertidal/subtidal reefs, including cost-benefit analysis.
- ◊ Identify the size and number of sanctuaries needed.
- ◊ Develop reefs that deter poaching by mechanical means.
- ◊ Utilize new siting tools to maximize reef success.
- ◊ Explore options for in situ sampling protocol to incorporate alternative construction materials.

Priority Habitat Issues - *Living Shorelines*

Living shorelines is the term used for a type of designed shoreline stabilization technique that incorporates live components such as marsh plants, frequently in combination with rock or oyster sill structures. Wetland and shell bottom habitat along the shoreline have declined in many areas due to natural erosion and vertical shoreline hardening with bulkheads. Living shorelines offer an effective alternative for protecting waterfront property, while restoring fish habitat and ecosystem services. Since 2005, progress has been made in documenting, through scientific studies, the benefits and limitations of living shorelines. Research in North Carolina has shown that living shorelines support a higher diversity and abundance of fish and shellfish than bulkheaded shorelines, effectively deter erosion, and survive storm events well. Outreach efforts have been done to increase awareness of this technique to the public and contractors. Nonprofit organizations and DCM have constructed several demonstration projects. Despite these efforts, approximately 60 living shorelines have been permitted coastwide, in contrast to 93 miles of bulkheads (based on 2012 DCM mapping). The CHPP Steering Committee requested that efforts continue to focus on encouraging living shorelines to protect property, restore shoreline habitat, and improve water quality (Ch. 12).

Proposed Implementation Actions

Outreach

- ◊ Seek funding and partnerships to increase the number of highly visible demonstration projects.
- ◊ Develop case studies that property owners can relate to that discuss site conditions, initial and ongoing costs, and performance of the structure.
- ◊ Actively engage with contractors, realtors, and homeowners associations in the design and benefits of living shorelines.
- ◊ Enhance communications, marketing, and education initiatives to increase awareness of, and build demand for, living shorelines among property owners.

Research

- ◊ Examine the effectiveness of natural and other structural materials for erosion control and ecosystem enhancement.
- ◊ Examine the long-term efficacy of living shorelines and vertical structures, particularly after storm events.
- ◊ Map areas where living shorelines would be suitable for erosion control.
- ◊ Investigate use of living shorelines as BMP or mitigation options.

Permitting

- ◊ Continue to simplify the federal and state permitting process for living shorelines.

Priority Habitat Issue - *Sedimentation*

Sedimentation in creeks, particularly in nursery areas, is a continuing concern. While a moderate amount of sediment input is necessary to maintain shallow soft bottom habitat that supports wetlands, excessive amounts can silt over existing oyster beds and submerged aquatic vegetation, smother invertebrates, clog fish gills, reduce survival of fish eggs and larvae, reduce recruitment of new oysters onto shell, and lower overall diversity and abundance of marine life. Pollutants such as toxins, bacteria, and nutrients bind to sediment particles and are transported into estuarine waters, where they can accumulate in the sediment and impact aquatic organisms. Sediment enters the upper estuary via runoff and ditching due to land clearing activities associated with agriculture, forestry, and development. Shoreline erosion, tidal inflow, and dredging also contribute sediment in the lower estuary. Studies in North Carolina indicate that relatively high sedimentation has occurred in the past. The effect on estuarine productivity is uncertain. More assessment on the extent and effect of sedimentation in coastal creeks and rivers is needed, along with current rates of sediment inputs, to determine the best way to address the issue (Ch. 12).

Proposed Implementation Actions

- ◊ Determine magnitude and change in sedimentation rates and sources over time at sufficiently representative waterbodies and regions.
- ◊ Determine the effect of sedimentation in the upper estuaries on primary and secondary productivity and juvenile nursery function.
- ◊ Encourage research for innovative and effective sediment control methods in coastal river basins.
- ◊ Encourage expanded use of stormwater BMPs and low impact development (LID) to reduce sediment loading into estuarine creeks.
- ◊ Partner with NC Department of Transportation to retrofit road ditches that drain to estuarine waters.
- ◊ Improve effectiveness of sediment and erosion control programs by:
  - ♦ Encouraging development of effective local erosion control programs to maintain compliance and reduce sediment from reaching surface waters.
  - ♦ Enhancing monitoring capabilities for local and state sediment control programs (e.g., purchase turbidity meters and train staff in their use).
  - ♦ Continuing to educate the public, developers, contractors, and farmers on the need for sediment erosion control measures and techniques for effective sediment control.

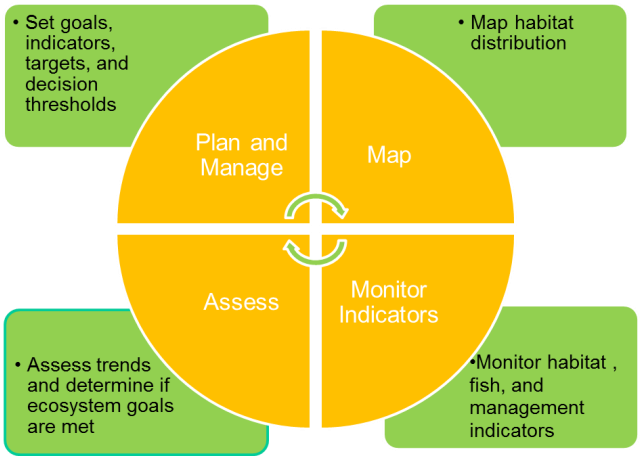
♦ Provide education and financial/ technical support for local and state programs to better manage sediment control measures from all land disturbing activities.

In 2014, 6,290 acres were impaired by turbidity for the aquatic life use support classification in coastal subbasins (DWR 2014 Integrated Report).

Priority Habitat Issue - *Developing Metrics*

Developing metrics to assess habitat trends and management effectiveness is the cornerstone of habitat protection and restoration. Without them, needed habitat conservation initiatives are unknown. Ecosystem-based management is the process where monitoring of ecosystem indicators is done to assess the condition of the resource and the effectiveness of management strategies; management actions are modified based on monitoring results. This process requires mapping all habitat to assess trends in distribution, developing and monitoring representative indicators to assess habitat condition, monitoring fish use of habitats in priority areas, and developing management performance criteria for measuring success of management actions. The DEQ has already initiated mapping and monitoring of some habitats, but has not established continual monitoring to evaluate management effectiveness. The Albemarle-Pamlico National Estuary Partnership established ecosystem indicators in 2012 to help determine the status of that system. The DMF has identified strategic coastal habitats in most of the coastal waters that are high priority for protection so that fish populations are sustained. More work is needed to establish a cyclic process to monitor, assess, and successfully and efficiently manage North Carolina's coastal resources.

The lack of quantified trends in habitat condition and success of management actions was identified as a priority concern of the CHPP Steering Committee (Ch. 12).



Proposed Implementation Actions

- ◊ Develop indicator metrics for monitoring the status and trends of each of the six habitat types within North Carolina's coastal ecosystem (water column, shell bottom, SAV, wetlands, soft bottom, hard bottom).
- ◊ Establish thresholds of habitat quality, quantity, or extent similar to limit reference points - or traffic lights - which would initiate pre-determined management actions.
- ◊ Develop indicators for assessing fish utilization of strategic coastal habitats.
- ◊ Develop performance criteria for measuring success of management decisions.
- ◊ Include specific performance criteria in CHPP management actions where possible.

The Fishery Reform Act requires the CHPP to describe, classify, and evaluate biological habitat systems, including wetlands, spawning grounds, nursery areas, shellfish beds, and submerged aquatic vegetation, and outstanding resource waters.

NC Coastal Habitats

North Carolina's coastal fish habitats provide crucial functions for the plants and animals living in them. This diversity of interconnected habitats provides food and shelter in which to reproduce and grow for a tremendous variety of fish, shellfish, and crustaceans. Protecting and restoring these habitats is essential to the survival of North Carolina's fisheries.

While poor water quality puts the habitats' ability to function and support fish populations at risk, physical damage caused by humans is also a serious threat. Conversion of wetlands by draining, filling, and water control projects are the major sources of wetland loss in eastern North Carolina. Shell bottom habitat along our coast has been decimated by a century of excessive mechanical harvests and diseases. More recently, dredging for navigation channels and marinas, as well as damage from bottom-disturbing fishing gear, threatens remaining shell bottom and submerged aquatic vegetation habitat and impedes establishment of those habitats. Submerged aquatic vegetation is also vulnerable to uprooting by boat propellers and to shading by docks and piers. These and other types of physical impacts affect the ability of fish habitats to sustain fisheries and increase their vulnerability to water quality problems (Ch. 2-7).

The CHPP identifies six fish habitats that need protection or enhancement:

- Water Column
- Shell Bottom
- Submerged Aquatic Vegetation (SAV)
- Wetlands
- Soft Bottom
- Hard Bottom

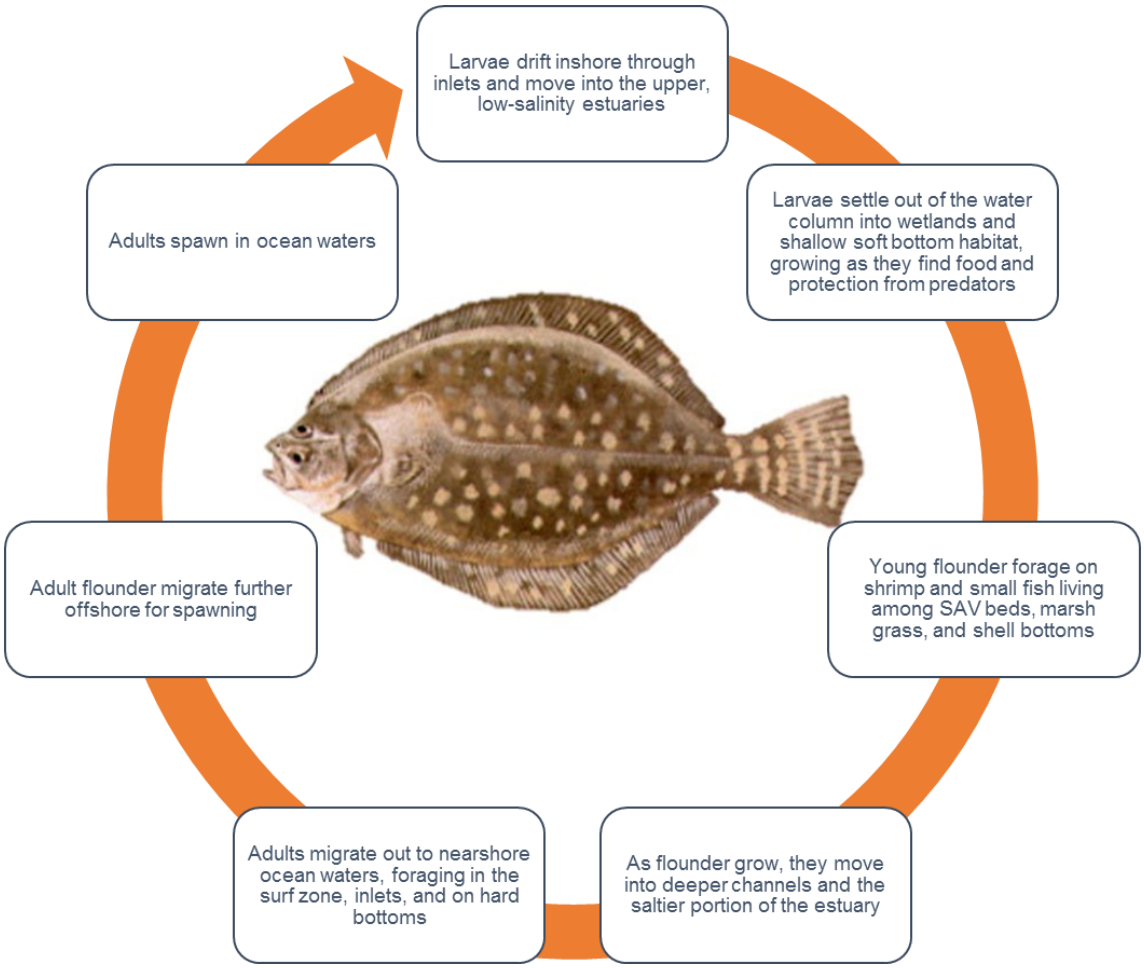
Habitats provide important functions for fish species.

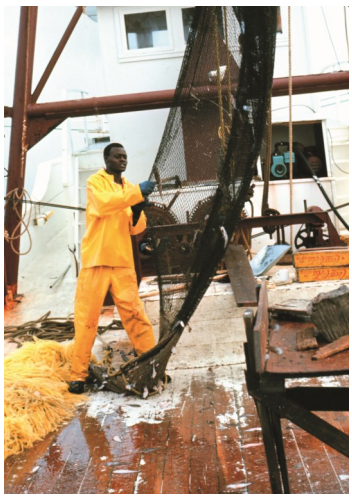
Refuge:	shelter for fish at various life stages and a place for plants and animals to attach
Nursery:	refuge and foraging habitat suitable for development of juvenile life stages of fish, shellfish, and crabs
Spawning:	conditions that allow adults to reproduce
Foraging:	presence and accessibility of food sources
Corridor:	connectivity for safe passage among foraging, spawning, and refuge areas

Habitat: "a place, or set of places, in which a fish or fish population finds the physical, chemical, and biological features needed for life."

NC Coastal Habitats

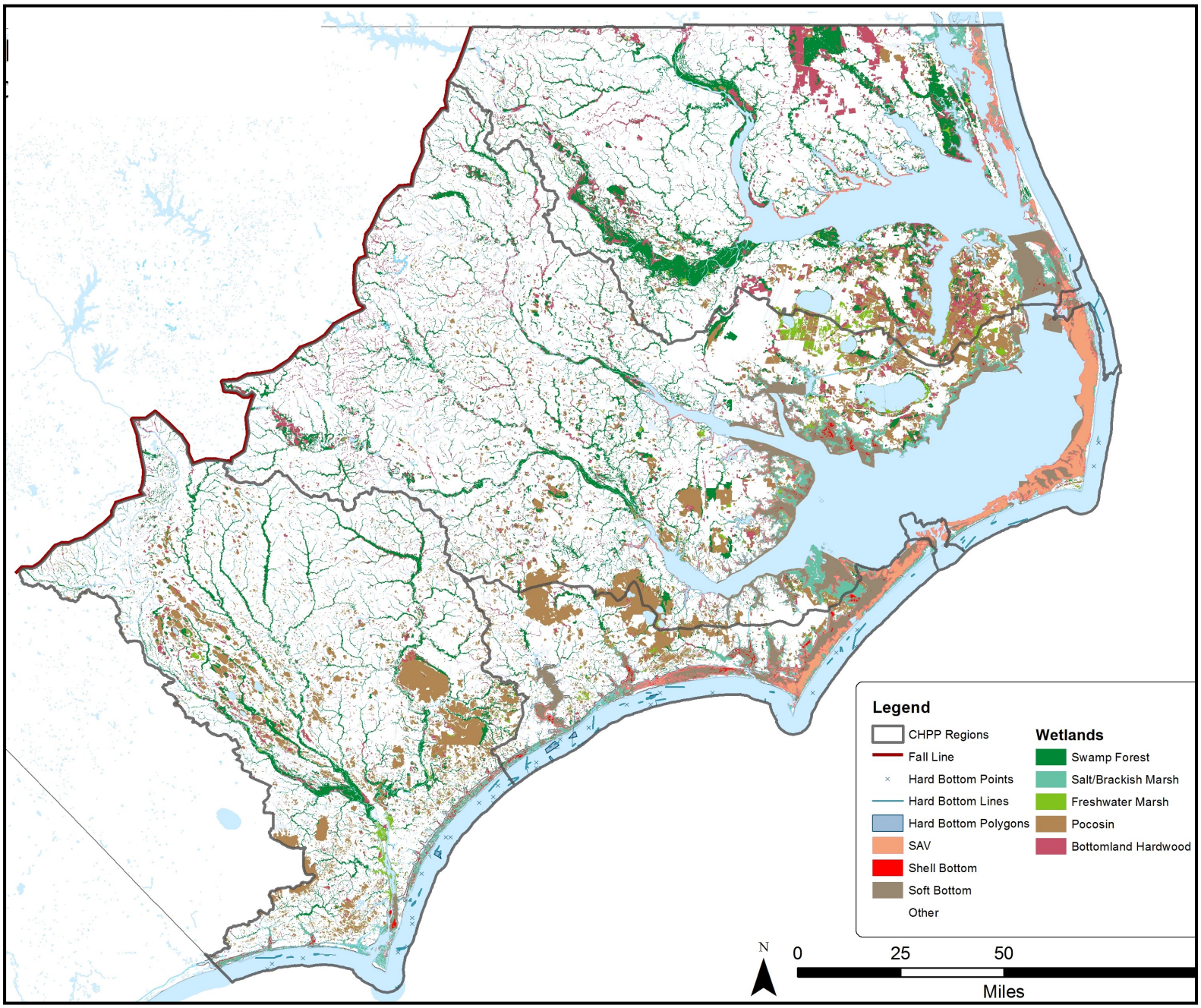
All fish habitats are integral components of the entire aquatic ecosystem because species require use of multiple habitats throughout their life history; the water column connects them all. Organisms occupy specific areas or habitats that meet their needs for each particular life stage. Certain areas, such as nursery areas, are especially important to fish production, and some, such as shallow grass beds, are particularly vulnerable to human impacts. To maintain a healthy coastal ecosystem that provides all the ecological functions necessary for North Carolina's coastal fish populations, it is more effective to address the entire system of interdependent habitats, rather than a single habitat type (Ch. 2-7).





The relationship between habitat conditions and populations of fishery species is complex. In the past, the decline of a particular fish stock was often attributed to overfishing. We know now that the quality and quantity of fish habitats is important to healthy fish populations. Habitat loss and degradation make fish populations more susceptible to overfishing and can cause a delay in recovery, even after management actions have successfully reduced fishing pressures. River herring and shortnose sturgeon are examples of species that have not recovered despite lengthy fishing moratoriums. Thus, the status of fisheries can be an indicator of impacts to fish habitats. Successful implementation of the CHPP recommendations is a necessary component for sustaining productive fisheries for future generations.

MAPPED FISH HABITATS OF COASTAL NORTH CAROLINA



Water Column - *The Most Essential Habitat*

Water column is the medium through which all aquatic habitats are connected, affecting all other habitats and the distribution and survival of fish. The water column includes riverine, estuarine, lacustrine, palustrine, and marine systems. Properties affecting fisheries resources and distribution include: temperature, salinity, dissolved oxygen (DO), total suspended solids (TSS), nutrients (nitrogen, phosphorus), chlorophyll a, pollutants, pH, velocity, depth, movement, and clarity. Within a river basin, these properties change as you move from the headwaters to the ocean (Ch. 2).

Fish distribution in the water column is often determined by salinity and proximity to inlets. The potential productivity of fish and invertebrates begins with energy and nutrient production at the base of the food chain. Productivity in the water column comes from phytoplankton, floating plants, macroalgae, benthic microalgae, and detritus.

Economic Benefits

U.S. commercial and recreational saltwater fishing generated more than $199 billion in sales in 2012, according to the Fisheries Economics of the United States. In North Carolina, the recreational and commercial fishery generated $1.87 billion in 2011.

Habitat Functions and Fish Use

The corridor between freshwater creeks or rivers and estuarine/marine systems is important to all fish, particularly species whose life spans more than one system, such as species that must migrate upstream to spawn (anadromous) or marine-spawning estuarine-dependent species.

Water column provides nursery habitat for juvenile pelagic species, such as bluefish and pompano, in the surf zone. Optimum physical and chemical properties, such as currents, temperature, and salinity determine survival and settlement of larvae. The water column is a food source for all size organisms, supporting microscopic plants and animals (phytoplankton and zooplankton), and prey species of all sizes.

The ability of the water column to provide predatory refuge varies relative to area, depth, water quality, and vegetation. Juvenile fishes are protected in shallow areas inaccessible to larger fish. Turbidity and DO can provide refuge for pelagic species by excluding predators that feed visually or are not tolerant of low DO.

FACT: 76,927 acres of coastal water column is designated as Primary Nursery Area. 82,000 acres is designated as Secondary or Special Secondary Nursery Area.

Habitat Profile

Water Column Functions

- Connects all habitat types
- Allows fish to move among habitats
- Surrounds and supports aquatic animals and habitats

How Fish Use the Water Column

- Transports eggs, larvae, and oxygen
- Nursery area for all fish species
- Foraging area for all fish species
- Spawning area for all fish species

Water Column - *The Most Essential Habitat*

Status and Trends

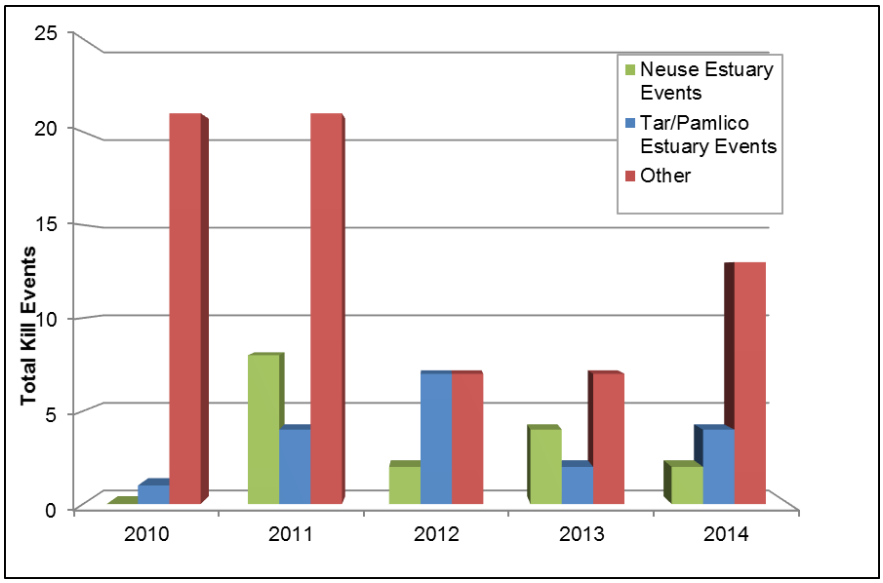
The condition of the water column is described by physical and chemical properties, pollution indicators, and the status of the fishery resources. However, evaluating the status and trends of water column characteristics is difficult. The number of monitoring agents, monitoring site distribution, frequency of data collection, and parameters measured are not conducive to comprehensive water quality assessments. Monitoring for microbial contamination of shellfish harvesting waters remains the most abundant measurement of estuarine water quality. Data collected from monitoring stations within the CHPP area include those from ±1,020 shellfish growing area stations, 240 recreational water quality stations, and ±256 DWR ambient stations. Water quality data from selected stations are shown in the CHPP Source Document.

The health of pelagic fishery species can be an indicator of water quality. Spanish mackerel, bluefish, and Atlantic menhaden are positive examples of species with improving or stable populations.

FACT: As of March 2014, over 442,106 acres of shellfish harvesting waters, or 20% of classified shellfish waters, were closed in North Carolina due to high levels of fecal coliform or the potential risk of bacterial contamination. As an adaptive measure to reduce permanent closures, 55,628 acres are conditionally opened and closed based on rainfall and sampling.

Threats to Water Column

Whether certain species will thrive and reproduce is strongly affected by conditions such as water clarity, DO, and nutrient levels. Fish kills and harmful algal blooms during the 1980s and 1990s were visible signs of coastal water quality problems. Most frequently reported species in fish kills are Atlantic menhaden, spot, flounder, and croaker. Large fish kills have diminished somewhat in recent years, but many coastal waters remain impaired. Excess sediment loading is the most common cause of impairment.



Human activities often change the chemistry of the water, reducing water quality. These changes can originate from point sources, such as industrial or wastewater discharges, or from non-point runoff from construction or industrial sites, development, roads, agriculture, or forestry. Any number of sources can result in pollutants and sediment entering surface waters. It is apparent when excess sediment clouds the water and fills a waterway, but beneath the water's surface, these particles clog fish gills and bury plants, shellfish, and other aquatic species.

All coastal habitats are connected by water. Clean water is essential to aquatic life.

Shell Bottom - *Building Reefs & Cleaning Water*

Shell bottom is unique because it is the only coastal fish habitat that is also a fishery species (oysters). Shell bottom is estuarine intertidal or subtidal bottom composed of surface shell concentrations of living or dead oysters, hard clams, and other shellfish. Oysters, the primary shell-building organism in North Carolina estuaries, are found throughout the coast, from southeast Albemarle Sound to the South Carolina border. The protection and restoration of living oyster beds is critical to the restoration of numerous fishery species, as well as to the proper functioning and protection of surrounding coastal fish habitats. Historically, restoration was managed for oyster fishery enhancement. Current efforts mix fishery and ecosystem enhancement with sanctuary development (Ch. 3).

Habitat Profile

Shell Bottom Functions

- Provides structure, shelter, and food source
- Filters pollutants and other particles from water
- Protects shoreline by slowing wave energy

How Fish Use Shell Bottom

- Place for oysters and other shellfish to attach
- Nursery area for blue crab, sheepshead, and stone crab
- Foraging area for drum, black sea bass, and southern flounder
- Spawning area for hard clams, toadfish, and goby
- Refuge for goby, grass shrimp, and anchovy

Economic Benefits

Conservatively, restored and protected oyster reefs provide up to $40,200 per acre per year (2012 dollars) in ecosystem benefits, including water filtration and sediment stabilization. The dollar benefit of the nitrogen removal service provided by oyster reefs was estimated to be $3,167 per acre per year (2014 dollars).

Habitat Functions and Fish Use

Shell bottom is widely recognized as essential fish habitat (EFH) for oysters and other reef-forming mollusks and provides critical fish habitat for ecologically and economically important finfish, mollusks, and crustaceans. In North Carolina, over 40 species of fish and crustaceans have been documented to use natural and restored oyster reefs, including American eel, Atlantic croaker, Atlantic menhaden, black sea bass, sheepshead, spotted seatrout, red drum, and southern flounder. Oysters are ecosystem engineers that alter current and flows, protect shorelines, and trap and stabilize large quantities of suspended solids, reducing turbidity by building high relief structures. The interstitial spaces between and within the shell matrix of oyster reefs are critical refuges for the survival of recruiting oysters and other small, slow-moving macrofauna, such as worms, crabs, and clams. Shell bottom is also valuable nursery habitat for juveniles of commercially and recreationally important finfish, such as black sea bass, sheepshead, gag grouper, and snappers. Additionally, shell bottom is important foraging ground for many economically and ecologically important species. The proximity and connectivity of oyster beds enhances the fish utilization of nearby habitats, especially SAV. Shell bottom contributes primary production indirectly from plants on and around it, but it is more important for its high secondary productivity contribution from the biomass of oysters and other macroinvertebrates living among the shell structure. This in turn supports a high density of mobile finfish and invertebrates, which was found to be more than two times greater than in marshes, soft bottom, and SAV.

Shell bottom areas include reefs made of living oysters or shells, located in the subtidal or intertidal zone of estuaries.

Shell Bottom - Building Reefs & Cleaning Water

Status and Trends

North Carolina oyster stocks declined for most of the twentieth century. Poor harvesting practices led to initial degradation and loss of shell bottom habitat in the Pamlico Sound area. After 1991, oyster stocks and harvests began to collapse from disease mortalities and low spawning stock biomass. Harvests began to rise again around 2002, and the trend has continued. Between 2000 and 2013, oyster dredging trips and hand harvest trips have risen substantially, with increasing harvest. A trend of stable or increasing spatfall coastwide is indicative of increasing larval availability, connectivity, and recruitment potential for restored and existing reefs. As of January 2015, there were 13 established oyster sanctuaries, with an additional two proposed.

Fact: Oyster beds were once so abundant that they were considered a navigation hazard.

Threats to Shell Bottom

Shell bottom habitat can be damaged by overharvesting, mechanical harvest fishing gear, navigational dredging, marinas and boating activity. Water quality degradation, especially toxin contamination, sedimentation, and hypoxia, can cause lethal or sublethal impacts. Shell bottom is occasionally susceptible to diseases and microbial stressors. The protozoan pathogen *Perkinsus marinus*, also called "dermo" has been responsible for major oyster mortalities in North Carolina. Monitoring of dermo disease by DMF shows a declining trend in prevalence, with an increasing trend in overall infection.

Boring sponge, sponges belonging to the genus *Cliona*, are found in North Carolina shell bottom habitats. Boring sponges compromise the integrity of shells and are linked to reduced reproductive viability and possibly increased oyster mortality rates. Two North Carolina oyster sanctuaries experienced dramatic population declines since 2012, coinciding with increasing percent cover of marine boring sponge. *Cliona* is endemic to North Carolina but has recently become more pervasive, especially on limestone marl rocks. To improve reef design in high salinity waters, DMF is conducting research on alternative substrates to identify materials that maximize oyster recruitment, growth, and survival, while offering high resistance to environmental stressors, such as *Cliona* boring sponge.

Shell bottom is considered to be one of the most threatened habitats because of its greatly reduced extent.

SAV - Underwater Gardens

Submerged aquatic vegetation (SAV) is a fish habitat dominated by one or more species of underwater vascular plants that occur in patches or extensive beds in shallow estuarine waters. The presence and density of SAV varies seasonally and inter-annually. A key factor affecting distribution is adequate light penetration; therefore, SAV occurs in shallow clear water. Sediment composition, wave energy, and salinity are also determining factors (Ch. 4).

Habitat Profile

SAV Functions

- Provides refuge for fish and other aquatic animals
- Serves as food for fish and waterfowl
- Produces dissolved oxygen
- Reduces wave energy and limits erosion
- Uses nutrients and traps sediments

How Fish Use SAV

- Nursery area for blue crab, pink shrimp, and red drum
- Foraging area for spotted sea trout, gag, and flounder
- Spawning area for spotted sea trout, grass shrimp, and bay scallop
- Refuge for bay scallop and hard clam

Economic Benefits

SAV habitat has a very high economic value due to the ecosystem services it provides. The estimated value of SAV and algal beds combined is $7,700/acre/year. This estimate takes into account services such as seafood production, wastewater treatment, climate regulation, erosion control, recreation, and others. The value of SAV for denitrification services (wastewater treatment) is estimated at $3,000/acre/year compared to approximately $400/acre/year for subtidal soft bottom. With North Carolina having the second largest expanse of SAV on the east coast, protection and enhancement of this valuable resource should be a high priority for the state.

Habitat Functions and Fish Use

Submerged aquatic vegetation is recognized as essential fish habitat because of five interrelated features – primary production, structural complexity, modification of energy regimes, sediment and shoreline stabilization, and nutrient cycling. Water quality enhancement and fish utilization are especially important ecosystem functions of SAV relevant to the enhancement of coastal fisheries. Seagrasses produce large quantities of organic matter. Many fish species occupy SAV at some point in their life for refuge, spawning, nursery, foraging, and corridors. SAV is considered essential fish habitat for red drum, shrimp, and species in the snapper-grouper complex. Spotted seatrout are also highly dependent on SAV, and bay scallops occur almost exclusively in SAV beds.

Due to its stringent water quality requirements, SAV presence is considered a barometer of water quality.

SAV - Underwater Gardens

Status and Trends

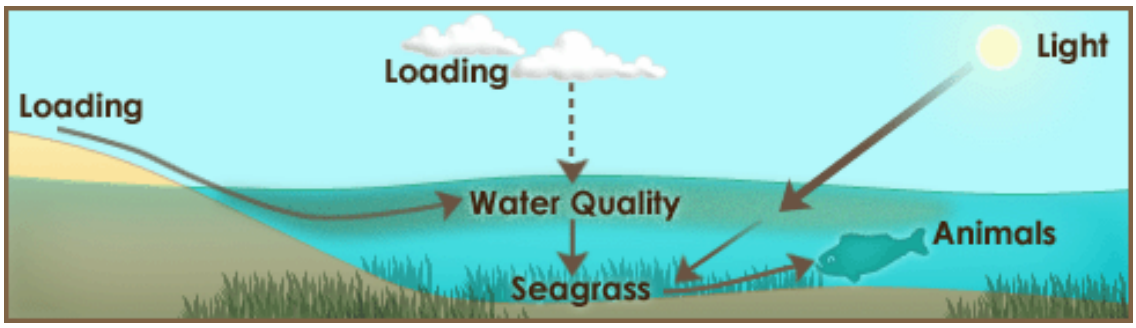
There has been a global and national trend of declining SAV habitat, with seagrasses disappearing at rates similar to coral reefs and tropical rainforests. In North Carolina, SAV loss has not been quantified, but anecdotal reports indicate that the extent of SAV may have been reduced by as much as 50%, primarily on the mainland side of coastal sounds. Mapping of SAV has been done by several entities since the 1980s, but often with different methods, and not coastwide. Comprehensive mapping of SAV habitat in coastal North Carolina was initiated in 2007 by a joint effort of federal and state agency and academic institutions. In 2013, mapping protocols for high and low salinity areas was developed so that mapping can be repeated approximately every five years on a rotational basis among five coastal areas. This mapping, in combination with sentinel sampling, will allow trends to be assessed. In 2013 high salinity SAV from Currituck Sound to Bogue Sound were mapped using aerial photography and field groundtruthing. In Albemarle Sound and Tar-Pamlico River SAV was mapped in 2014-15 using a newly developed method for low salinity turbid waters with side scan data and low light underwater photography for groundtruthing. In 2015, SAV south of Bogue Sound was mapped.

Fact: Over 150,000 acres of SAV were mapped in coastal North Carolina since 2000.

While a quantified change analysis is not yet available, preliminary review of core areas of SAV, such as behind the Outer Banks in Pamlico Sound and Core Sound, did not detect large changes since previous imagery for those areas in 2004. Expansion of SAV has been observed in Albemarle Sound and south of Bogue Inlet. Bay scallop abundance in the southern area is increasing in areas of expanding SAV.

Threats to SAV

Major threats to SAV habitat are channel dredging and water quality degradation from excessive nutrient and sediment loading. Natural events, human activities, and an ever-changing climate influence the distribution and quality of SAV habitat. Natural events include shifts in salinity due to drought and excessive rainfall, animal foraging, storm events, temperature, and disease. Submerged vegetation is vulnerable to water quality degradation, in particular, suspended sediment and pollutant runoff. Large amounts of algae and sediment make the water cloudy such that sufficient light cannot reach the plants, reducing their growth, survival, and productivity. Dredges and boat propellers can also have a direct effect on SAV habitat by uprooting and destroying the plants.

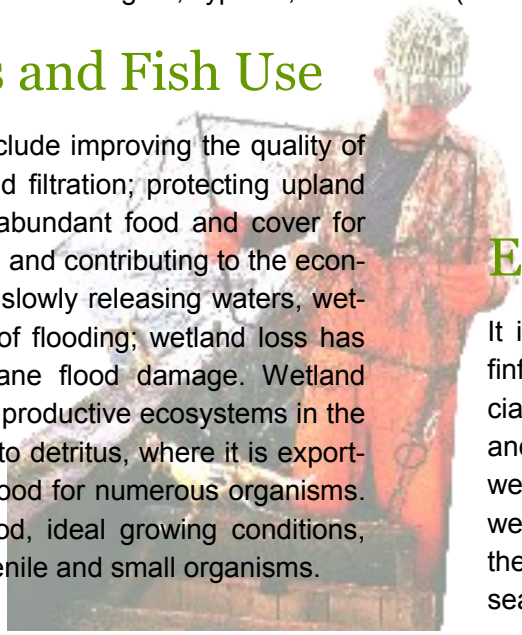


Wetlands - *Nature's Nurseries*

Wetlands are essential breeding, rearing, and feeding grounds for many species of fish and wildlife. They provide critical ecosystem services that contribute to healthy ecosystems and fisheries habitat. Coastal wetlands cover 40 million acres in the continental United States, with 81% in the southeast. Wetlands require the presence of water at or near the surface and vegetation adapted to wet soils. Wetlands occupy low areas, often marking the transition between uplands and submerged bottom, in areas subject to regular or occasional flooding by lunar or wind tides. Wetlands are vegetated with marsh plants such as cordgrass and black needle rush, or forested wetland species like sweet gum, cypress, and willows (Ch. 5).

Habitat Functions and Fish Use

Services provided by wetlands include improving the quality of habitats through water control and filtration; protecting upland habitats from erosion; providing abundant food and cover for finfish, shellfish, and other wildlife; and contributing to the economy. By storing, spreading, and slowly releasing waters, wetlands are linked to reduced risk of flooding; wetland loss has been linked to increased hurricane flood damage. Wetland communities are among the most productive ecosystems in the world. The plant matter decays into detritus, where it is exported to other waters and provides food for numerous organisms. Additionally, wetlands provide food, ideal growing conditions, and predator refuge for larval, juvenile and small organisms.



Economic Benefits

It is estimated that over 95% of the finfish and shellfish species commercially harvested in the United States, and over 90% in North Carolina, are wetland-dependent. Consequently, wetlands significantly contribute to the productivity of North Carolina's seafood and fishing industries.

Habitat Profile

Wetland Functions

- Provide refuge and food for fish and other animals
- Filter pollutants
- Trap sediments
- Shoreline erosion control
- Hold and slowly release flood waters

How Fish Use Wetlands

- Nursery area for blue crab, shrimp, and southern flounder, spot, and croaker
- Foraging area for spotted sea trout, red drum, and flounder
- Spawning area for river herring, killifish, and grass shrimp
- Refuge for blue crab and grass shrimp

The economic benefit of wetlands in providing flood control, stabilizing shorelines, and trapping and filtering pollutants has been extensively studied. By providing flood control and reducing shoreline erosion, wetlands protect coastal property. Wetlands also protect property by deterring shoreline erosion. Studies have shown that even narrow (7-25m) marsh borders reduce wave energy by 60-95%. These services explain why wetland habitat has been linked to reducing hurricane damage. One study estimated that the loss of 1 acre of coastal wetlands could result in a $13,360 loss in gross domestic product ($14,759 in 2014 dollars), and that U.S. coastal wetlands could provide as much as $23.2 billion/year (25.63 billion/year in 2014 dollars) in storm protection services.

Wetlands - *Nature's Nurseries*

Status and Trends

The 2015 CHPP Source Document summarizes wetlands within the CHPP region based on two data sources: the National Land Cover Dataset (NLCD) and the National Wetlands Inventory (NWI). According to the 2011 NLCD, there were ±3,759,729 acres of woody and emergent herbaceous wetlands within the CHPP regions. This represents a 2.7% decrease in woody wetlands and an 18.9% increase in emergent herbaceous wetlands since 2001. During the same time and area, developed land increased approximately 30%. The US Fish and Wildlife Service (FWS) has produced a NWI since the mid 1970s. The distribution of these wetlands is presented in Table 5.1 of the 2015 CHPP Source Document. Populations of spotted seatrout and red drum, two wetland-dependent species, have shown great improvements in the past few years.

Fact: Over 95 percent of the United States' commercially harvested finfish and shellfish are wetland dependent.

Threats to Wetlands

In the late 1800s and early 1900s, large amounts of wetland loss resulted from ditching and draining for agriculture and forestry. Over the years, wetland loss has occurred from dredging conversion to deep-water habitat for boat basins and navigation channels, followed by upland development, erosion, and shoreline hardening.

Statewide wetlands losses/gains and compensatory mitigation during FY 2012/13, 2013/14, and 2014/15. Data reflect permitting by DEQ and compensatory mitigation by DMS.

	Permitted gains and losses		
Linear feet of streams	**2012-13**	**2013-14**	**2014-15**
Losses	81,473.0	117,694.0	59,498.9
Gains	48,712.0	78,024.0	22,620.0
Net change	-32,761.0	-39,670.0	-36,878.9
Acres of wetlands			
Losses	203.6	98.9	102.1
Gains	197.8	59.9	104.5
Net change	-5.8	-39.0	2.4
Acres of riparian buffers			
Losses	75.6	48.0	56.1
Gains	37.9	21.2	18.2
Net change	-37.8	-26.9	-37.9

*Data provided by DWR and DMS

Wetland impacts are now regulated by numerous federal and state laws including the US River and Harbors Act, the US Clean Water Act, the NC Coastal Area Management Act (CAMA), and the NC Dredge and Fill Law, among others. Wetland filling for development and wetland loss due to erosion and rising water levels are currently the primary threats. Reduction of vegetated buffers can result in wetland loss and increased stormwater runoff. Legislative changes increasing thresholds for permitted impacts could contribute to additional freshwater wetland loss. Mitigation is required for larger wetland impacts. Offsetting historic wetland loss may now be possible through opportunities such as wetland restoration on conservation lands, creating marsh habitat on unused dredge disposal sites, and constructing living shorelines.

Coastal wetlands are critical nursery areas and serve as the primary buffer between land and water-based impacts.

Soft Bottom - *The Dynamic Habitat*

Soft bottom is unconsolidated, unvegetated sediment that occurs in freshwater, estuarine, and marine systems. Mud flats, sand bars, inlet shoals, and intertidal beaches are specific types of soft bottom. Grain size distribution, salinity, DO, and flow characteristics affect the condition of soft bottom habitat and the type of organisms that use it. Soft bottom covers approximately 1.9 million acres. North Carolina's coast can be divided into geologically distinct northern and southern provinces. In the northern province (north of Cape Lookout), the seafloor consists of a thick layer of unconsolidated mud, muddy sand, and peat sediments. The low slopes of the bottom result in an extensive system of drowned river estuaries, long barrier islands, and few inlets. The southern province has a thin and variable layer of surficial sands and mud, with underlying rock platforms, a steeper sloping shoreline with narrow estuaries, short barrier islands, and numerous inlets (Ch. 6).

Habitat Functions and Fish Use

Soft bottom is important as a storage reservoir of nutrients, chemicals, and microbes in coastal ecosystems, allowing for both deposition and resuspension of nutrients and toxic substances. The surface supports benthic microalgae, contributing substantial primary production to the coastal system. Estuarine soft bottom supports over 400 species of benthic invertebrates in North Carolina. Juvenile stages of species such as summer and southern flounder, spot, Atlantic croaker, and penaeid shrimp use the shallow unvegetated flats, which larger predators cannot access, as important nursery habitat. As fish get larger, they will venture out of protective cover to forage in soft bottom. Fishery independent data from shallow creeks and bays in Pamlico Sound documented 78 fish and invertebrate species. Eight of those — spot, bay anchovy, Atlantic croaker, Atlantic menhaden, silver perch, blue crab, brown shrimp, and southern flounder — comprised > 97% of the total nekton abundance. Soft bottom between structured habitat (SAV, wetlands, shell bottom) acts as a barrier to connectivity, which can be beneficial to small invertebrates by reducing predation risk. Fish and invertebrates that commonly occur in this habitat, including hard clams, flatfish, skates, rays, and other small cryptic fish such as gobies, avoid predation by burrowing into the sediment, thus camouflaging themselves from predators. Ocean soft bottom, particularly in the surf zone and along shoals and inlets, serves as an important feeding ground for fish that forage on benthic invertebrates. These predators generally have high economic value as recreational and commercial species, and include Florida pompano, red drum, kingfish, spot, Atlantic croaker, weakfish, Spanish mackerel, and striped bass. Many demersal and estuary-dependent fish spawn over soft bottom habitat in North Carolina's coastal waters.

Habitat Profile

Soft Bottom Functions

- Stores and recycles nutrients, chemicals
- Is a source of sand for other habitats
- Provides an area for marine animals to burrow

How Fish Use Soft Bottom

- Nursery area for blue crab, flounder, and croaker
- Foraging area for seatrout, red drum, and flounder
- Spawning area for shrimp, sturgeon, and kingfish
- Refuge area for hard clam, shrimp, and flounder

Soft bottom includes features such as mud flats, inlets, shoals, channel bottoms, and ocean beaches.

Soft Bottom - *The Dynamic Habitat*

Economic Benefits

Soft bottom benefits the economy by providing habitat for critical food sources, by cycling nutrients, burying pollutants, and dampening wave energy. Beaches are extremely valuable for tourism and recreation, including surf fishing, surfing, and beach going. One study, averaging data from seven North Carolina beaches, found the net economic benefits of a day at a beach ranged from $14—$104 for single day trips and $14 to $53 overnight stays. For example, the total average annual benefits of long-term beach nourishment was estimated to be $14,836,688 (2014 dollars) due to recreational and storm damage reduction benefits.

Status and Trends

Comprehensive mapping of soft bottom habitat has not been completed. The loss of more structured habitat, such as SAV, wetlands, and shell bottom, has undoubtedly led to gains in soft bottom habitat. The quality of soft bottom habitat is a better indicator of soft bottom status than quantity. The best available information on sediment quality comes from EPA's latest National Coastal Condition Report (NCCR IV). The report rated the coast from North Carolina to Florida at 3.6 (fair) overall, while sediment quality was rated 2 (fair to poor), which was lower than in previous reports. Sediment quality is based on toxicity, contaminants, and total organic carbon (TOC). The percentage of area determined to be in poor condition was 13%. The primary reason for the low rating was sediment toxicity. The quality of soft bottom habitat can affect species abundance and diversity. Sediments in soft bottom habitat can accumulate both chemical and microbial contaminants, potentially affecting benthic organisms and community structure. Tidal creeks are sensitive to various aspects of human development, but sensitivity depends on the size and location of the creeks. Because tidal creeks are the nexus between estuaries and land-based activities, potential for contamination is high. Intertidal creeks close to headwaters demonstrate greater concentrations of nonpoint source contamination than larger systems near the mouth. The degree of contamination also depends on the impervious cover surrounding the land.

Fact: Soft bottom covers about 2.1 million acres of estuarine and ocean bottom within state waters.

Threats to Soft Bottom

Soft bottom strongly influences the water column by the constant cycling of nutrients and sediments.

Inadequate information is available to determine the current condition of soft bottom. Many human activities aimed at enhancing the "coastal experience" can inadvertently degrade this habitat. The ecological functions provided by soft bottom can be altered by activities such as dredging for channels or marinas, shoreline stabilization, water churning in marinas, and use of certain types of fishing gear. Along the oceanfront, jetties form barriers to the movement of sand, altering the natural sediment cycle. Excess nutrient concentrations in coastal rivers, in combination with certain environmental conditions, can lead to no or low oxygen levels near the bottom, killing the benthic organisms in the sediment, which reduces food availability for larger invertebrates and fish. Sediment contaminated with toxins can affect reproduction and growth of shellfish and other aquatic animals. Soft bottom habitat is relatively resistant to a changing environment.

Hard Bottom - *Rocks, Reefs, and Wrecks*

Hard bottom habitat, also referred to as live bottom or reef, consists of exposed areas of rock or consolidated sediments that may or may not be characterized by a thin veneer of live or dead biota and is generally located in the ocean rather than in the estuarine system. Natural hard bottom is colonized to a varying extent by algae, sponges, soft coral, hard coral, and other sessile invertebrates. In South Atlantic waters, hard bottom can consist of exposed rock ledges or outcrops with vertical relief or can be relatively flat and covered by a thin veneer of sand.

Artificial reefs are structures constructed or placed in waters for the purpose of enhancing fishery resources. Because artificial reefs become colonized by algae, invertebrates, and other marine life, they provide additional hard bottom habitat and serve similar ecological functions for fish. Some of the materials used in artificial reef construction are vessels, concrete pipe, or prefabricated structures such as reef balls. The DMF Artificial Reef Program is responsible for deployment and maintenance of artificial reef sites in state and federal waters. There are 50 DMF-managed artificial reefs of varying construction in North Carolina, of which 29 are located in federal ocean waters, 13 in state ocean waters, and eight in estuarine waters (Ch. 7).

Habitat Functions and Fish Use

Exposed hard substrate provides stable attachment surfaces for colonization by numerous marine invertebrates and algae. This productive three-dimensional habitat is often the only source of structural refuges in open shelf waters and a source of concentrated food. Most reef fish spend almost their entire life cycle on hard bottom, which serves as nursery, spawning, and foraging grounds. The presence of ocean hard bottom off North Carolina, along with appropriate water temperatures, allows for the existence of a temperate-to-subtropical reef fish community and a snapper-grouper fishery. Because of their importance for spawning, nursery, and foraging, all of the nearshore hard bottoms off North Carolina have been federally designated as Habitat Areas of Particular Concern for the snapper-grouper complex.

Habitat Profile

Hard Bottom Functions

- Provides a place for sponges, algae, and coral to attach
- Offers refuge for reef fish
- Supplies new sand through erosion

How Fish Use Wetlands

- Nursery area for groupers, snapper, and black sea bass
- Foraging area for king mackerel, gag, and snapper
- Spawning area for black sea bass, grouper, and tropicals
- Refuge area for gag and black sea bass

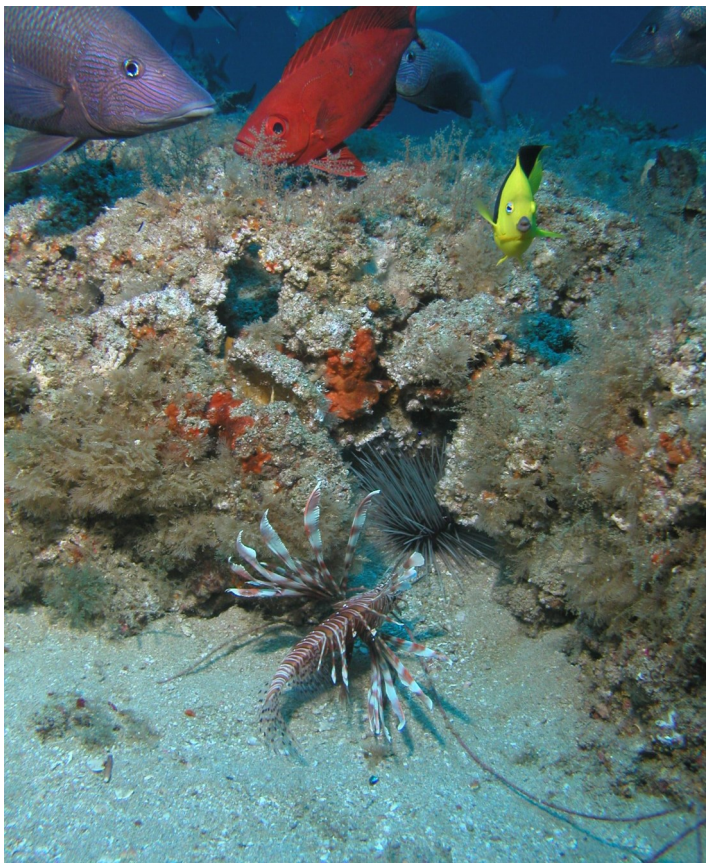
Economic Benefits

Between 2011 and 2013, the North Carolina commercial snapper-grouper fishery harvested an annual average of 1,638,434 lbs of fish (total of 5,015,570 lbs) with an annual market value of over $4.2 million (total for 3 years - $12,567,964). During that same time period, recreational fisherman (private boats, charter boats, and head boats) harvested an average of 568,146 lbs of fish in the snapper-grouper complex/year, for a total of 1,204,439 lbs. Economic benefits also include revenue from the dive industry, since hard bottom reefs are popular dive sites.

Hard Bottom - Rocks, Reefs, and Wrecks

Status and Trends

The condition of shallow hard bottom in North Carolina state territorial waters is of particular importance to the health and stability of estuary-dependent snapper-grouper species that utilize this habitat as “way stations” or protective stopping points as they emigrate offshore. Because of market value, high recreational participation, and the associated fishing tackle industry, the offshore snapper-grouper complex supports productive commercial and recreational fisheries. The South Atlantic Fishery Management Council reported that nearshore hard bottoms in the South Atlantic were considered to be in “good general” condition overall in 2002. Although adequate information exists on the distribution of hard bottom off the North Carolina coast, little information is available to evaluate the status and trends of hard bottom habitat in state territorial waters. The black sea bass populations north and south of Cape Hatteras and gag grouper have improved in the past few years.



Fact: 50 artificial reefs are located in ocean waters along North Carolina’s coast and 8 are located in estuarine waters. In addition, there are numerous shipwrecks along the coast

Threats to Hard Bottom

Threats to nearshore hard bottom habitat in North Carolina include beach nourishment, certain fishing gear, and water quality degradation. Sand from nourished beaches can also cover hard bottom structures. Studies have found that some hard bottom areas adjacent to nourished beaches were buried by sand washed off of nourished beaches. These once productive reef fishing grounds are no longer fished due to poor yield. Boat anchors and bottom trawls can uproot coral and tear loose chunks of rock. Poor water quality can affect growth or survival of the invertebrates living on hard bottom structure. A growing threat to hard bottom is the impact of the highly invasive Pacific lionfish on the reef community. This species has rapidly expanded in range from more southerly waters to North Carolina, and has exhibited extremely high predation rates on snapper and grouper species. Ocean acidification is another concern. More acidic ocean water over time is expected with increasing carbon dioxide levels which can cause calcium based organisms like corals and sponges to disintegrate.

The hard bottom habitat of the North Carolina coast is considered crucial spawning and foraging habitat for many commercially important species of grouper and snapper.

ACRONYM LIST

APNEP:	**Albemarle-Pamlico National Estuary Partnership**
BMPs:	**Best Management Practices**
CAMA:	**NC Coastal Area Management Act**
CHPP:	**Coastal Habitat Protection Plan**
CRC:	**Coastal Resources Commission**
CRFL:	**Coastal Recreational Fishing License**
DACS:	**Department of Agriculture and Consumer Services**
DCM:	**Division of Coastal Management**
DEMLR:	**Division of Energy, Mineral, and Land Resources**
DENR:	**Department of Environment and Natural Resources**
DEQ:	**Department of Environmental Quality (formerly DENR)**
DMF:	**Division of Marine Fisheries**
DMS:	**Division of Mitigation Services**
DO:	**Dissolved Oxygen**
DOT:	**Department of Transportation**
DSWC:	**Division of Soil and Water Conservation**
DWR:	**Division of Water Resources**
EBM:	**Ecosystem-Based Management**
EFH:	**Essential Fish Habitat**
EMC:	**Environmental Management Commission**
EPA:	**US Environmental Protection Agency**
FWS:	**US Fish and Wildlife Service**
LID:	**Low Impact Development**
MFC:	**Marine Fisheries Commission**
NCCR:	**National Coastal Condition Report**
NCFS:	**NC Forest Service**
NLCD:	**National Land Cover Database**
NWI:	**National Wetlands Inventory**
SAFMC:	**South Atlantic Fishery Management Council**
SAV:	**Submerged Aquatic Vegetation**
SCC:	**Sedimentation Control Commission**
SCH:	**Strategic Coastal Habitats**
SWCC:	**Soil and Water Conservation Commission**
TOC:	**Total Organic Carbon**
TSS:	**Total Suspended Solids**
USACE:	**US Army Corps of Engineers**
WRC:	**Wildlife Resources Commission**

For more information or to download the CHPP and Source Document, go to http://portal.ncdenr.org/web/mf/habitat/chpp/downloads

This document should be cited as follows:
NCDEQ (North Carolina Department of Environmental Quality). North Carolina Coastal Habitat Protection Plan. Morehead City, NC. Division of Marine Fisheries; 2016. 33 p.

Issues/Reports

May 2016 Revision to Amendment 2 to the North Carolina Blue Crab Fishery Management Plan
Summary of Recommendations

Division of Marine Fisheries
• Recommend adding two additional cull rings to crab pots, one of which must be located within one full mesh of the corner of the pot and within one full mesh of the bottom of the apron/stairs of the upper chamber of the pot. • Recommend eliminating the harvest of v-apron immature female hard crabs (excluding peeler crabs) and that v-apron immature hard crab females be added to the current 10% culling tolerance (currently only includes sublegal male and immature female hard crabs). • Recommend prohibiting sponge crab harvest (all stages) from April 1 – April 30. • Recommend prohibiting crab harvest with dredges except incidental to lawful oyster dredging as outlined in N.C. Marine Fisheries Commission Rule 15A NCAC 03L .0203(a)(2).
Northern Regional Advisory Committee
• Recommended no possession of v-apron crabs (consistent with moderate management measure A3) and to keep a 10% cull tolerance across the board. • Recommended the NCMFC investigate re-tooling the data collection system for the blue crab industry and work with the industry to identify a more appropriate sampling approach (e.g. winter dredge survey). • Recommended adding two additional cull rings to crab pots. One cull ring must be within one full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 16, 2017.
Southern Regional Advisory Committee
• Recommended to reduce the tolerance of sublegal size blue crabs to a minimum of 5% and directed the NCMFC to look at gear modifications to reduce sublegal catch and to eliminate harvest of v-apron immature hard crab females. • Recommended no take of black sponge crabs with a cull tolerance of 5%.
Shellfish and Crustacean Advisory Committee
• Recommend to NCMFC to adopt the measures of no v-apron hard crabs and no black sponge crab harvest with a 5% tolerance for both (excludes v-apron peelers). • Recommend to NCMFC to use two cull rings (no additional cull rings and current legal size) but to reposition one cull ring within one full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 16, 2017. • Recommend to NCMFC to request the other commissions under the Coastal Habitat Protection Plan Steering Committee look at NCDMF blue crab recruit abundance data, ask what the Environmental Management Commission (EMC) and Coastal Resources Commission (CRC) have done to improve habitat and water quality conditions for blue crab, and determine if they can develop a suite of options that the EMC and CRC could implement to improve water quality and habitat conditions in those areas. • Recommend to NCMFC to request NCDMF observers on commercial crab boats to collect data to assist with the blue crab Traffic Light assessment. • Recommend to NCMFC to request NCDMF staff analyze the 21 years of commercial fishery data, refined by taking into account socio-economic information such as storms, prices, picking house availability, etc. that affects fishing effort, and align it with 21 years of NCDMF fishery-independent data and summarize in a report. In the future, refine the fishery-dependent data set so it can be incorporated. • Recommend to NCMFC to request NCDMF staff look at the effect of predation by striped bass, red drum, cownose rays, and other species on blue crabs. • Recommend to NCMFC to look at dealer requirements and how they are enforced and if changes are needed.

DRAFT – SUBJECT TO CHANGE

May 2016 Revision

to

Amendment 2

to the

North Carolina Blue Crab

Fishery Management Plan

Prepared by the

North Carolina Department of Environmental Quality
Division of Marine Fisheries
3441 Arendell Street
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Morehead City, NC 28557

Marine Fisheries
ENVIRONMENTAL QUALITY

Executive Summary

Blue crab (*Callinectes sapidus*) is the most economically important species for commercial fisheries in North Carolina. North Carolina typically ranks within the top three blue crab producing states on the east coast both in pounds harvested and in value. In an attempt to better assess and manage the blue crab fishery, in Amendment 2 to the N.C. Blue Crab Fishery Management Plan (FMP) an alternative method, the Traffic Light, was used to evaluate the blue crab stock condition. This method is capable of synthesizing a variety of information to provide a description of the stock condition. The Traffic Light for blue crab consists of three characteristics: adult abundance, recruit abundance, and production. The nature of the Traffic Light method does not allow for a quantitative assessment of sustainable harvest for the North Carolina blue crab stock since overfishing cannot be calculated.

Amendment 2 also established that the blue crab stock is considered overfished when the proportion of red in the production characteristic of the Traffic Light is greater than or equal to the third quartile (≥75% red) for three consecutive years. Based on this definition, the results of the current update indicate the N.C. blue crab stock is not overfished.

Due to the inability of the Traffic Light to estimate sustainable harvest levels, any level of reduction selected may be based on the degree of concern about the state of the blue crab stock as indicated by data trends. Further, the adaptive management framework in Amendment 2 does not identify specific reduction goals for either the moderate or elevated management levels. This is because without biological reference points it cannot be determined what reduction is needed to end overfishing if it is occurring. However, Amendment 2 does require some management action be taken to address the N.C. blue crab stock as indicated by the Traffic Light.

Though the overfished definition is based solely on the production characteristic, the adult abundance and recruit abundance characteristics are monitored for warning signs that the stock may be approaching an unfavorable state. If a series of negative trends is evident in the Traffic Light for the adult abundance or production characteristics for three consecutive years, management measures must be implemented through the adaptive management framework to improve the unfavorable condition of the stock. Only the adult abundance and production characteristics are utilized to trigger management action; the recruit abundance characteristic is used to augment management action, if deemed necessary. The recruit abundance characteristic is not used to trigger management action due to inadequate spatial and temporal survey coverage. A review by the Shellfish/Crustacean Advisory Committee is maintained to consider management options, evaluate their merits, and N.C. Marine Fisheries Commission (NCMFC) approval must be gained before the Director's proclamation authority (expanded under the adaptive management framework) is used to implement any changes to the fishery.

Impacts to the blue crab stock and the fishery were estimated for management options specified in the adaptive management framework. Generally, these options include: 1) increasing the minimum size limit, 2) restricting the harvest of immature female and sponge crabs, 3) modifications to the Crab Spawning Sanctuary system, 4) reducing the cull tolerance of undersize crabs, 5) gear modifications to increase escapement, and 6) closure of the fishery. Each of these options provides for increased escapement of either juvenile, immature female, or sponge stage blue crabs.

The revision, public comment, and advisory committee recommendations will be presented to the NCMFC at its May 18-20, 2016 business meeting. At that time, the NCMFC will select their

preferred management option(s). Management measures approved by the NCMFC will be implemented by proclamation and will likely be effective June 1, 2016 unless otherwise specified by the NCMFC. This Information Paper will be incorporated as a Revision 1 to Amendment 2 to the North Carolina Blue Crab FMP, and document the management strategy changes and rationale for such as determined by majority vote of NCMFC. All other management strategies contained in Amendment 2 will remain in force until another Revision, Supplement, or Amendment to the N.C. Blue Crab FMP occurs.

I. ISSUE

Implement adaptive management measures to remain in compliance with the North Carolina Marine Fisheries Commission's (NCFMC) Amendment 2 to the North Carolina Blue Crab Fishery Management Plan (FMP), based on results from the 2015 update to the blue crab Traffic Light.

II. ORIGINATION

North Carolina Division of Marine Fisheries (NCDMF), Fisheries Management staff.

III. BACKGROUND

Amendment 2 to the North Carolina Blue Crab Fishery Management Plan adopted by the Marine Fisheries Commission in November 2013 incorporated the use of the traffic light stock assessment method and adaptive management measures for management of the blue crab stock. Amendment 2 requires annual updates to the blue crab Traffic Light be presented to the Marine Fisheries Commission as part of the Division of Marine Fisheries' annual Stock Status Report. At the Marine Fisheries Commission's August 2015 meeting, the division stated it would update the blue crab Traffic Light early and present the results to the Marine Fisheries Commission in May 2016 due to the high probability management action would need to be taken after the 2015 update to the blue crab Traffic Light.

The Traffic Light method synthesizes a variety of information to provide a description of stock condition. The indicator (survey) value in each year for each data series was assigned a green, yellow, or red 'signal' based on the state of the indicator relative to the base years used in the Traffic Light. Typically, the color green is indicative of a positive stock condition, yellow of a neutral or transitioning stock condition, and red of a negative stock condition. Similar indicators were aggregated into three stock characteristics: adult abundance, recruit abundance, and production. The main assumptions of the Traffic Light method are: 1) the indicators reflect the characteristic to which they are assigned and 2) the characteristics adequately reflect the feature of the stock they represent. The base years used for the blue crab Traffic Light (1987-2009) will remain constant until the next amendment of the FMP unless a new approach to assess the stock is adopted.

The previous management strategy, established in the 2004 Blue Crab FMP Amendment 1, only used a single point estimate for stock status based on September data from the Pamlico Sound Survey (P195) (NCDMF 2004). In addition, compliance with the female seasonal maximum size limit was marginal and largely ineffective at protecting large mature females. Even when crabbers complied with the management measure by releasing large females, these

females may have been captured multiple times and injured, or ultimately harvested by another crabber during their migration to the lower estuaries and into the sounds. The Traffic Light method provides a more robust indicator of the overall blue crab stock condition because the data inputs are from multiple statewide surveys encompassing all aspects of the blue crab's life history and distribution rather than a single point index.

Adaptive Management Framework

An adaptive management framework adopted in Amendment 2 includes the blue crab Traffic Light. The blue crab Traffic Light is divided into three separate characteristics: 1) adult abundance, 2) recruit abundance, and 3) production. Each characteristic uses data from several division biological surveys and sampling programs to determine the relative abundance of adult and recruit blue crabs in the population and various production indictors for the stock each year. Under Amendment 2, management measures will be implemented in the blue crab fishery if certain biological triggers are met. Either the adult abundance or production characteristic of the blue crab Traffic Light must be at or above the 50% red threshold for three consecutive years to trigger moderate management action and must be at or above the 75% red threshold for two of three consecutive years to trigger elevated management action as established in Amendment 2. The recruit abundance indicator, while not used to trigger management action, may be used to augment any management action taken if a trigger is activated. The three year time period was chosen to prevent taking management action as a result of annual variability in the blue crab stock and instead base any management response on the observation of a short but continued declining trend in the population.

Amendment 2 established the blue crab stock is considered overfished when the proportion of red in the production characteristic of the Traffic Light method is greater than or equal to 75% red for three consecutive years. Based on this definition, the results of the current update indicate the North Carolina blue crab stock is not overfished.

Once moderate or elevated management actions are implemented, they will remain in place for three years; then a three-year evaluation period will begin with the first year management actions were implemented. The decision-making flowchart for implementing management of the different scenarios and outcomes is presented in Figure 1. If management measures have been in place for the moderate threshold level for three consecutive years and the stock condition in that characteristic continues at the moderate threshold or rises to the elevated threshold, then management measures would increase to the elevated threshold level for another three-year period. If after that time the characteristic shows no further improvement, then it will automatically start the FMP supplement process. If management measures have been in place at the moderate threshold and the stock improved to a healthy condition for three consecutive years, then management measures could be relaxed.

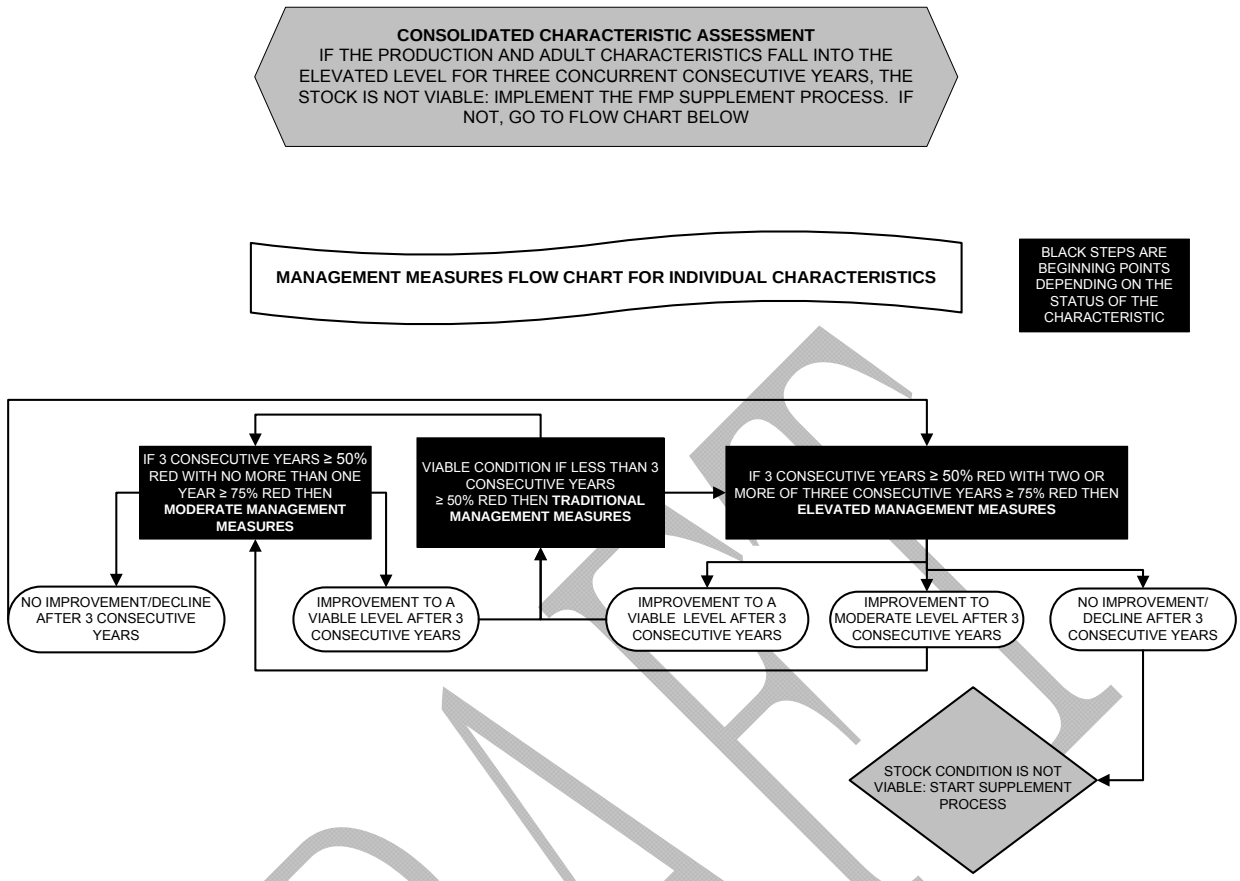

Figure 1. The blue crab adaptive management framework decision-making process for each management level.

Stock Concerns and Status of the Blue Crab Traffic Light

The blue crab Traffic Light has been updated with 2015 data for stock status determination (Figure 5). The production characteristic (2013=52%, 2014=71%, 2015=44% red) has not met the elevated threshold for three consecutive years; as such, the blue crab stock is not overfished (Figure 5). Figure 6 shows the status of the individual indicators used for the production characteristic. However, the adult abundance characteristic has met the moderate management threshold for three consecutive years (2013=72%, 2014=79%, 2015=50% red; Figure 5). As such, under the adaptive management framework adopted by the NCMFC as part of Amendment 2, management action is required to improve the condition of the N.C. blue crab stock using the moderate management measures specified for the adult abundance characteristic (Table 1). Figure 7 shows the status of the individual indicators used for the adult abundance characteristic. The recruit abundance characteristic has met the elevated management threshold (2013=92%, 2014=96%, 2015=75%; Figure 5) allowing both the moderate and elevated management measures specified for the recruit abundance characteristic to be considered. Figure 8 shows the status of the individual indicators used for the recruit abundance characteristic. Details about the sampling programs used to collect the data for the blue crab Traffic Light can be found in Appendix 1. Additional figures showing the survey data used for the blue crab Traffic Light can be found in Appendix 2. Additional information concerning commercial landings trends can be found in Appendix 3.

DRAFT – SUBJECT TO CHANGE

Table 1. Management measures under the adaptive management framework for the blue crab Traffic Light in the North Carolina Blue Crab Fishery Management Plan Amendment 2. **Measures shaded are those under consideration based on the adaptive management framework in Amendment 2 and the 2015 blue crab Traffic Light update results.**

Characteristic	Moderate management level	Elevated management level
Adult abundance	A1. Increase in minimum size limit for male and immature female crabs	A4. Closure of the fishery (season and/or gear)
	A2. Reduction in tolerance of sublegal size blue crabs (to a minimum of 5%) and/or implement gear modifications to reduce sublegal catch	A5. Reduction in tolerance of sublegal size blue crabs (to a minimum of 1%) and/or implement gear modifications to reduce sublegal catch
	A3. Eliminate harvest of v-apron immature hard crab females	A6. Time restrictions
Recruit abundance	R1. Establish a seasonal size limit on peeler crabs	R4. Prohibit harvest of sponge crabs (all) and/or require sponge crab excluders in pots in specific areas
	R2. Restrict trip level harvest of sponge crabs (tolerance, quantity, sponge color)	R5. Expand existing and/or designate new crab spawning sanctuaries
	R3. Close the crab spawning sanctuaries from September 1 to February 28 and may impose further restrictions	R6. Closure of the fishery (season and/or gear)
		R7. Gear modifications in the crab trawl fishery
Production	P1. Restrict trip level harvest of sponge crabs (tolerance, quantity, sponge color)	P4. Prohibit harvest of sponge crabs (all) and/or require sponge crab excluders in pots for specific areas
	P2. Minimum and/or maximum size limit for mature female crabs	P5. Reduce peeler harvest (no white line peelers and/or peeler size limit)
	P3. Close the crab spawning sanctuaries from September 1 to February 28 and may impose further restrictions	P6. Expand existing and/or designate new crab spawning sanctuaries
		P7. Closure of the fishery (season and/or gear)

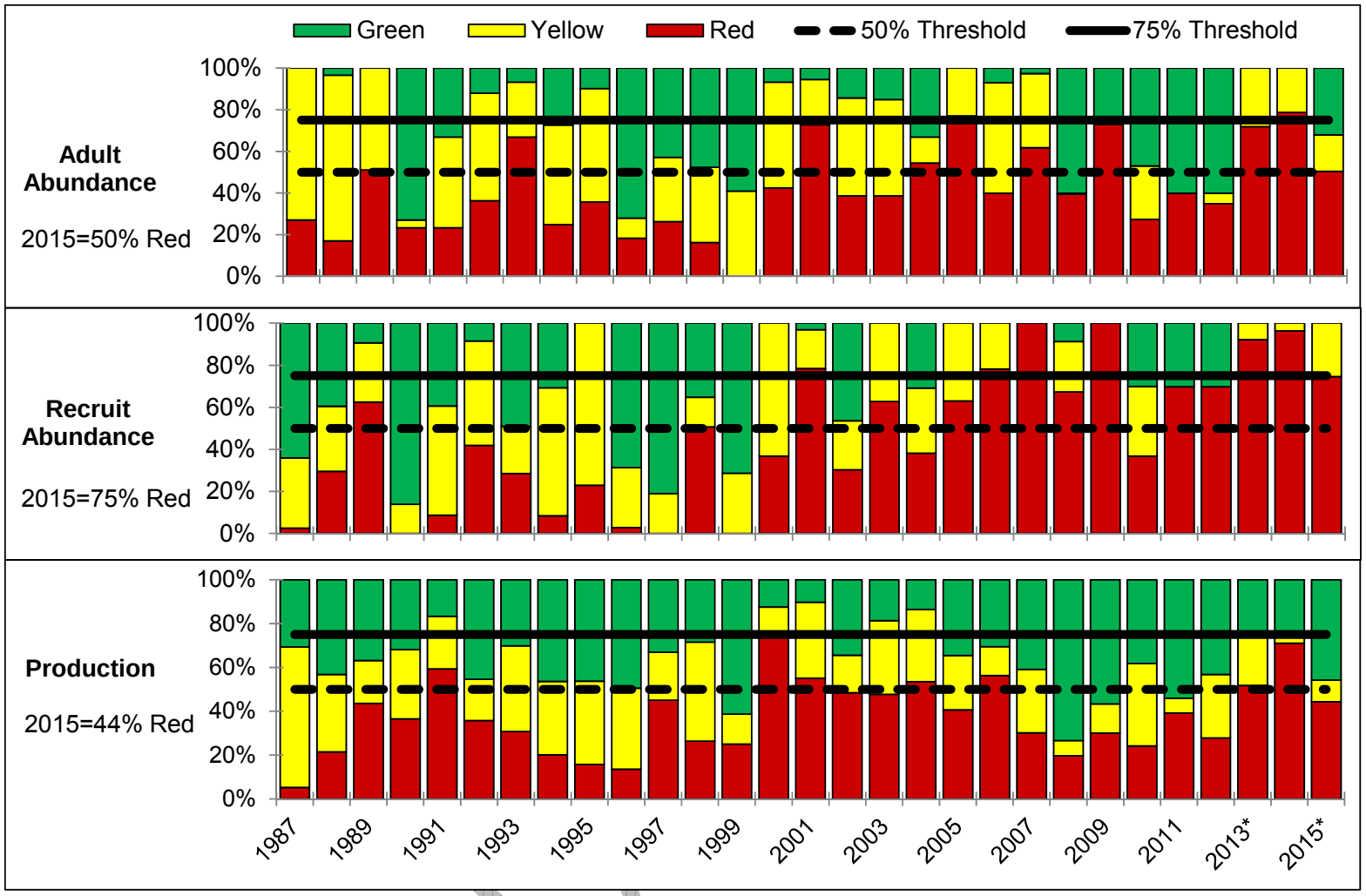

Figure 5. Traffic Light of adult abundance, recruit abundance, and production characteristic for the 2015 blue crab Traffic Light update. *Note: 2013, 2014 and 2015 represent the three years that count toward the three consecutive years needed to activate moderate management for the adult abundance characteristic. The dashed (– –) and solid (—) lines represent the 50% and 75% quartiles for the proportion of red. = Good stock condition; = Neutral or transitioning stock condition; and = Bad stock condition.

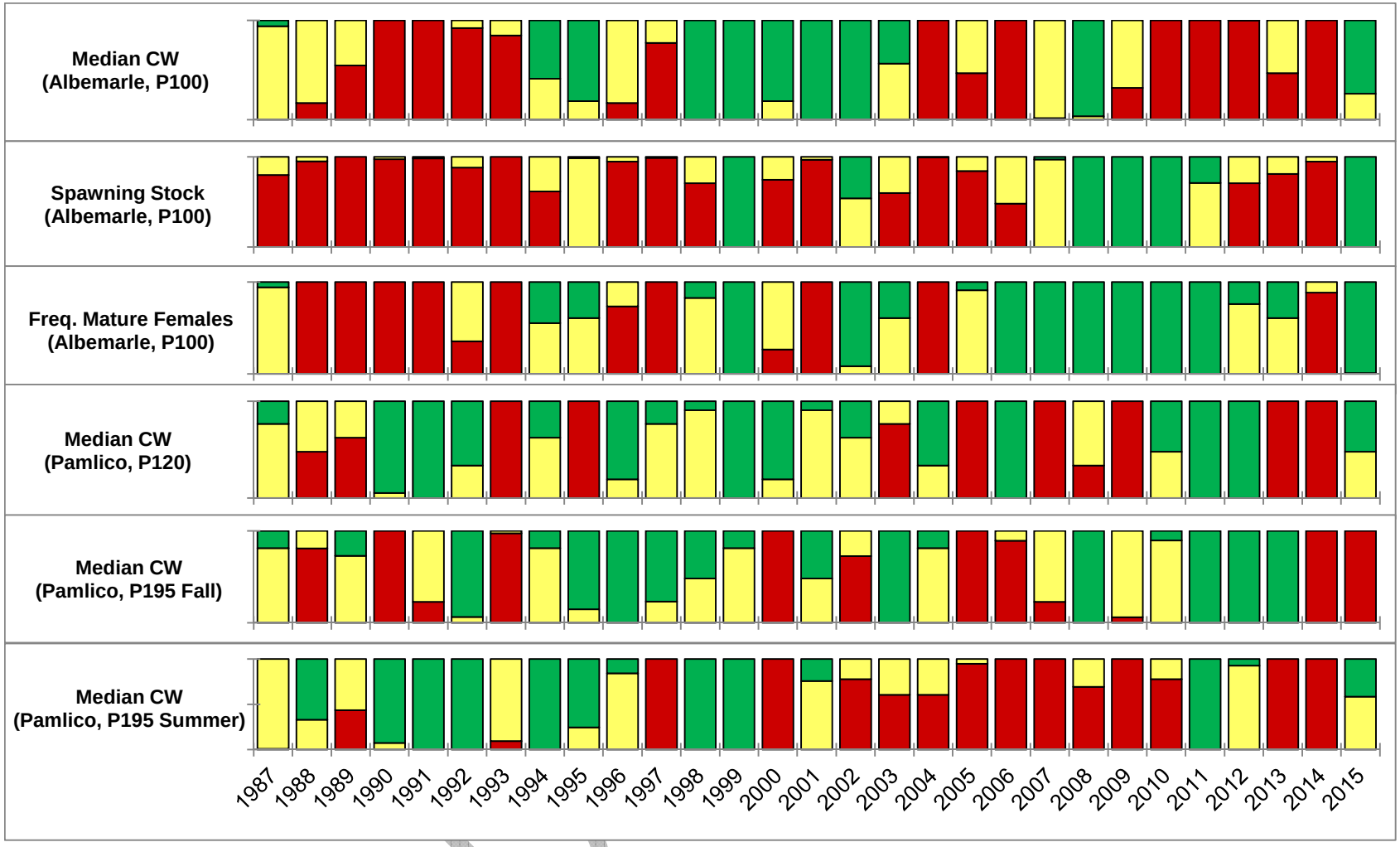

Figure 6. Traffic Light representations of individual production indicators and the integrated summary (bottom figure), 1987 – 2015.

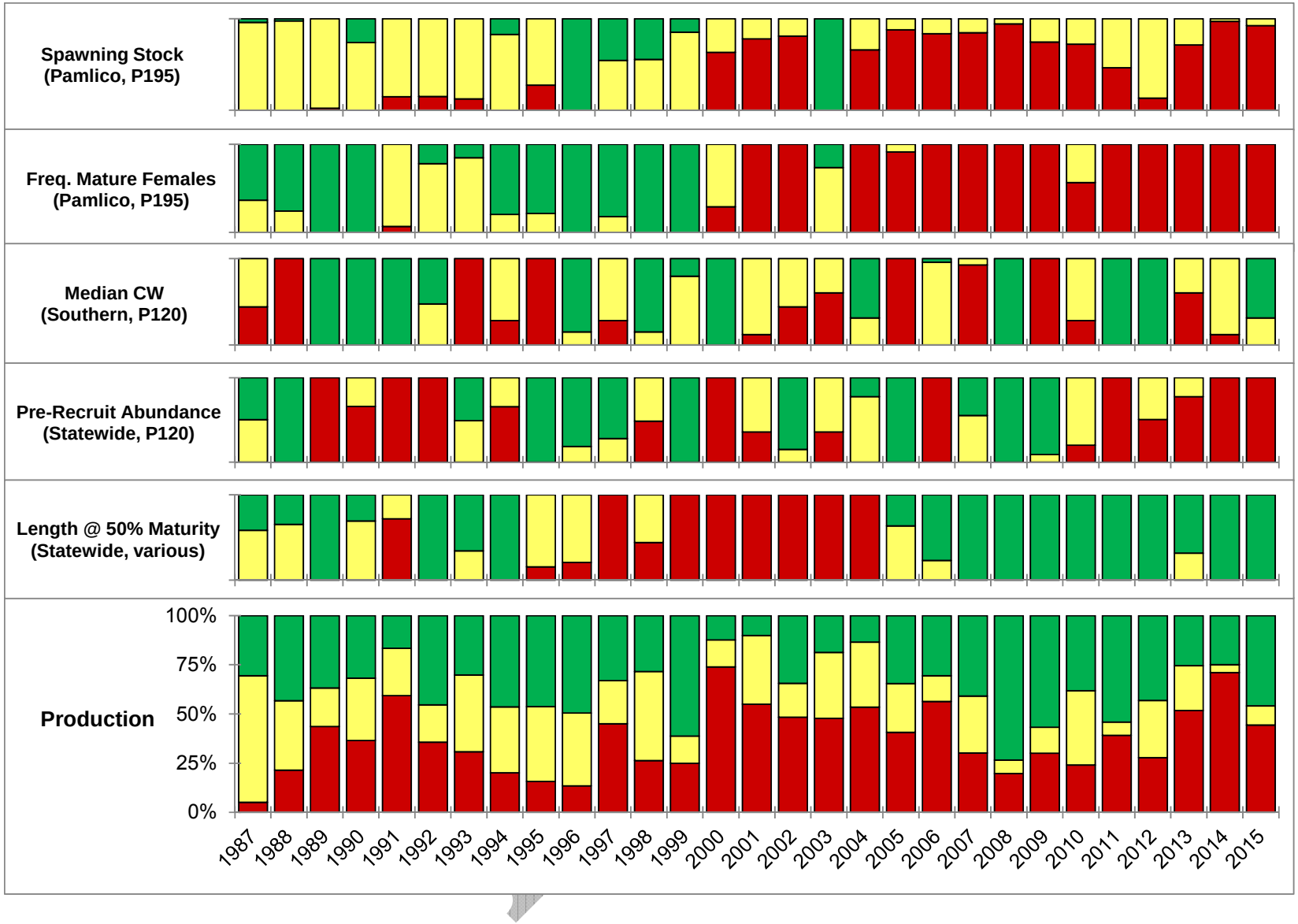

Figure 6. cont. Traffic Light representations of individual production indicators and the integrated summary (bottom figure), 1987 – 2015.

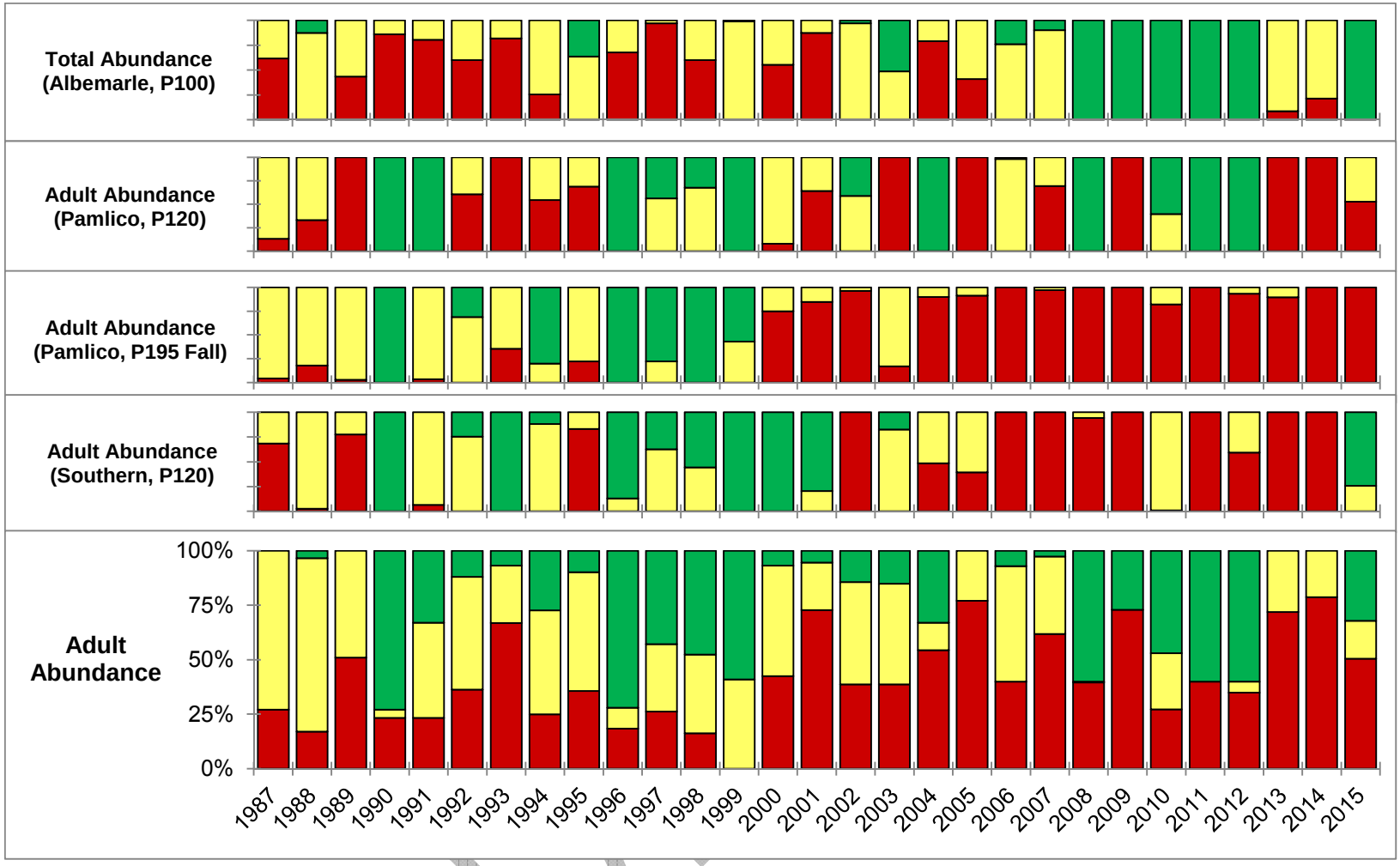

Figure 7. Traffic Light representations of individual adult abundance indicators and the integrated summary (bottom figure), 1987 – 2015.

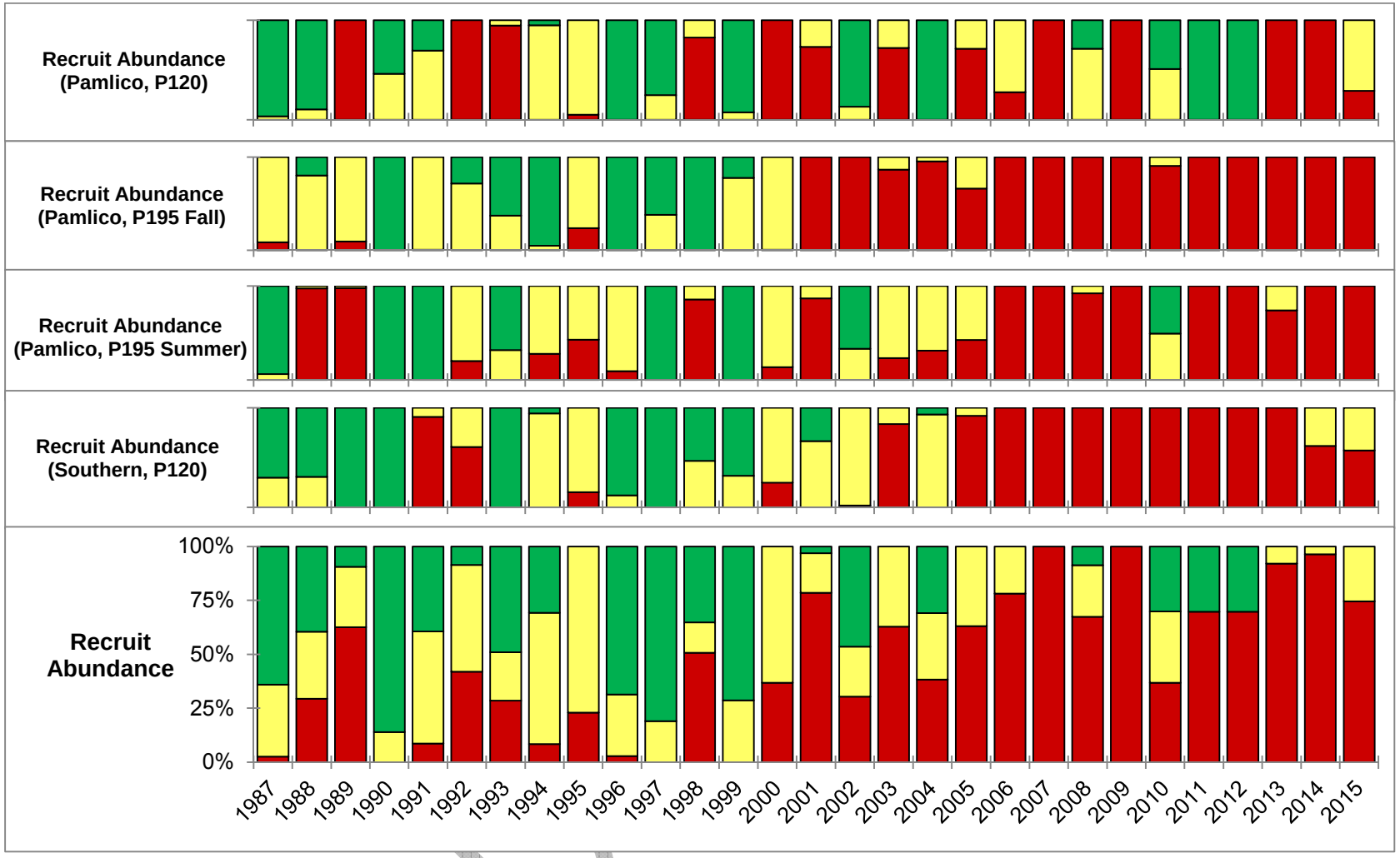

Figure 8. Traffic Light representations of individual recruit abundance indicators and the integrated summary (bottom figure), 1987 – 2015.

IV. AUTHORITY

North Carolina General Statutes

113-134 RULES
113-182 REGULATION OF FISHING AND FISHERIES
113-182.1 FISHERY MANAGEMENT PLANS
143B-289.52 MARINE FISHERIES COMMISSION – POWERS AND DUTIES

North Carolina Marine Fisheries Rules

15A NCAC 03J .0301 POTS
15A NCAC 03J .0302 RECREATIONAL USE OF POTS
15A NCAC 03L .0201 CRAB HARVEST RESTRICTIONS
15A NCAC 03L .0202 CRAB TRAWLING
15A NCAC 03L .0203 CRAB DREDGING
15A NCAC 03L .0204 CRAB POTS
15A NCAC 03L .0205 CRAB SPAWNING SANCTUARIES
15A NCAC 03R .0109 TAKING CRABS WITH DREDGES
15A NCAC 03R .0110 CRAB SPAWNING SANCTUARIES

V. DISCUSSION

The discussion below includes specific management measures discussed by the Blue Crab Plan Development Team that fall within the broader management options listed in the adaptive management framework (Table 1). Since specific management options are listed in the adaptive management framework, this Revision is not intended to be a review of all measures that could be used to manage the blue crab fishery. Management measures not listed in the adaptive management framework may only be addressed through the supplement or amendment process.

Within each stock characteristic (adult abundance, recruit abundance and production), specific management measures were determined for each management level through the adaptive management framework. Many management tools are available; some are more restrictive to the fishery than others are and attempts were made to categorize them within the moderate and elevated management levels accordingly. The various management options under consideration are described below. Specific measures discussed for each management option are only examples and may not be all inclusive of what measures may be considered under the adaptive management framework.

Size Limits

Increasing the Minimum Size Limit for Male and Immature Female Crabs

Increasing the minimum size limit is a common management tool used to rebuild the spawning stock. Mature females and peeler/soft crabs are exempt from the 5-inch minimum size limit (NCMFC Rule 15A NCAC 03L .0201). The short-term effects of an increased minimum size limit would be reducing the pool of younger, smaller crabs immediately available for harvest, which in turn would produce a short-term decrease in the overall catch. Decreasing the harvest of smaller crabs may not have an immediate effect on reducing the fishing mortality on older,

larger crabs. The benefit to the fishery of an increased minimum size would not be realized until the smaller crabs that survive contribute more to the pool of older individuals. One of the major benefits to increasing the minimum size limit is it would allow a larger number of younger crabs the opportunity to mate and reproduce prior to harvest. Increasing the minimum size limit could have a negative impact on the crab market by creating uncertainty in product availability. From 2011-2015, approximately 14% of male and immature female hard crabs harvested were under the current 5-inch legal size limit (Figure 9).

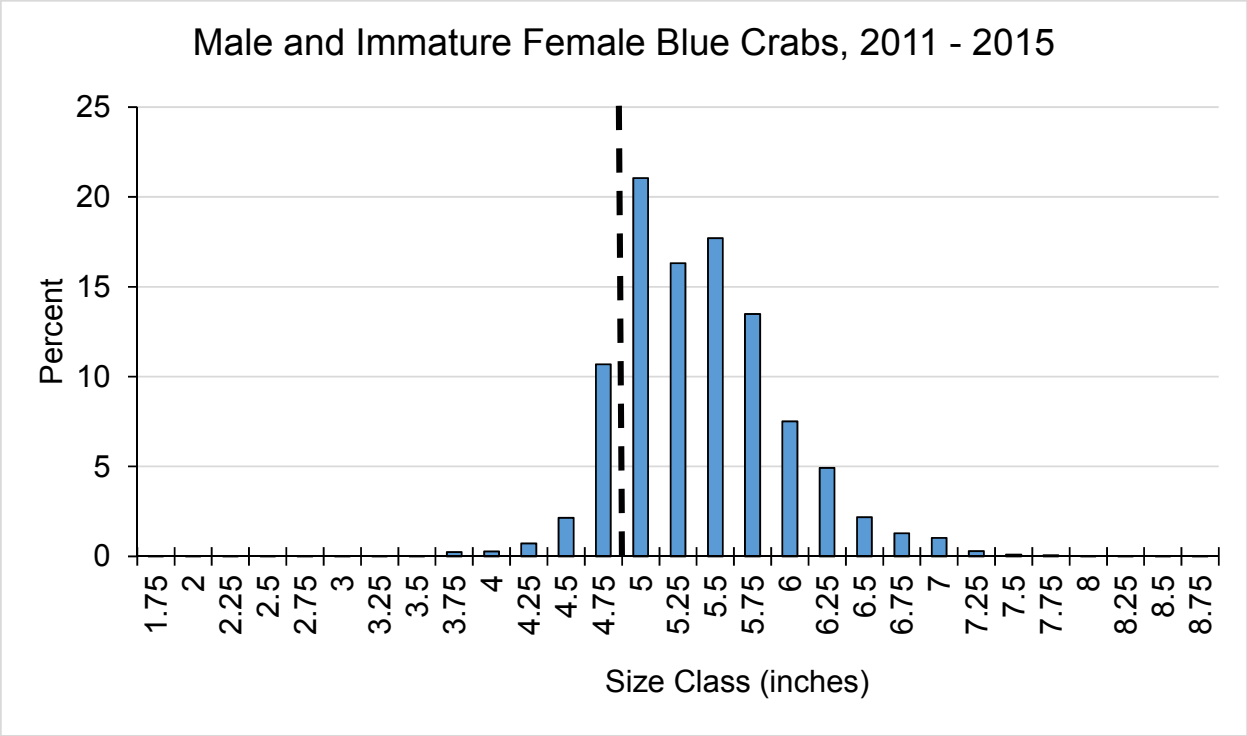

Figure 9. Size distribution of male and immature female hard crabs sampled from the commercial fishery, 2011 – 2015. Dashed line shows male and immature female blue crabs harvested above and below the current 5-inch minimum size limit.

Assuming no cull tolerance for sublegal crabs, several minimum size limit options were examined (Table 2). For example, if a 5 ¼-inch minimum size limit was imposed on male and immature female hard crabs, approximately 35% of male and immature female crab harvest fell into size classes below this minimum size limit. Some measure of recoupment would be likely for both male and immature females. Recoupment for male crabs would likely occur as they grow to the new legal minimum size where recoupment for immature females would likely occur after they undergo their terminal molt and become mature females, which are exempt from the minimum size limit.

Table 2. Estimated harvest reductions for various minimum size limits for male and immature female hard crabs.

Minimum Size Limit	Estimated Harvest Reduction
5 1/4-inch	35%
5 1/2-inch	52%
5 3/4-inch	69%
6-inch	82%

Establish a Seasonal Size Limit for Peeler Crabs

Increased effort and harvest in the peeler/soft blue crab fishery and reduced adult harvest has prompted concern about the impacts of peeler/soft crab harvest on the overall health of the fishery. Establishing a minimum size limit for peeler crabs would reduce fishing mortality on the smallest crabs currently allowed for harvest. Effects and benefits would be the same as those described above for minimum size limits. In addition, current peeler fishing practice is to employ live male crabs as an attractant or bait to target immature female peelers. Therefore, the vast majority of the peelers harvested are immature females that are approaching their terminal molt. Reducing fishing mortality on this segment of the population would contribute to efforts to protect the stock. Natural mortality of sublegal crabs (less than five inches) is in the range of 26% to 32% per year in Chesapeake Bay (Casey et al. 1992). Eggleston (1998) estimated an annual mortality rate of 50% for sub-adult and adult blue crabs in North Carolina. Several other states have minimum size limit restrictions for peeler and/or soft crab harvest. A Maryland report noted that raising the peeler size limit would potentially provide an increase in spawning stock biomass by allowing more females to enter the spawning population (Uphoff et al. 1993). Raising the size limit should also increase yield to the fishery. Peeler size limits could possibly improve recruit abundance by allowing some immature female crabs to mature and spawn prior to being subject to harvest.

As the time between sheds increases with increasing size, the probability of capture of larger crabs at the peeler stage decreases. The time interval between sheds of 3.0 or 3.5-inch crabs will generally be one to three months (Rothschild et al. 1992). The increased yield from a peeler size limit would not be totally lost to natural mortality. The overall value of the peeler/soft crab fishery might be enhanced by a minimum size limit as larger soft crabs generally bring a higher price. A potential adverse impact on the soft crab fishery would be a decrease in market flexibility, particularly during the early spring when product availability is low and small peeler/soft crabs are in demand, bringing very high prices to fishermen. A peeler size limit might increase handling mortality and waste in the fishery. A peeler/soft crab size limit could allow more effective and efficient enforcement of size limits, both in state and out of state as crabs are shipped to states with existing size limits. Therefore, adopting a peeler minimum size limit of 3 inches would address regulatory consistency among the Atlantic Coast states and potentially foster interstate trade.

Currently, there is no minimum size limit in place for peeler crabs. NCDMF collects size, sex and maturity (female) information on peeler crabs harvested for commercial shedding operations. Sample sizes decline considerably when summarized at a waterbody level and thus, only regional and statewide estimates are provided.

Assuming no cull tolerance for sublegal peeler crabs, several minimum size limit options were examined in ¼-inch increments of peeler crabs sampled from 2011 to 2015 (Table 3). For

example, if a 3 ¼-inch minimum size limit was imposed on peeler crab harvest, 4.8% of peeler crabs statewide fell into the size classes below this minimum size. The Pamlico region would be the most impacted by the minimum 3 ¼-inch size limit at 7.3%, followed by the Albemarle region at 3.2% and the Southern region at 2.1%.

Table 3. Estimated harvest reduction percentages (pounds) for various minimum size limits for peeler crabs.

	Peeler Size Limit Reduction Percent			
Minimum Size Limit	Albemarle	Pamlico	Southern	Statewide
3-inch	1.1%	2.8%	0%	1.8%
3 1/4-inch	3.2%	7.3%	2.1%	4.8%
3 1/2-inch	6.9%	15.3%	4.1%	10.2%
3 3/4-inch	13.4%	28.2%	10.3%	19.2%

Reducing the Cull Tolerance of Sublegal Crabs

Reducing the cull tolerance of sublegal male and immature female hard crabs would allow individuals a greater chance to mature and spawn prior to being harvested. Specific reductions from reducing the sublegal cull tolerance could not be calculated; instead, the number of sampled commercial trips is presented to get an idea of the impact to the fishery. For example, if the sublegal cull tolerance was reduced to 5%, approximately 26% of commercial trips sampled were above this limit. Some measure of recoupment would be likely for both male and immature females. Recoupment for male crabs would likely occur as they grow to the legal minimum size where recoupment for immature females would likely occur after they undergo their terminal molt and become mature females, which are exempt from the minimum size limit.

Table 4. Percent of sampled commercial crab pot trips at various cull tolerance levels for male and immature female hard crabs.

Cull Tolerance	Percent of Sampled Trips Above Cull Tolerance
10% (current cull tolerance)	12%
5%	26%
3%	37%
0%	63%

Gear Modifications to Reduce Sublegal Catch

Modifications to harvest gear can be used to reduce catch and mortality of the sublegal bycatch of target or non-target species. Increasing size limits often go in hand with gear modifications to eliminate sublegal bycatch. Cull (escape) rings are one such device used in crab pots to reduce bycatch. Current restrictions require two cull rings per pot of 2 5/16-inch minimum inside diameter.

Cull Ring Size

Several studies have examined the effects of increasing the cull ring size in crab pots. Rudershausen and Turano (2009) tested three different size cull rings: 2 5/16 inches, 2 3/8 inches, and 2 7/16 inches. They found the catch rates of sublegal males was reduced by increasing cull ring size. They also found the catch rates of legal males and mature females were generally maintained with larger cull rings and estimate the body length of minimally legal male crabs was not less than the current minimum cull ring diameter (2 5/16 inches). Rudershausen and Hightower (2016) tested three different size cull rings: 2 5/16 inches, 2 3/8 inches, and 2 7/16 inches. They found the mean number of legal male crabs was not significantly different among cull ring sizes but the mean number of sublegal male crabs was significantly less in pots using the two largest cull ring sizes.

Specific reductions from increasing the size of cull rings could not be calculated; instead, the number of sampled commercial trips is presented to get an idea of the impact to the fishery (Table 5). For example, if the minimum cull ring size was increased to 2 3/8 inches, approximately 33% of commercial trips sampled were at or above this limit. The cost and effort to change the cull ring size must also be considered.

Table 5. Percent of sampled commercial crab pot trips with various cull ring sizes.

Cull Ring Size	Percent of Sampled Trips By Cull Ring Size
2 5/16-inch (minimum legal size)	67%
2 3/8-inch	13%
2 7/16-inch	18%
2 1/2-inch	1%
>2 1/2-inch	1%

Number of Cull Rings

Some research has been done regarding the number of cull rings in crab pots and the associated reduction in sublegal crabs. Rudershausen and Turano (2009) determined that increasing the number of cull rings did not significantly reduce the catch of sublegal males.

Specific reductions from increasing the number of cull rings could not be calculated; instead, the number of sampled commercial trips is presented to get an idea of the impact to the fishery (Table 6). For example, if the number of required cull rings was increased to four, approximately 9% of commercial trips sampled were at or above this limit. The cost and effort to change the number of cull rings must also be considered.

Table 6. Percent of sampled commercial crab pot trips with varying sizes of cull rings.

Number of Cull Rings	Percent of Sampled Trips
2	80%
3	11%
4	5%
5	3%
>5	1%

Placement of Cull Rings

Some research has been done regarding the placement of cull rings in crab pots related to reductions in sublegal catch. Havens et al. (2009) tested pots with modified cull ring placement (Figure 10). Modified pots had cull rings placed in the corner of the pot and flush with the floor of the upper chamber. Approximately 60% of sublegal crabs escaped modified pots within one hour compared to 4% in unmodified pots. The odds of escapement of sublegal crabs in modified pots in a 24-hour period was eighteen times greater than in unmodified pots. Specific reductions from modifying the placement of cull rings in crab pots could not be calculated.

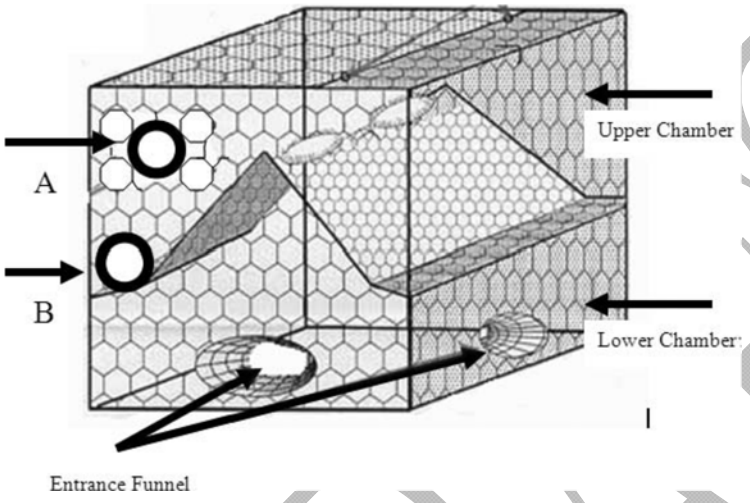

Figure 10. Placement of cull rings in crab pots: (A) unmodified pots had the cull ring placed on the outer wall of the upper chamber, 15 cm above the chamber floor; and (B) modified pots had the cull ring placed in the corner and flush with the upper chamber floor. Diagram is from Havens et al. 2009.

Removing Cull Ring Exemptions

Mature female crabs are exempt from the five-inch minimum size limit (NCMFC Rule 15A NCAC 03L .0201 (a)). Some females mature prior to reaching five inches in size and would be unavailable for harvest because once they mature they will not grow any larger. Particularly in high salinity areas, such as those with the current escape ring exemption, a significant portion of the available mature females may be of such a small size they may leave the pot through the 2 5/16 inch escape rings (minimum legal size). Therefore, during the development of Amendment 2, the long standing proclamation allowing pots to be set without escape rings or with closed escape rings to prevent the loss of small mature female blue crabs in Pamlico Sound and the Newport River were put into rule (Figure 11). However, the exemption area in Pamlico Sound was reduced by moving the boundary line from six miles from shore to the existing no trawl line behind the Outer Banks.

Based on NCDMF crab fishery sampling at the time, the escape ring exemption does not appear to be widely utilized by crabbers who fish the Outer Banks/Pamlico Sound area. Perhaps in the past when the southern Outer Banks fishery was robust with more crabs and crabbers, the practice of closing escape rings was more prevalent. NCDMF sampling, in recent years, has documented that some crabbers in this area do not close escape rings, while some

close one of the two required escape rings, and others close all the escape rings. During development of Amendment 2, NCDMF staff contacted and discussed the Outer Banks escape ring exemption and potential options to modify the boundary with area crabbers. Overall opinions were mixed; but several crabbers indicated they would like to maintain the flexibility to set pots with closed escape rings.

Assuming no cull tolerance for sublegal crabs and a 5-inch minimum size limit, the harvest reduction for eastern Pamlico Sound is approximately 13.1%. There was not enough commercial crab sampling data specific to the Newport River to estimate harvest reductions for this area. Some measure of recoupment would be likely for both male and immature females. Recoupment for male crabs would likely occur as they grow to the new legal minimum size where recoupment for immature females would likely occur after they undergo their terminal molt and become mature females, which are exempt from the minimum size limit. The recoupment of small mature female crabs would likely be low as some would be able to escape through the existing cull rings.

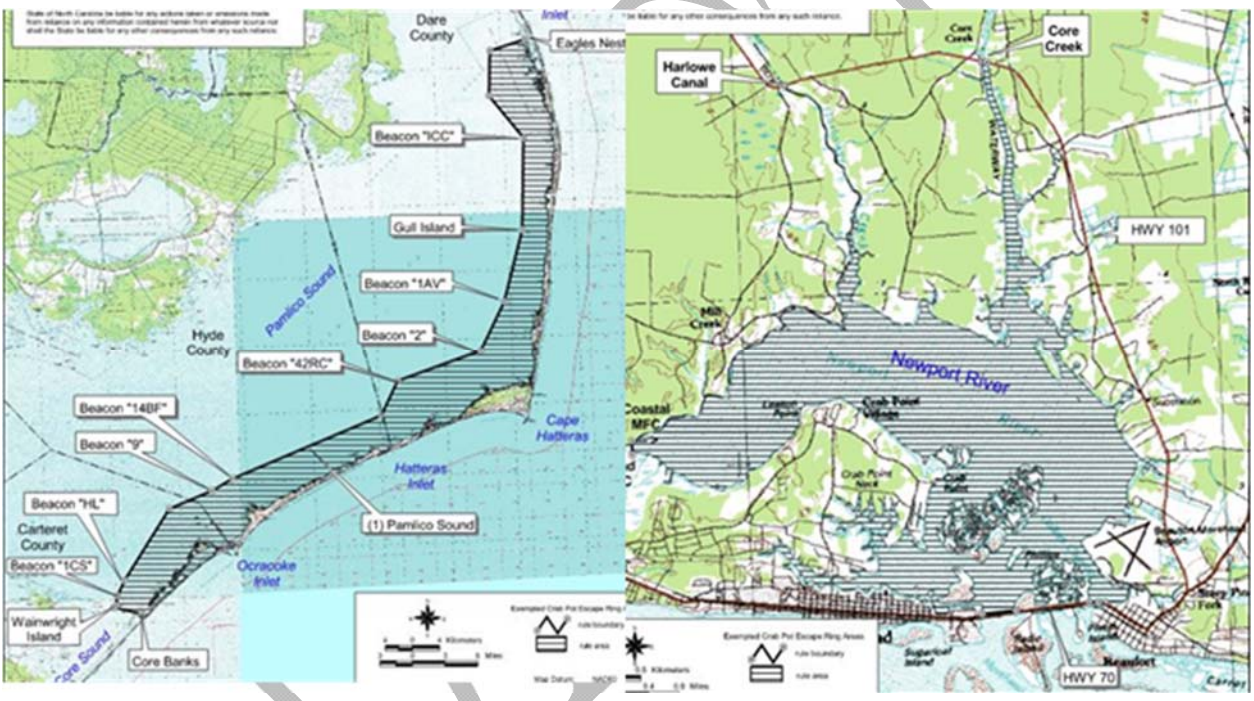

Figure 11. Escape ring exempted areas in Pamlico Sound, NC (left) and Newport River, NC (right).

Eliminate Harvest of V-apron Immature Female Hard Crabs

Immature (v-apron) females are encountered in the commercial crab sampling program across six market categories (Straight, Jimmies (No. 1), No. 2, No. 3, Culls, and Mixed). To provide an estimate of the impacts of prohibiting v-apron immature female hard crab harvest, the number of v-apron immature female hard crabs sampled was divided by the total number of crabs sampled by market category in the commercial crab sampling program to estimate the percentage by number. To apply the estimate to trip ticket information, the numbers were converted to weight in pounds using a conversion of three crabs per pound. Once the percentage by weight was calculated, weight estimates were applied to the trip ticket landings by market grade to

determine the statewide percent reduction for the elimination of v-apron immature female hard crabs in the harvest. The average annual reduction for immature females from 2001-2015 in the total harvest was estimated at 0.8% or 231,345 pounds (Table 7). Even with a culling tolerance, prohibiting the harvest of immature female hard crabs of 5 inches and larger would allow some to become spawning adults prior to being eligible for harvest.

Table 7. Estimated reductions (percent by weight) by region and statewide for eliminating v-apron immature female hard crab harvest, 2001 – 2015.

Year	Albemarle	Pamlico	Southern	Statewide	Statewide Pounds
2001	1.14	0.91	0.26	0.96	270,310
2002	1.02	0.86	0.12	0.91	316,871
2003	1.82	0.41	0.42	1.02	405,511
2004	1.03	0.76	0.58	0.85	266,358
2005	0.86	0.49	0.30	0.61	140,722
2006	0.91	0.33	0.12	0.63	150,232
2007	0.95	0.23	1.33	0.76	154,209
2008	0.41	0.43	0.03	0.40	121,737
2009	0.63	0.72	0.33	0.63	177,017
2010	0.84	1.10	0.27	0.91	266,793
2011	1.18	1.17	0.21	1.12	319,833
2012	0.79	0.59	0.31	0.70	179,100
2013	1.59	0.28	0.07	1.18	250,127
2014	1.03	0.65	0.36	0.91	227,940
2015	0.75	0.77	-	0.72	223,421
Average	1.00	0.65	0.32	0.82	231,345

Restricting or Prohibiting Sponge Crab Harvest

The underlying hypothesis of limiting sponge crab harvest is that by protecting the spawning stock (defined here as egg-bearing females), the fishery would benefit with more recruits to the fishery. Concerns with protecting egg-bearing female blue crabs (sponge crabs) are complex, consisting of economic factors (fewer pounds of meat can be picked from a given weight of sponge crabs than from the same weight of non-sponge crabs) and biological considerations (recruitment, overfishing). Currently, there are a number of states that prohibit the sale or possession of egg-bearing females (Table 8). Without exception, these states experience the same fluctuations in blue crab landings as seen in states that do not protect egg-bearing females. From the early 1920s until 1964, it was unlawful to harvest sponge crabs in North Carolina. In 1964 the sponge crab law was repealed and replaced with Crab Spawning Sanctuaries [NCMFC (2011) rules 15A NCAC 03L .0205 and 03R .0110]. During the period the North Carolina sponge crab law was in effect, reported hard crab landings showed the same fluctuations as were observed after its repeal. However, reducing or prohibiting sponge crab harvest would provide additional protection to crabs that will be spawning in a very short time (i.e., 14 days or less depending on sponge stage/color). Limiting harvest would protect sponge crabs where sanctuaries do not exist. Eggleston (2003) found no significant difference between mature female catches within the sanctuaries versus an area five kilometers outside of the sanctuaries. Depending on the level of concern, catch limits on sponge crab harvest could be seasonal, regional, and/or by sponge stage/color. Limiting sponge crab harvest will have a greater economic impact in some areas during certain periods (e.g., Outer Banks during spring).

Some researchers have documented sponge mutilation (scrubbing) by pot-caught crabs (Rittschof 2004). Even when sponge crabs are returned to the water, egg mass destruction and

reduced viability of the eggs may occur during the pot harvesting and handling process. Other research has indicated that sponge crab excluders can be effective in reducing the harvest of egg bearing crabs. Research comparing control crab pots and pots equipped with sponge crab excluders was conducted in the high salinity waters of Core Sound, NC near crab spawning sanctuaries (Rudershausen and Turano 2006). They concluded that in areas where mature females dominate the crab pot catch, the benefit of using excluders to reduce entry of sponge crabs might outweigh a potentially modest decrease in catch of non-sponged females.

Table 8. Summary of blue crab sponge and crab spawning sanctuary regulations (New Jersey to Texas).

State	Prohibit the sale or possession of sponge crabs	Have established crab spawning sanctuaries
New Jersey	Yes	No
Delaware	Yes	No
Maryland	Yes	No
Virginia	Yes [1]	Yes
North Carolina	No	Yes
South Carolina	Yes	No
Georgia	Yes	No
Florida	Yes	No
Alabama	No	No
Mississippi	Yes	No
Louisiana	Yes	No
Texas	Yes	No

[1] Prohibits brown and black sponge crab harvest from March 17 through June 15.

Sponge crab harvest could be restricted by quantity, sponge color, or establishing a cull tolerance. Establishing a cull tolerance similar to the one in place for sublegal crabs would reduce the amount of sponge crabs harvested without completely prohibiting their harvest.

Specific reductions from establishing a cull tolerance for sponge crabs could not be calculated, instead the number of sampled commercial trips is presented to get an idea of the impact to the fishery (Table 9). For example, if the cull tolerance was set at 5%, approximately 13.2% of commercial trips sampled were at or above this limit.

Table 9. Percent of sampled commercial crab pot trips with varying cull tolerances for sponge crabs.

Cull Tolerance	Percent of Sampled Trips
10%	11.5%
5%	13.2%
3%	14.1%
1%	15.9%

Assuming no cull tolerance for sponge crabs, the average reduction statewide is approximately 3.8%. The Pamlico region will be impacted more than the Albemarle and Southern regions (Table 10), specifically the eastern side of Pamlico Sound (Table 11). Some measure of recoupment would be likely as sponge crabs could be harvested once they release their eggs. The Pamlico region and statewide commercial sampling has shown the catch of sponge crabs has declined in recent years, which may also be a result of fishing behavior shifting away from these less valuable sponge crabs. Therefore, eliminating sponge harvest may only have minimal impacts to the overall harvest.

Table 10. Total harvest, sponge crab harvest, and percent reduction if sponge crab harvest was prohibited by region, 2001 – 2015.

	Albemarle			Pamlico			Southern			Statewide		
Year	Total Pounds	Sponge Crab Pounds	Percent Reduction	Total Pounds	Sponge Crab Pounds	Percent Reduction	Total Pounds	Sponge Crab Pounds	Percent Reduction	Total Pounds	Sponge Crab Pounds	Percent Reduction
2001	11,820,264	-	-	14,359,628	1,373,754	9.57	1,993,997	11,473	0.58	28,173,889	1,385,228	4.92
2002	20,223,218	-	-	12,678,456	2,005,454	15.82	1,791,769	3,374	0.19	34,693,443	2,008,828	5.79
2003	17,257,582	-	-	20,289,934	2,850,359	14.05	2,087,805	7,654	0.37	39,635,322	2,858,013	7.21
2004	11,787,020	-	-	17,619,156	2,018,331	11.46	1,825,486	17,566	0.96	31,231,661	2,035,897	6.52
2005	8,713,645	1,017	0.01	12,273,290	2,147,818	17.50	1,940,115	8,473	0.44	22,927,050	2,157,308	9.41
2006	12,917,308	-	-	9,371,392	431,200	4.60	1,696,271	14,531	0.86	23,984,971	445,731	1.86
2007	12,881,819	349	0.00	5,972,830	1,623,618	27.18	1,408,726	68,447	4.86	20,263,375	1,692,414	8.35
2008	21,186,947	-	-	7,785,011	166,608	2.14	1,551,971	50,142	3.23	30,523,929	216,750	0.71
2009	19,674,596	-	-	6,689,881	498,300	7.45	1,563,678	33,904	2.17	27,928,155	532,204	1.91
2010	16,748,758	-	-	11,066,830	204,807	1.85	1,468,209	85,826	5.85	29,283,796	290,632	0.99
2011	15,150,132	-	-	11,807,797	779,301	6.60	1,623,932	8,223	0.51	28,581,861	787,524	2.76
2012	16,251,070	-	-	7,571,283	1,083,365	14.31	1,873,160	37,953	2.03	25,695,513	1,121,318	4.36
2013	14,867,463	-	-	4,705,404	313,317	6.66	1,575,686	47,937	3.04	21,148,554	361,254	1.71
2014	18,246,664	-	-	5,340,747	97,564	1.83	1,439,056	53,461	3.71	25,026,467	151,025	0.60
2015	19,466,259	-	-	9,992,495	1,516	0.02	1,510,795	-	-	30,969,550	1,516	0.005

Table 11. Pounds of sponge crabs sampled from commercial crab sampling program in eastern Pamlico Sound compared to the Pamlico region, 2001 – 2015.

	Year														
Sponge Crab Pounds Sampled	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Eastern Pamlico Sound	2,695	3,362	1,762	2,376	1,647	691	1,858	451	-	199	1,881	5,889	885	608	-
Total Pamlico Region	2,695	3,886	1,818	2,963	2,007	691	1,877	467	792	385	1,881	6,351	886	611	11
Percent Eastern Pamlico Sound	100	86.5	96.9	80.2	82.1	100	99.0	96.6	0	51.5	100	92.7	99.8	99.5	0

Spawning Sanctuaries

Close the Crab Spawning Sanctuaries from September 1 through February 28 and May Impose Further Restrictions

Currently it is unlawful to set or use trawls, pots, and mechanical methods for oysters or clams or take crabs with the use of commercial fishing equipment from March 1 through August 31 in Crab Spawning Sanctuaries. This option would result in a year-round closure of the Crab Spawning Sanctuaries.

Expand Existing Spawning Sanctuaries

North Carolina has five locations designated as crab spawning sanctuaries north of Cape Lookout (Table 12, Figure 12). The spawning sanctuaries are already closed in Rule 03L .0205 from March 1 through August 31. Existing proclamation authority in Rule 03L .0205 also provides that these Crab Spawning Sanctuaries can be closed or restricted further outside of the closed period to protect spawning females.

The purpose of these sanctuaries is to protect mature females inhabiting these areas prior to and during the spawning season and sponge stage. Recent tagging data suggest this is not the case in all areas. In Core Sound, most tagged crabs migrate toward the inlets and many will release their first clutch of eggs prior to reaching the spawning grounds (Rittschof 2003). Some female crabs remain within the sounds and some go out the inlet and move with currents up and down the coast. In Pamlico Sound, sponge crabs are present on the spawning grounds from spring to fall, and mature females are present year round (Ballance and Ballance 2002; NCDMF 2008). Tag return data suggest females tagged on the sanctuaries in Pamlico Sound are consistently caught in areas up to four kilometers surrounding the sanctuaries (Ballance and Ballance 2002; NCDMF 2008).

Table 12. Location and approximate size (in acres) of the five current Crab Spawning Sanctuaries.

Location	Acreage
Oregon Inlet	5,787.5
Hatteras Inlet	4,444.0
Ocracoke Inlet	8,745.0
Drum Inlet	5,388.0
Bardens Inlet	4,610.0

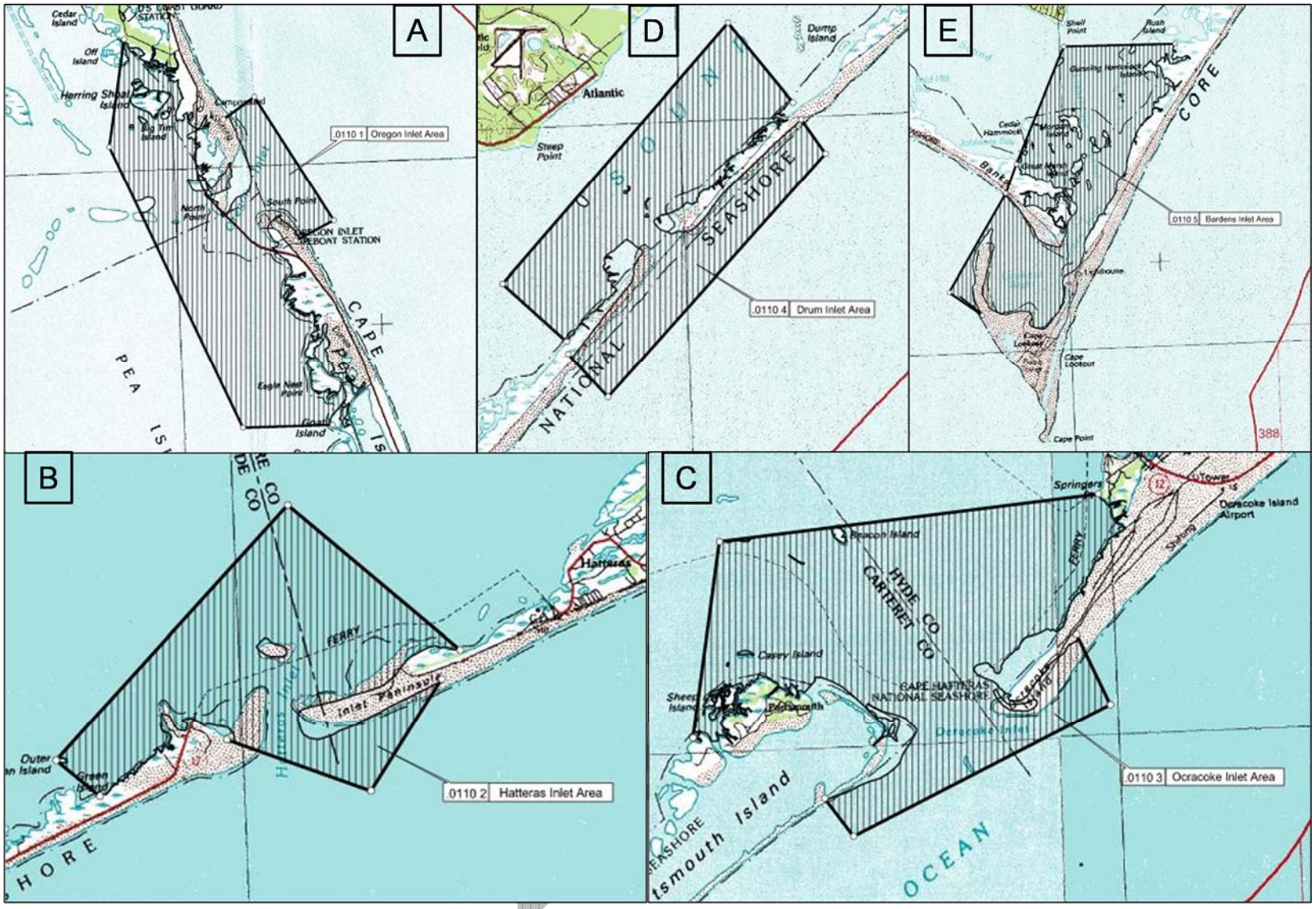

Figure 12. Boundaries of the five current Crab Spawning Sanctuaries. (A) Oregon Inlet, (B) Hatteras Inlet, (C) Ocracoke Inlet, (D) Drum Inlet, and (E) Bardens Inlet.

Designate New Crab Spawning Sanctuaries

Crab spawning sanctuaries have not been designated south of Cape Lookout, N.C. due to the small size of inlets and relatively small estuarine waters near most of the southern coastal inlets. Spawning sanctuaries around the southern inlets would prohibit commercial gears currently in use, forcing commercial harvesters into other areas and thereby increasing conflicts among other user groups. Local crabbers suggest the deep fast flowing waters of the lower Cape Fear River ship channel provide a natural barrier to some crab harvesting practices in that area. Thus, this area serves as an unofficial sanctuary for all blue crabs. Designating additional Crab Spawning Sanctuaries would further protect mature females as they migrate to the spawning grounds. Figures 13 – 15 show examples of potential Crab Spawning Sanctuaries in the southern portion of the state.

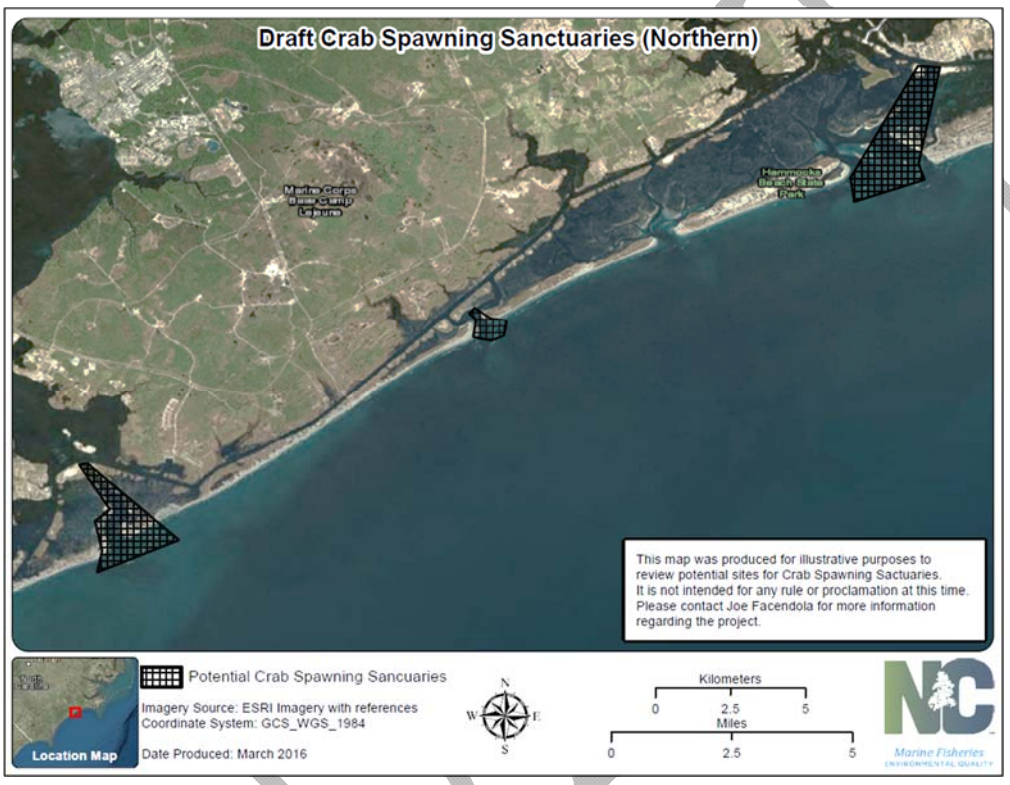

Figure 13. Potential Crab Spawning Sanctuaries for Bogue Inlet, Browns Inlet, and New River Inlet.

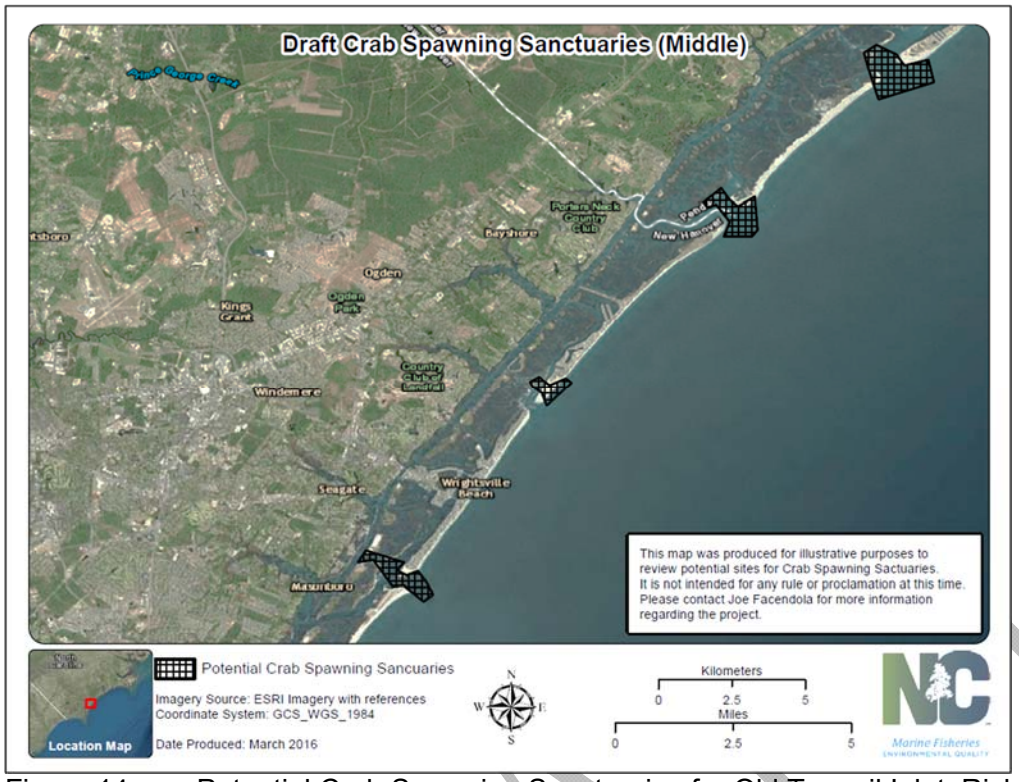

Figure 14. Potential Crab Spawning Sanctuaries for Old Topsail Inlet, Rich Inlet, Mason Inlet, and Masonboro Inlet.

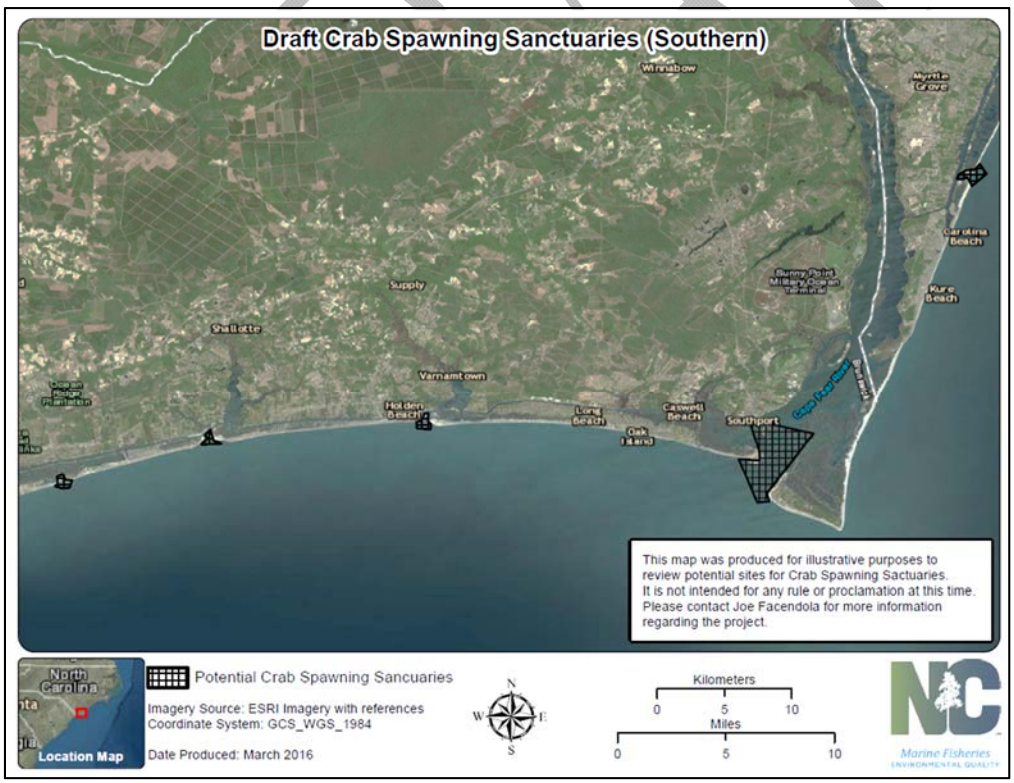

Figure 15. Potential Crab Spawning Sanctuaries for Carolina Inlet, Cape Fear River Inlet, Lockwoods Folly Inlet, Shallotte Inlet, and Tubbs Inlet.

Closure of the Fishery

Closures to the blue crab fishery could include season, area, gear, or life history stage. The premise behind this management tool is to restrict harvest, whether by time, location, fishery, or life history stage to provide protection to blue crabs that are vulnerable to harvest in a particular place and time or stage in their life history.

Seasonal Closures

A seasonal closure can be used to restrict harvest during certain times of the year and to reduce removals from the stock. Since effort can be increased during the open periods of the fishery to offset losses during the closed season, it is best to have seasonal closures that are a minimum of two weeks, but preferably longer. The timing of harvest from the different crab fisheries should also be considered.

Season closures during peak harvest periods tend to be more effective than season closures when harvest is minimal because closures at peak harvest leave less opportunity for recoupment by the fisheries. However, a possible result of overall season closures would be an increase in discards, particularly in fisheries that land, but do not target blue crabs.

An example of season closure would be to prohibit the harvest of sponge crabs during periods of peak abundance. Sponge crabs begin to appear in March, peaking in April and May, and persist in lower levels through the summer (Figure 16).

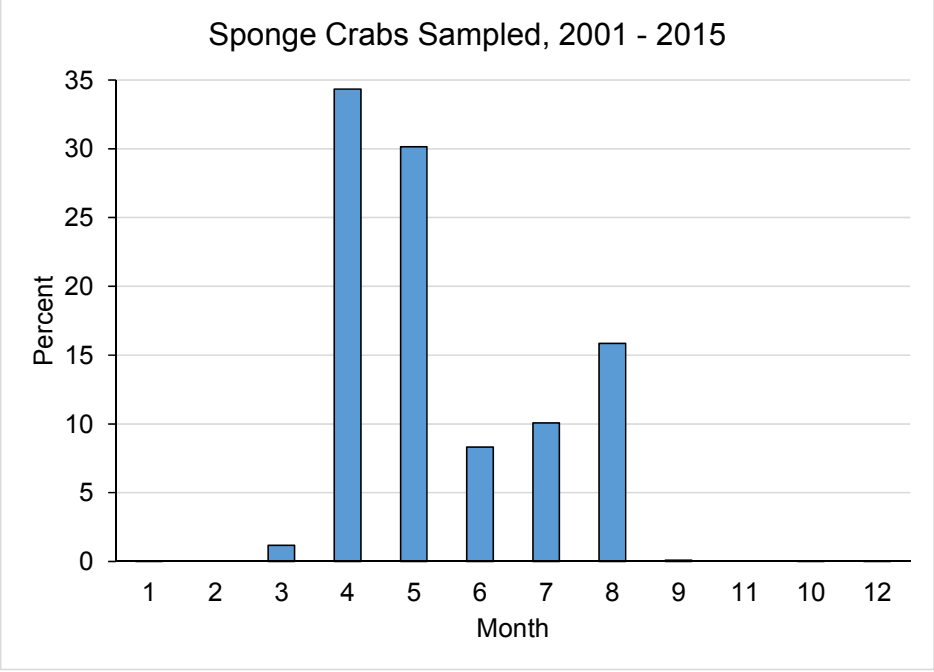

Figure 16. Average monthly sponge crab frequency in commercial crab sampling, 2001 – 2015.

Gear Closures

Dredges

One example of gear closure would be to close the targeted crab dredge fishery. This fishery has had minimal landings in recent years (Table 13) with most dredge landings coming from oyster dredges in January and February (Table 14), but when it was more active it primarily targeted overwintering mature female crabs. This fishery is currently only allowed in a small portion of the northern area of Pamlico Sound (Figure 17) during January and February.

Table 13. Annual crab landings (pounds) from crab and oyster dredges, 2011 – 2015.

Year	Crab Dredge	Oyster Dredge	Grand Total
2011	6,843	31,861	38,704
2012	4,051	2,756	6,807
2013	-	1,305	1,305
2014	-	7,372	7,372
2015	1,382	5,203	6,585

Table 14. Average monthly crab landings (pounds) from crab and oyster dredges, 2011 – 2015.

Month	Crab Dredge	Oyster Dredge	Grand Total
January	1,634	1,870	1,786
February	600	2,155	1,589
March	-	615	615
April	-	124	154
November	-	615	615
December	-	508	508

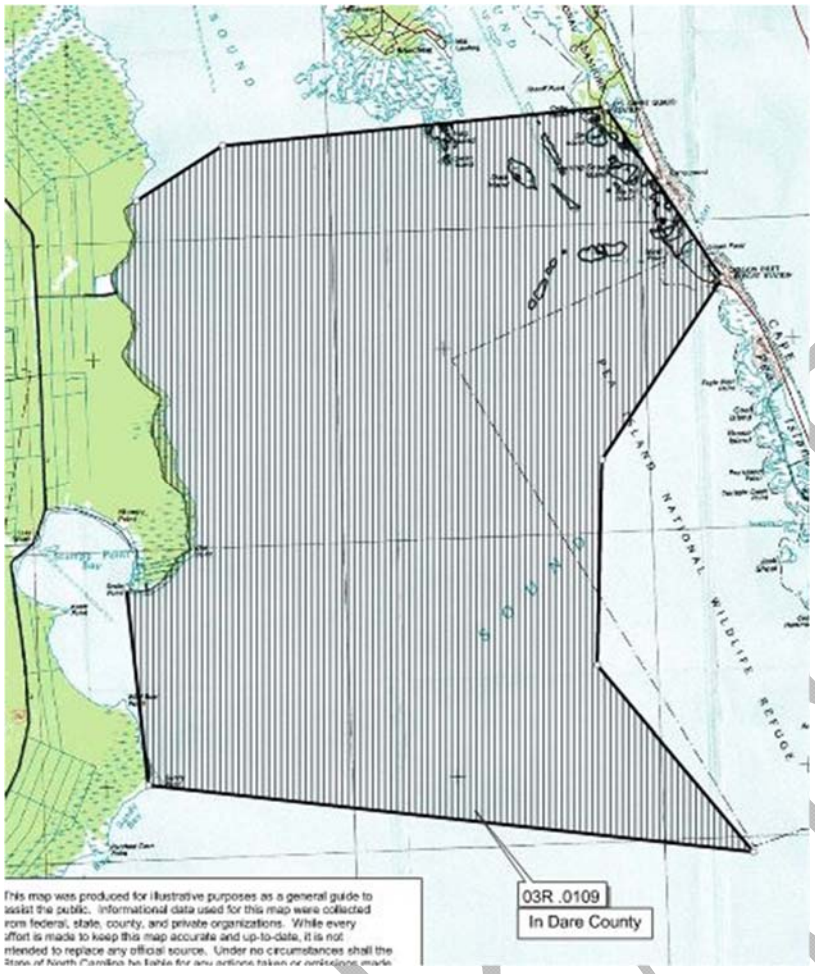

Figure 17. Designated crab dredge area in northern Pamlico Sound.

Crab Trawls

Another example of a potential gear closure would be to limit crab trawling in the Pamlico, Pungo, and Neuse rivers to the current shrimp trawl lines in each river. Currently there are minimal landings of crabs from crab and shrimp trawls in these systems (Table 15). Figures 18 and 19 show the current crab trawl boundary lines and the current shrimp trawl boundary lines for each system.

Table 15. Annual crab landings (pounds) from crab and shrimp trawls in the Pamlico, Pungo, and Neuse rivers, 2011 – 2015.

	Crab Trawl			Shrimp Trawl		
Year	Neuse River	Pamlico River	Pungo River	Neuse River	Pamlico River	Pungo River
2011	-	141	-	48	371	77
2012	450	-	-	-	12	-
2013	-	-	-	904	-	-
2014	220	-	-	2,561	-	-
2015	302	329	320	451	49	-

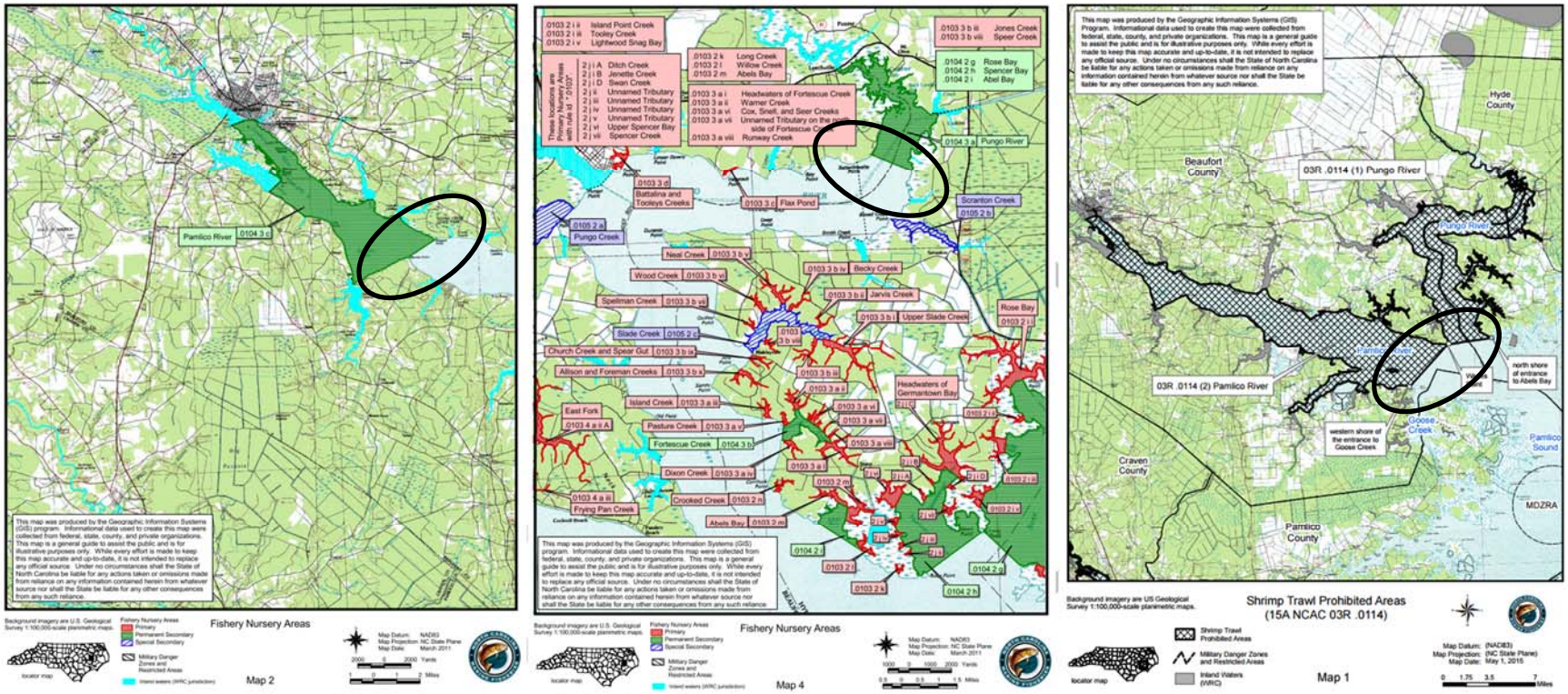

Figure 18. Current crab trawl boundary lines on the Pamlico (left) and Pungo (middle) rivers and the current shrimp trawl boundary lines for each river (right). Boundary lines are located within the circled areas.

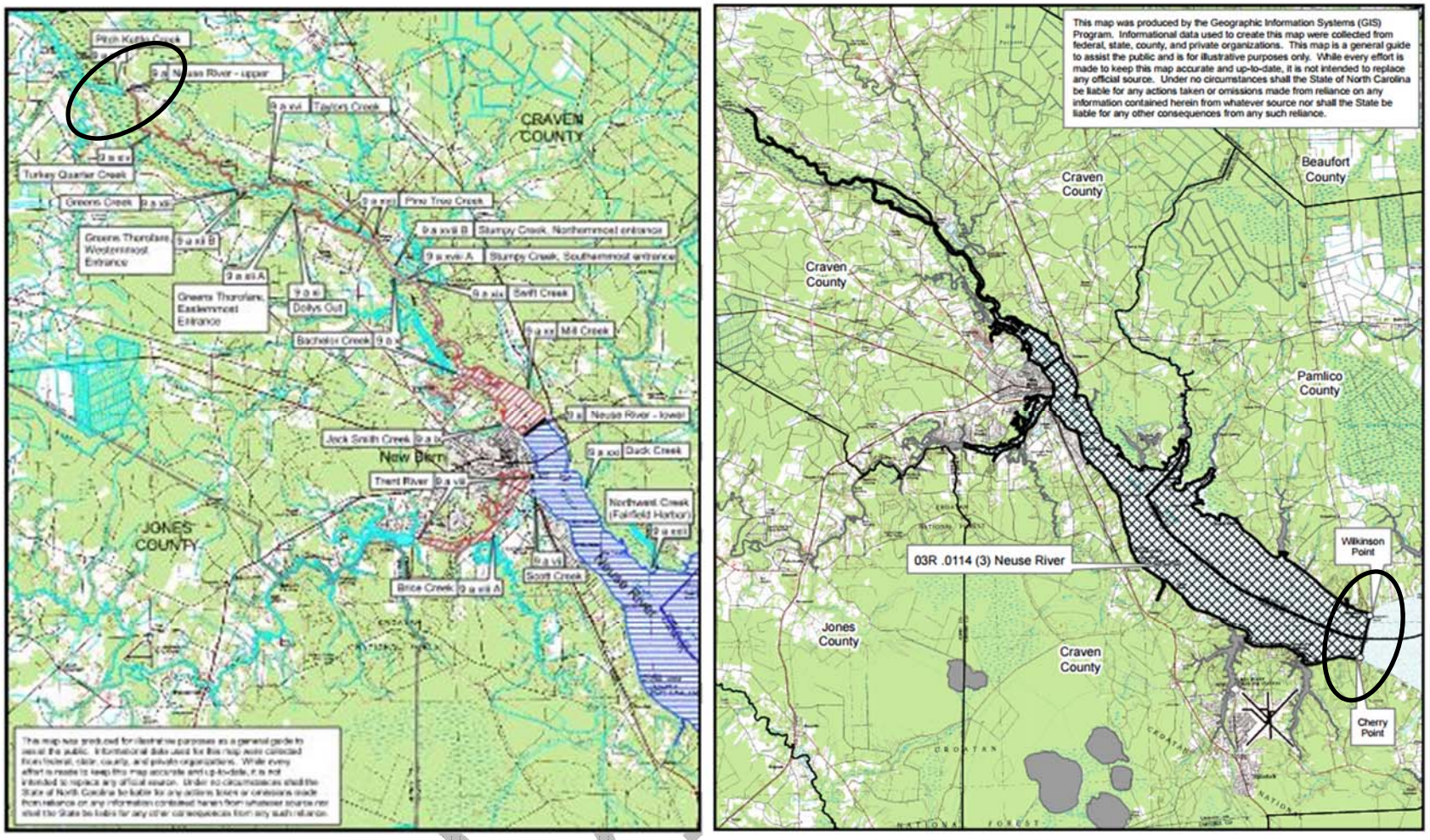

Figure 19. Current crab trawl boundary line on the Neuse River (left) and the current shrimp trawl boundary line on the Neuse River (right). Boundary lines are located within the circled areas.

Gear Modifications in the Crab Trawl Fishery

Existing NCMFC rule requires a minimum stretched mesh of 3 inches for crab trawls for taking hard crabs, except that the Director may, by proclamation, increase the minimum mesh length to no more than 4 inches [15A NCAC 03L .0202 (b)]. Increasing the minimum mesh length of crab trawls in areas not currently under proclamation authority would further reduce catch and mortality of sublegal crab bycatch. In 1992, the NCDMF conducted a study to examine the culling ability of larger tail bag sizes in crab trawls, the number of sublegal blue crabs was reduced by 13% in the 4-inch tail bag and the number of legal crabs was reduced by 7%, as compared to catches in a 3-inch tail bag (McKenna and Clark 1993). Overall survival rates were documented for trawl-caught crabs at 64%, while 93% of the crab pot caught crabs survived (McKenna and Camp 1992). During a trip in June, a large number of paper shell and soft crabs were killed in the trawling process. Given the high percentage of sublegal blue crabs currently being captured by the crab trawl fishery, it was recommended that an increase in the minimum tail bag mesh size should be implemented to reduce fishing mortality on this species (McKenna and Clark 1993). A reduction of fishing mortality on sublegal crabs should allow more individuals to be available to spawn at a future date. Figure 20 shows the current boundary for 3-inch and 4-inch crab trawls. Selecting this option would extend the 4-inch minimum mesh size for crab trawls statewide.

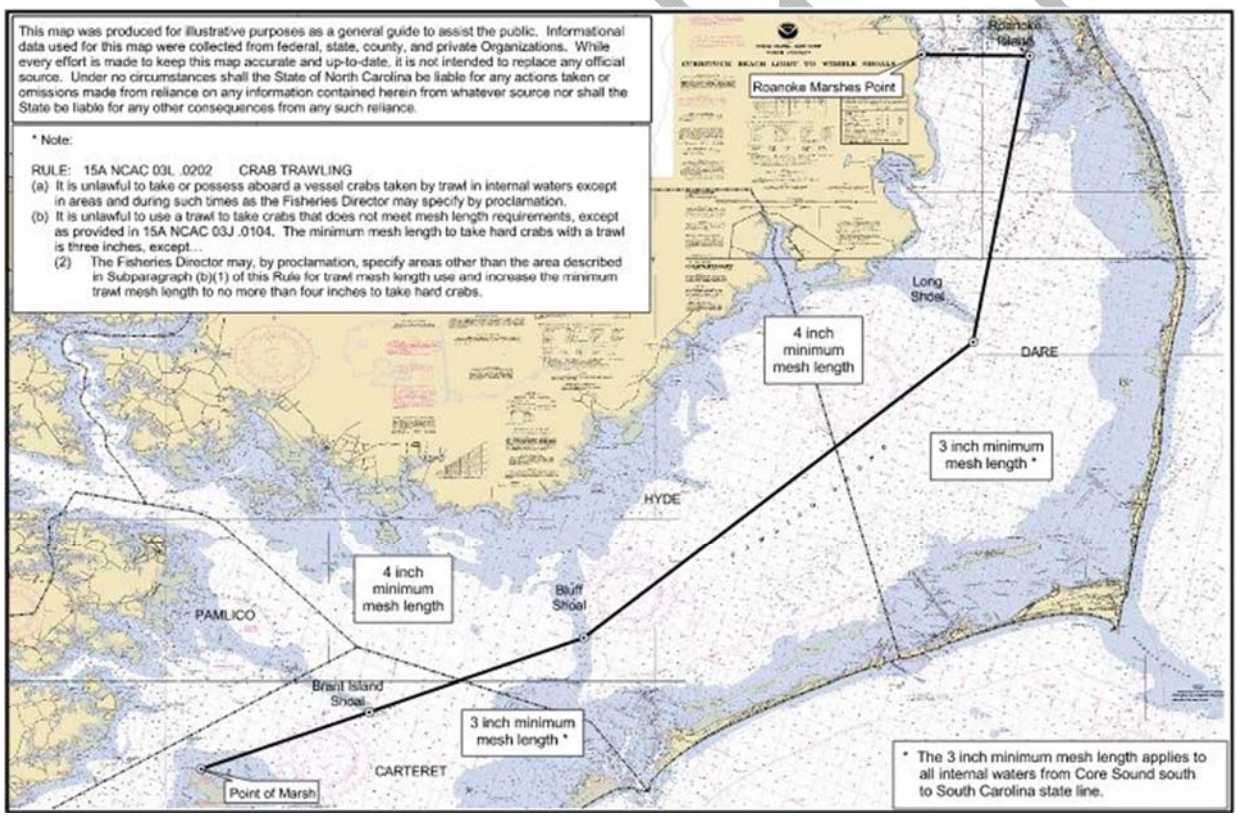

Figure 20. Current 3-4 inch crab trawl minimum mesh size boundary in Pamlico Sound.

The goal of the management options discussed in this revision is to increase the escapement of sublegal males and immature females, mature females, and sponge bearing mature females. Because the adaptive management framework does not identify specific reduction levels for

moderate and elevated management measures, the reduction chosen can only be based on the degree of concern with the blue crab stock as indicated by the data trends.

VI. MANAGEMENT REVISION OPTIONS

(+ Potential positive impact of action)
(- Potential negative impact of action)

1. Increase minimum size limit for male and immature female crabs
    - + May increase spawning stock biomass
    - + If cull ring size is also increased, discards will not increase
    - – Decreases harvest with economic loss to the fishery
    - – Some regions may be impacted more than others
    - – Predicted reduction may be less than actual due to recoupment once crabs reach legal size

2. Reduction in tolerance of sublegal blue crabs (to a minimum of 5%) and/or implement gear modifications to reduce sublegal catch
    - + Increases escapement of undersize crabs
    - – Decreases harvest with economic loss to the fishery
    - – Some regions may be impacted more than others
    - – Predicted reduction may be less than actual due to recoupment once crabs reach legal size
    - – Increased catch processing time for fishermen
    - – Additional cost to fishermen to make gear modifications

3. Eliminate harvest of V-apron immature hard crab females
    - + May increase spawning stock biomass
    - – Decreases harvest with economic loss to the fishery
    - – Some regions may be impacted more than others
    - – Predicted reduction may be less than actual due to recoupment once female crabs mature
    - – Increased catch processing time for fishermen

4. Establish a seasonal size limit on peeler crabs
    - + May increase spawning stock biomass
    - + If cull ring size is also increased, discards will not increase
    - – Decreases harvest with economic loss to the fishery
    - – Some regions may be impacted more than others
    - – Predicted reduction may be less than actual due to recoupment once crabs reach legal size
    - – Increased catch processing time for fishermen

5. Restrict trip level harvest of sponge crabs (tolerance, quantity, sponge color)
    - + May increase spawning stock biomass
    - + May increase juvenile recruitment
    - – Decreases harvest with economic loss to the fishery
    - – Some regions may be impacted more than others

- Increased catch processing time for fishermen

6. Close the crab spawning sanctuaries from September 1 through February 28 and may impose further restrictions
   + May increase spawning stock biomass
   + Increases protection of mature female crabs
   + May increase juvenile recruitment
   - Decreases harvest with economic loss to the fishery
   - Some regions may be impacted more than others
   - May have impacts to other fisheries

7. Prohibit harvest of sponge crabs (all) and/or require sponge crab excluders in pots in specific areas
   + May increase spawning stock biomass
   + Increases protection of mature female crabs
   + May increase juvenile recruitment
   - Decreases harvest with economic loss to the fishery
   - Some regions may be impacted more than others
   - Additional cost to fishermen to make gear modifications

8. Expand existing and/or designate new crab spawning sanctuaries
   + May increase spawning stock biomass
   + Increases protection of mature female crabs
   + May increase juvenile recruitment
   - Decreases harvest with economic loss to the fishery
   - Some regions may be impacted more than others
   - May have impacts to other fisheries

9. Closure of the fishery (season and/or gear)
   + May increase spawning stock biomass
   + Increases escapement of mature females
   + May increase juvenile recruitment
   - Decreases harvest with economic loss to the fishery
   - Some regions may be impacted more than others

10. Gear modifications in the crab trawl fishery
    + May increase spawning stock biomass
    + Increases escapement of mature females
    + May increase juvenile recruitment
    - Decreases harvest with economic loss to the fishery
    - Some regions may be impacted more than others
    - Additional cost to fishermen to make gear modifications

VII. RECOMMENDATIONS

NCDMF Recommendation

- Recommend adding two additional cull rings to crab pots, one of which must be located within one full mesh of the corner of the pot and within one full mesh of the bottom of the apron/stairs of the upper chamber of the pot.
- Recommend eliminating the harvest of v-apron immature female hard crabs (excluding peeler crabs) and that v-apron immature hard crab females be added to the current 10% culling tolerance (currently only includes sublegal male and immature female hard crabs).
- Recommend prohibiting sponge crab harvest (all stages) from April 1 – April 30.
- Recommend prohibiting crab harvest with dredges except incidental to lawful oyster dredging as outlined in N.C. Marine Fisheries Commission Rule 15A NCAC 03L .0203(a)(2).

Advisory Committee Recommendations

Northern Advisory Committee

- Recommended no possession of v-apron crabs (consistent with moderate management measure A3) and to keep a 10% cull tolerance across the board.
- Recommended the NCMFC investigate re-tooling the data collection system for the blue crab industry and work with the industry to identify a more appropriate sampling approach (e.g. winter dredge survey).
- Recommended adding two additional cull rings to crab pots. One cull ring must be within one full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 16, 2017.

Southern Advisory Committee

- Recommended to reduce the tolerance of sublegal size blue crabs to a minimum of 5% and directed the NCMFC to look at gear modifications to reduce sublegal catch and to eliminate harvest of v-apron immature hard crab females.
- Recommended no take of black sponge crabs with a cull tolerance of 5%.

Shellfish and Crustacean Advisory Committee

- Recommend to NCMFC to adopt the measures of no v-apron hard crabs and no black sponge crab harvest with a 5% tolerance for both (excludes v-apron peelers).

- Recommend to NCMFC to use two cull rings (no additional cull rings and current legal size) but to reposition one cull ring within one full mesh of the bottom of the apron/stairs of the upper chamber of the pot, effective January 16, 2017.

- Recommend to NCMFC to request the other commissions under the Coastal Habitat Protection Plan Steering Committee look at NCDMF blue crab recruit abundance data, ask what the Environmental Management Commission (EMC) and Coastal Resources Commission (CRC) have done to improve habitat and water quality conditions for blue

crab, and determine if they can develop a suite of options that the EMC and CRC could implement to improve water quality and habitat conditions in those areas.

- Recommend to NCMFC to request NCDMF observers on commercial crab boats to collect data to assist with the blue crab Traffic Light assessment.

- Recommend to NCMFC to request NCDMF staff analyze the 21 years of commercial fishery data, refined by taking into account socio-economic information such as storms, prices, picking house availability, etc. that affects fishing effort, and align it with 21 years of NCDMF fishery-independent data and summarize in a report. In the future, refine the fishery-dependent data set so it can be incorporated.

- Recommend to NCMFC to request NCDMF staff look at the effect of predation by striped bass, red drum, cownose rays, and other species on blue crabs.

- Recommend to NCMFC to look at dealer requirements and how they are enforced and if changes are needed.

IX. MANAGEMENT REVISIONS TO AMENDMENT 2 TO THE N.C. BLUE CRAB FMP

Amendment 2 to the N.C. Blue Crab FMP provides the framework for the management changes proposed herein. This Information Paper will be incorporated as a Revision to Amendment 1 to the N.C. Blue Crab FMP and document the rationale of the NCMFC for the following changes in blue crab management to be implemented June 1, 2016, unless otherwise specified.

MFC Selected Management Revisions

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April 29, 2016

APPENDIX 1

Traffic Light Data Sources

Data from three NCDMF fishery-independent and one fishery-dependent survey are used in the traffic light. Fishery-independent data are collected by scientists independent of commercial or recreational fishing operations and fishery-dependent data are collected directly from the commercial or recreational harvester. Fishery-independent data are collected through resource surveys, such as trawls surveys. These surveys are designed to sample in an objective and consistent manner using the same gear and techniques to provide unbiased and independent indices of abundance. Consequently, sampling is not necessarily done where crabs are most abundant. Instead, the objective is to collect information on the crab population throughout its entire geographic range. These surveys are conducted for many years to track the long-term trends in abundance of the population. Fishery-independent data are also not influenced by external factors (such as management measures or socioeconomics) and provide an unbiased picture of stock health.

Juvenile Anadromous Trawl Survey (Program 100)

The NCDMF Juvenile Anadromous Trawl Survey, also known as Program 100 (P100), was initiated in 1982 and targets juvenile alosines and striped bass in Albemarle Sound (Figure A1.1). Since its inception, the survey has sampled seven stations (Hassler stations) in western Albemarle Sound. In July 1984, twelve sampling stations were added in the central Albemarle Sound area (Central stations) to monitor juvenile striped bass abundance and to determine if a shift in the striped bass nursery area had occurred.

Sampling for the survey is conducted bi-weekly from mid-July through October. The survey uses an 18-foot semi-balloon trawl with a body bar mesh size of ¾- inch and a ¼-inch bar mesh tail bag. Eleven links of 3/16-inch chain are attached over nine inches on the footrope. Tow duration is 15 minutes at the Hassler stations and ten minutes at the Central stations. Temperature, pH, conductivity, salinity, and dissolved oxygen are recorded at each station.

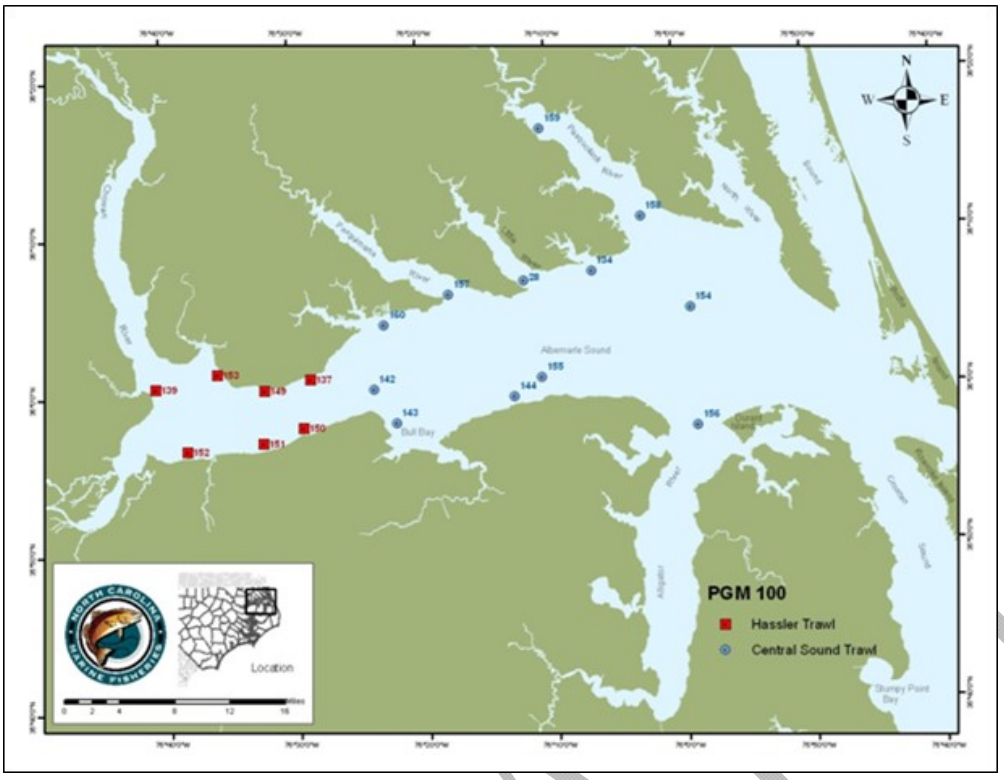

Figure A1.1. Location of sites in Albemarle Sound sampled by the NCDMF Juvenile Anadromous Trawl Survey (Program 100).

Estuarine Trawl Survey (Program 120)

In 1971, the NCDMF initiated a statewide Estuarine Trawl Survey, also known as Program 120 (P120). The initial objectives of the survey were to identify the primary nursery areas and produce annual recruitment indices for economically important species. Other objectives included monitoring species distribution by season and by area and providing data for evaluation of environmental impact projects.

The survey samples shallow-water areas south of the Albemarle Sound system (Figure A1.2). Major gear changes and standardization in sampling occurred in 1978 and 1989. n 1978, tow times were set at one minute during the daylight hours. In 1989, an analysis was conducted to determine a more efficient sampling time frame for developing juvenile abundance indices with acceptable precision levels for the target species. A fixed set of 105 core stations was identified and sampling was to be conducted in May and June only, except for July sampling for weakfish (dropped in 1998, Program 195 deemed adequate), and only the 10.5-ft headrope, ¼-inch bar mesh trawl would be used.

The current gear is a 3.2-m (10.5 ft.) otter trawl with 6.4-mm (1/4-inch) bar mesh body netting of 210/6 size twine and a tail bag mesh of 3.2-mm (1/8-inch) Delta-style knotless nylon with a 150-mesh circumference and 450-mesh length. Three loops of 3/16-inch diameter chain are attached to each wing. Each loop is comprised of thirteen links hung over a distance of ten links. Two loops are at the corners, where bars and points meet, and one loop is in the center. The trawl is towed for one minute during daylight hours and similar tidal stages covering a distance of 75 yards.

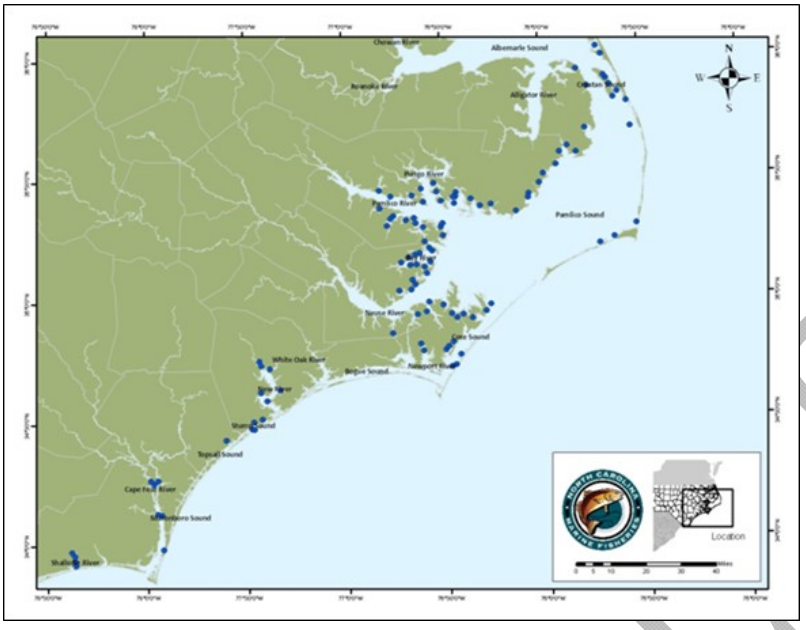

Figure A1.2. Locations of core stations sampled by the NCDMF Estuarine Trawl Survey (Program 120).

Pamlico Sound Survey (Program 195)

The Pamlico Sound Survey, also known as Program 195 (P195), was instituted in March 1987 to provide a long-term, fishery-independent database for the waters of the Pamlico Sound, eastern Albemarle Sound, and the lower Neuse and Pamlico rivers. Data collected from the survey have been used to calculate juvenile abundance indices and estimate population parameters for interstate and statewide stock assessments of recreationally and commercially important fish stocks.

The survey samples 54 randomly selected stations based on a grid system (one-minute by one-minute grid system equivalent to one square nautical mile). Sampling is stratified by depth and geographic area. Shallow water is considered water between 6 to 12 feet in depth and deep water is considered water greater than 12 feet in depth. The seven designated strata are: Neuse River; Pamlico River; Pungo River; Pamlico Sound east of Bluff Shoal, shallow and deep; and Pamlico Sound west of Bluff Shoal, shallow and deep. A minimum of three stations (replicates) are maintained in each strata. A total of 108 stations are sampled each year to ensure maximum areal coverage. Sampling now occurs only in the Pamlico Sound and associated rivers and bays (Figure A1.3).

Sampling is conducted aboard the RV *Carolina Coast*, equipped with double-rigged demersal mongoose trawls. The RV *Carolina Coast* is a 44-ft fiberglass hulled double-rigged trawler. The trawl consists of a body made of #9 twine with 47.6-mm (1 7/8-inch) stretch mesh, a cod end of #30 twine with 38.1-mm (1 ½-inch) stretch mesh, and a 3.05-m (10 ft) tail bag. A 36.6-m (120 ft) three-lead bridle is attached to each of a pair of wood doors that measure 1.22 m (4 ft) by 0.610 m (2 ft) and a tongue centered on the 9.1-m (30 ft.) headrope. A 4.76-mm thick, 9.26-m tickler chain is connected to the door next to the 10.4-m (34 ft) footrope. Tow duration is 20 minutes at 2.5 knots.

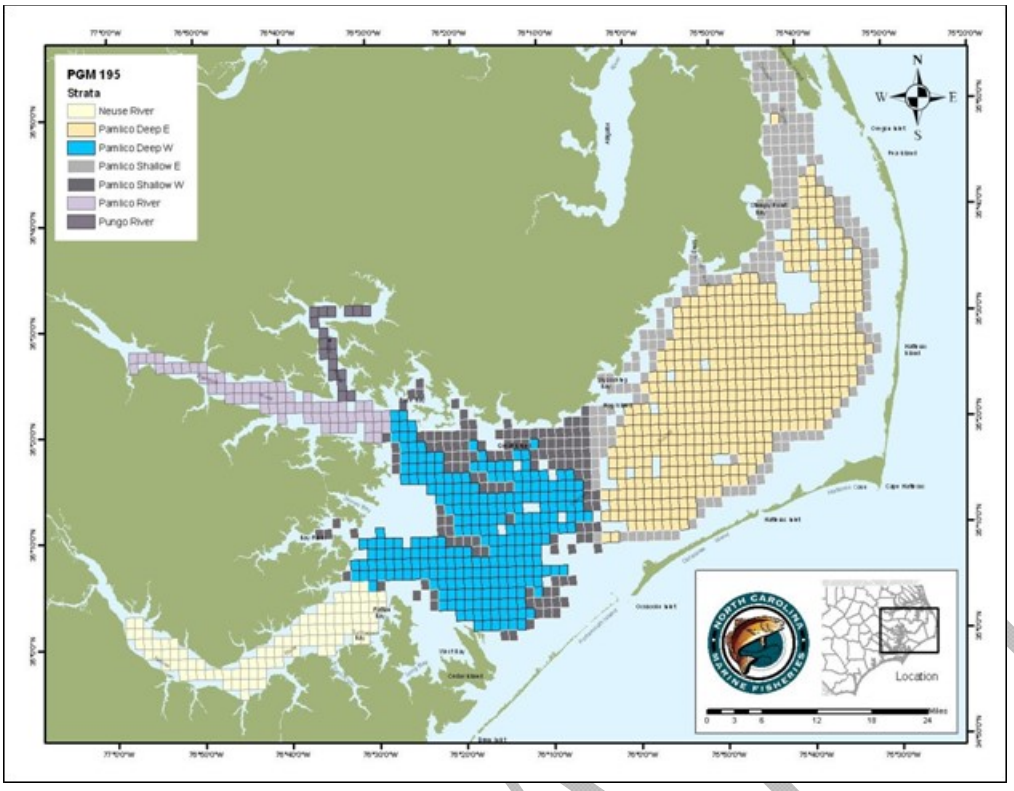

Figure A1.3. Location of sampling grids in Pamlico Sound sampled by the NCDMF Pamlico Sound Survey (Program 195).

Commercial Crab Sampling (Program 436)

Commercial Crab Sampling, also known as Program 436 (P436), was initiated in April 1995 to collect fisheries-dependent data at fish houses from North Carolina's commercial blue crab fishery. Initially, sampling was limited to the northeast and Pamlico Sound regions of North Carolina. Statewide sampling was initiated in 1998. Subsamples of sorted (by market category) and unsorted catches are taken and biological information is recorded. All blue crabs in a subsample are measured and sexed, and maturity of females is recorded. Program 436 only samples voluntarily cooperative fish houses, and sampling distribution may not reflect landing patterns.

APPENDIX 2

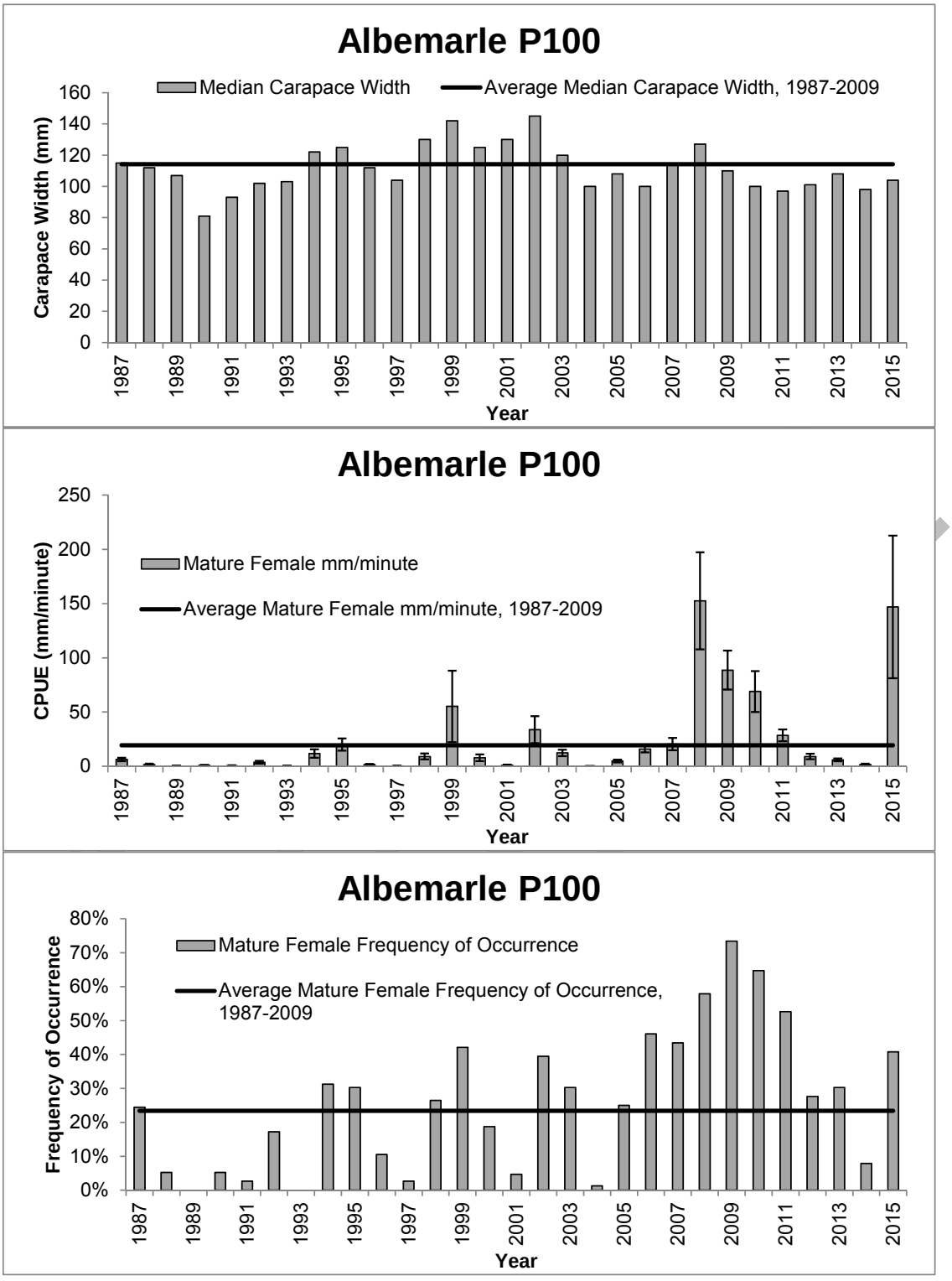

Figure A2.1. Indices from the NCDMF Juvenile Anadromous Trawl Survey (P100) used for the production characteristic of the blue crab Traffic Light, 1987-2015. Error bars represent one standard error of the mean.

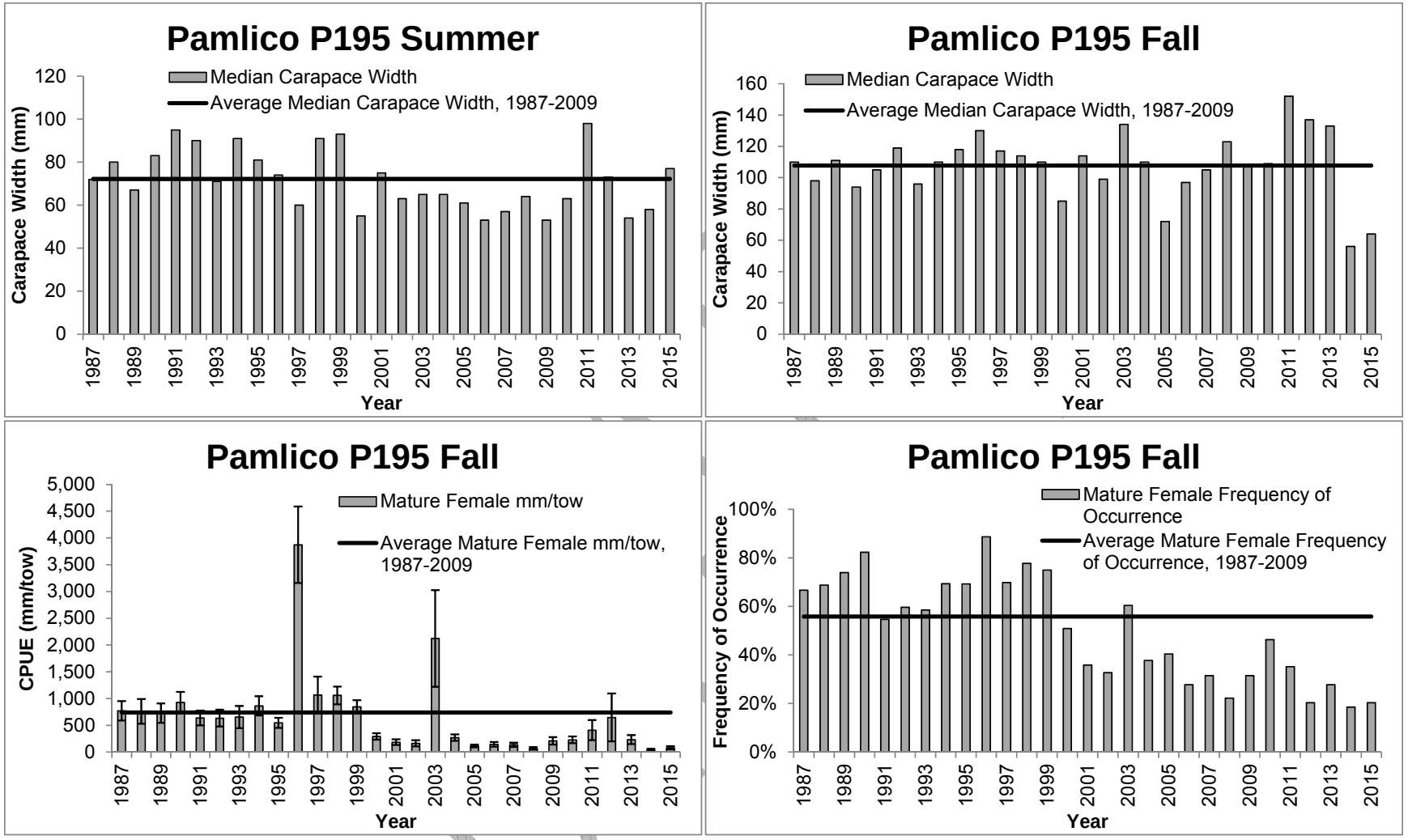

Figure A2.2. Indices from the NCDMF Pamlico Sound Survey (P195) used for the production characteristic of the blue crab Traffic Light, 1987-2015. Error bars represent one standard error of the mean.

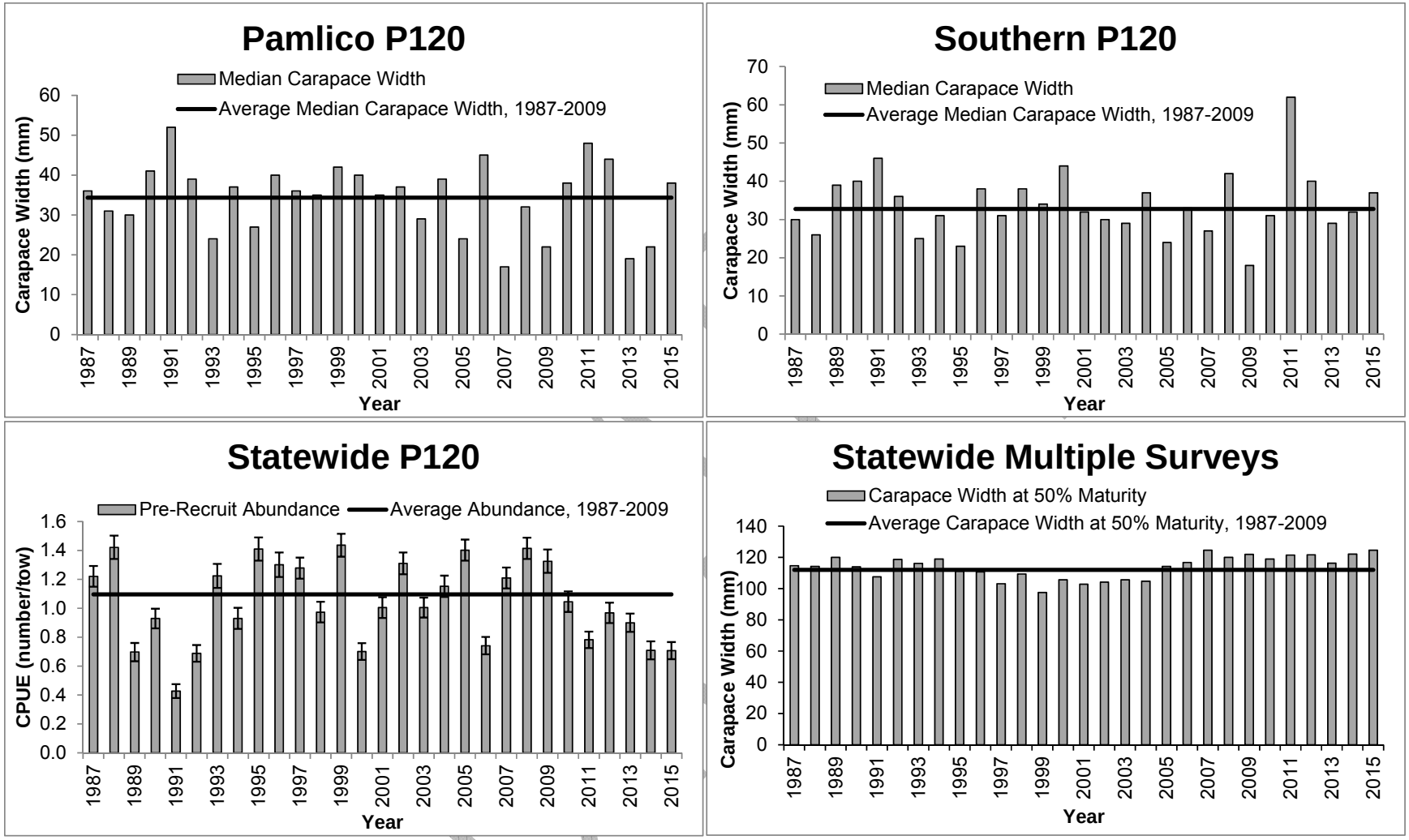

Figure A2.3. Indices from the NCDMF Estuarine Trawl Survey (P120) and the statewide carapace width at 50% maturity for female blue crabs used in the production characteristic of the blue crab Traffic Light, 1987-2015. Data from all fishery-dependent and independent surveys were included in the maturity analysis. Error bars represent one standard error of the mean.

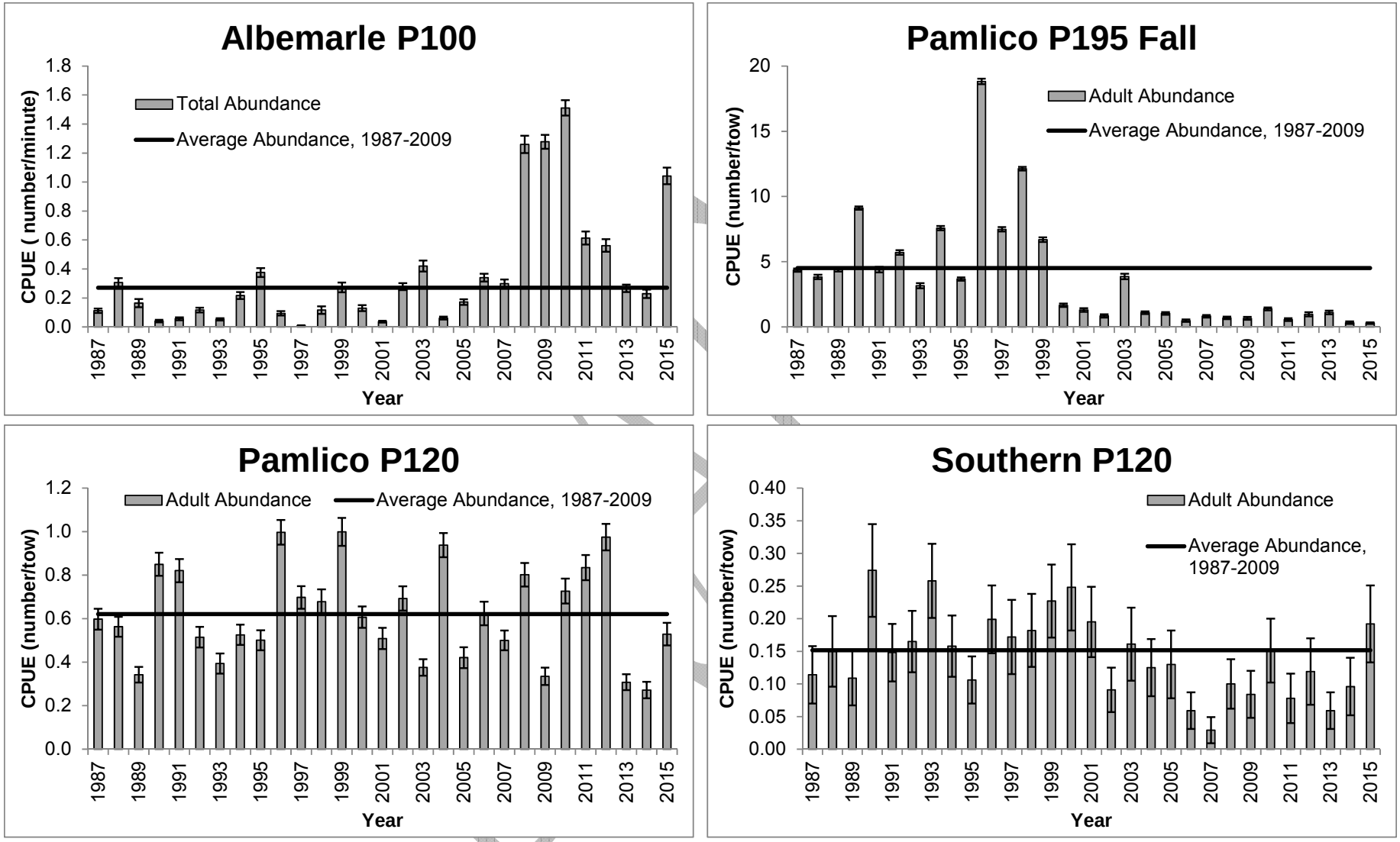

Figure A2.4. Indices from the NCDMF Juvenile Anadromous Trawl Survey (P100), Estuarine Trawl Survey (P120), and Pamlico Sound Survey (P195) used for the adult abundance characteristic of the blue crab Traffic Light, 1987-2015. Error bars represent one standard error of the mean.

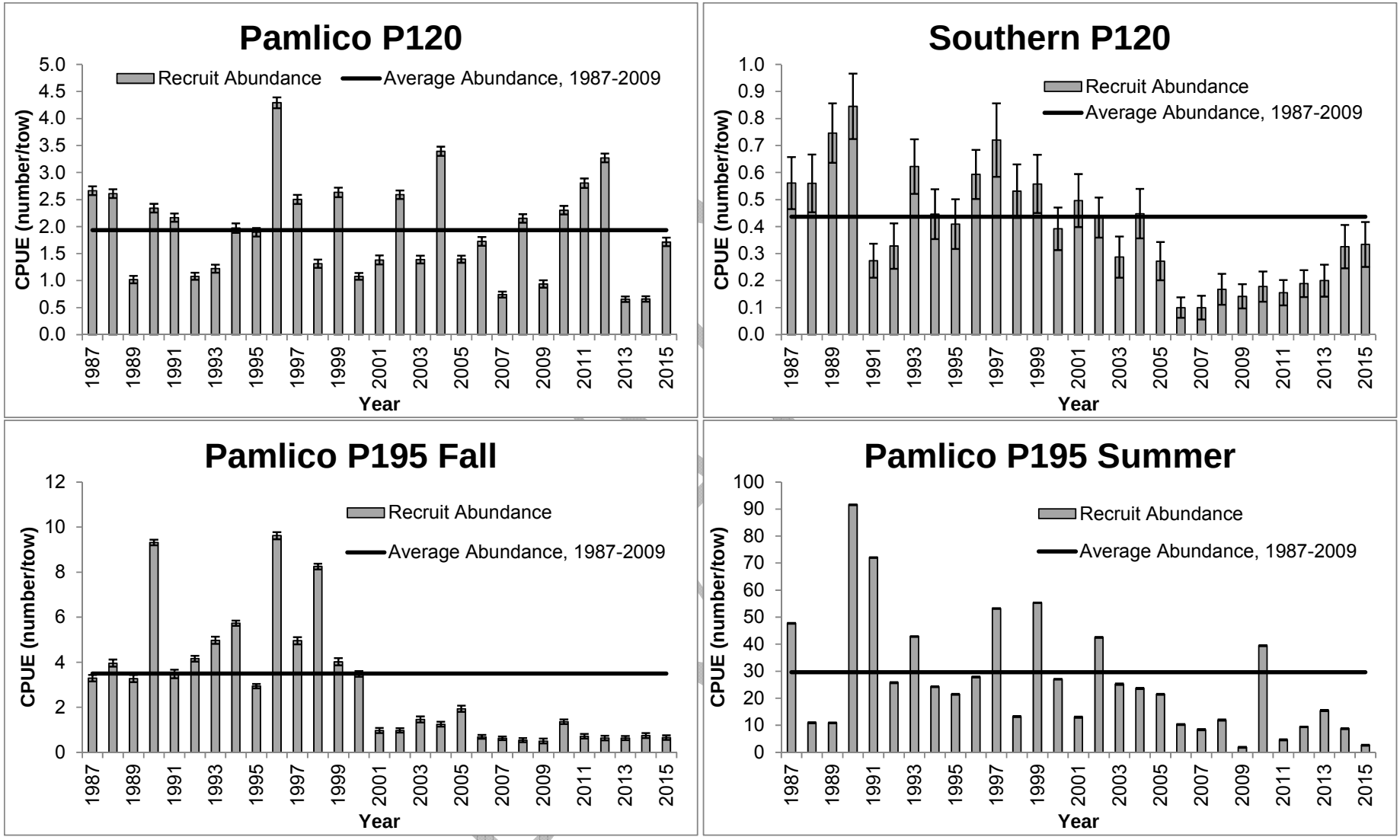

Figure A2.5. Indices from the NCDMF Estuarine Trawl Survey (P120) and Pamlico Sound Survey (P195) used for the recruit abundance characteristic of the blue crab Traffic Light, 1987-2015. Error bars represent one standard error of the mean.

APPENDIX 3

The following analyses were originally included as part of Issue Paper 11.1 Adaptive Management Framework for the North Carolina Blue Crab Stock in Amendment 2. They were updated here to see how commercial catch-per-unit-effort (CPUE) and the commercial landings comparison to the Traffic Light have changed since the FMP was adopted.

It should be noted that for both analyses there was no correction for variation in landings that come from differing effort, fishing efficiency, crabber choice, differences in landings data collection methods over the years, or any commonly used standardization techniques for comparison of these data. Also, note that the collection of commercial landings data changed considerably in 1994. Prior to 1994, commercial landings data were provided on a voluntary basis. As of January 1994, dealers have been required to report trip-level commercial fisheries landings using trip tickets. This change in reporting should be considered when comparing commercial landings before and after 1994.

Commercial CPUE Analysis

Commercial CPUE data was calculated for 1994-2015. This updated analysis followed the same procedures for selecting crabbers as before, those fishing more than 10 and less than 1200 pots per year, and trips landing between zero and fifteen pounds per pot from 1997-2015. Generally, the number of pots fished has decreased but has remained relatively stable since 2010 (Figure A3.1). The number of trips has also decreased during this period. The total pounds harvested have generally decreased in the Pamlico and Southern regions, where harvest in the Albemarle region has fluctuated with no trend. The CPUE (pounds per pot) across all regions has remained relatively steady despite the decreased number of trips and pots being fished.

Comparing Commercial Landings to the Traffic Light

While fisheries landings data are not a direct measure of abundance, landings may fluctuate in response to changes in abundance (and numerous other factors). Here, commercial hard crab landings are shown in comparison to the adult abundance characteristic. For this analysis, the percentage of green and yellow were added together and plotted with the percentage of red. . This analysis shows that commercial hard crab landings does track fairly well with the adult abundance characteristic (Figure A3.2). In the mid- to late 1990s, when the percentage of green and yellow in the adult abundance characteristic was also at its peak, commercial hard crab landings were also at their peak,. When the amount of green and yellow in the adult abundance characteristic declined in the early 2000s, landings declined sharply; neither commercial landings or the amount of green and yellow in the adult abundance characteristic have rebounded to previous levels.

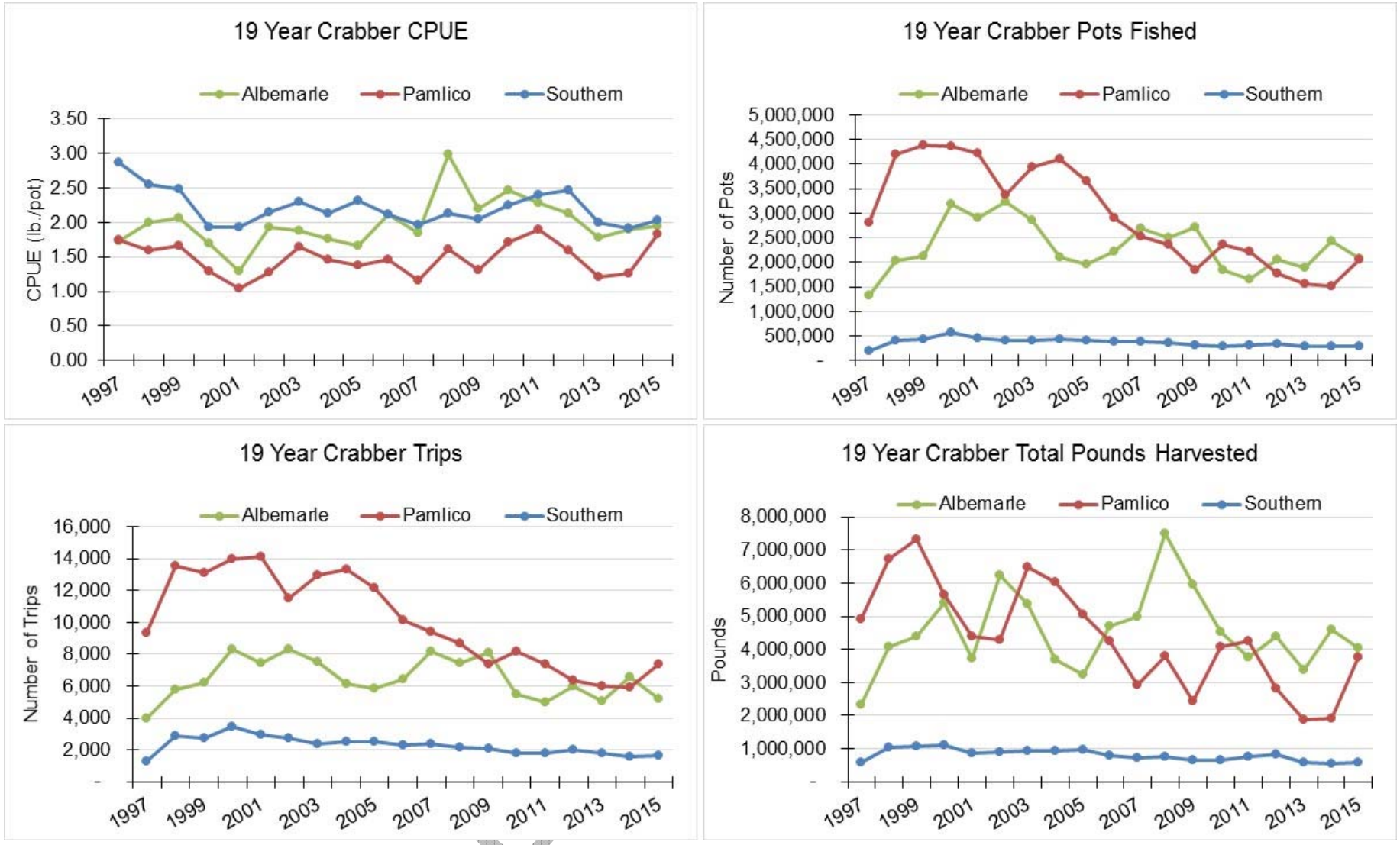

Figure A3.1. Commercial CPUE, trips, pots fished, and total pounds harvested summarized by removing trips by crabbers with less than 19 years' experience and reported landings of either zero or greater than fifteen pounds per pot and fishing no more than 1,200 or less than 10 pots per day.

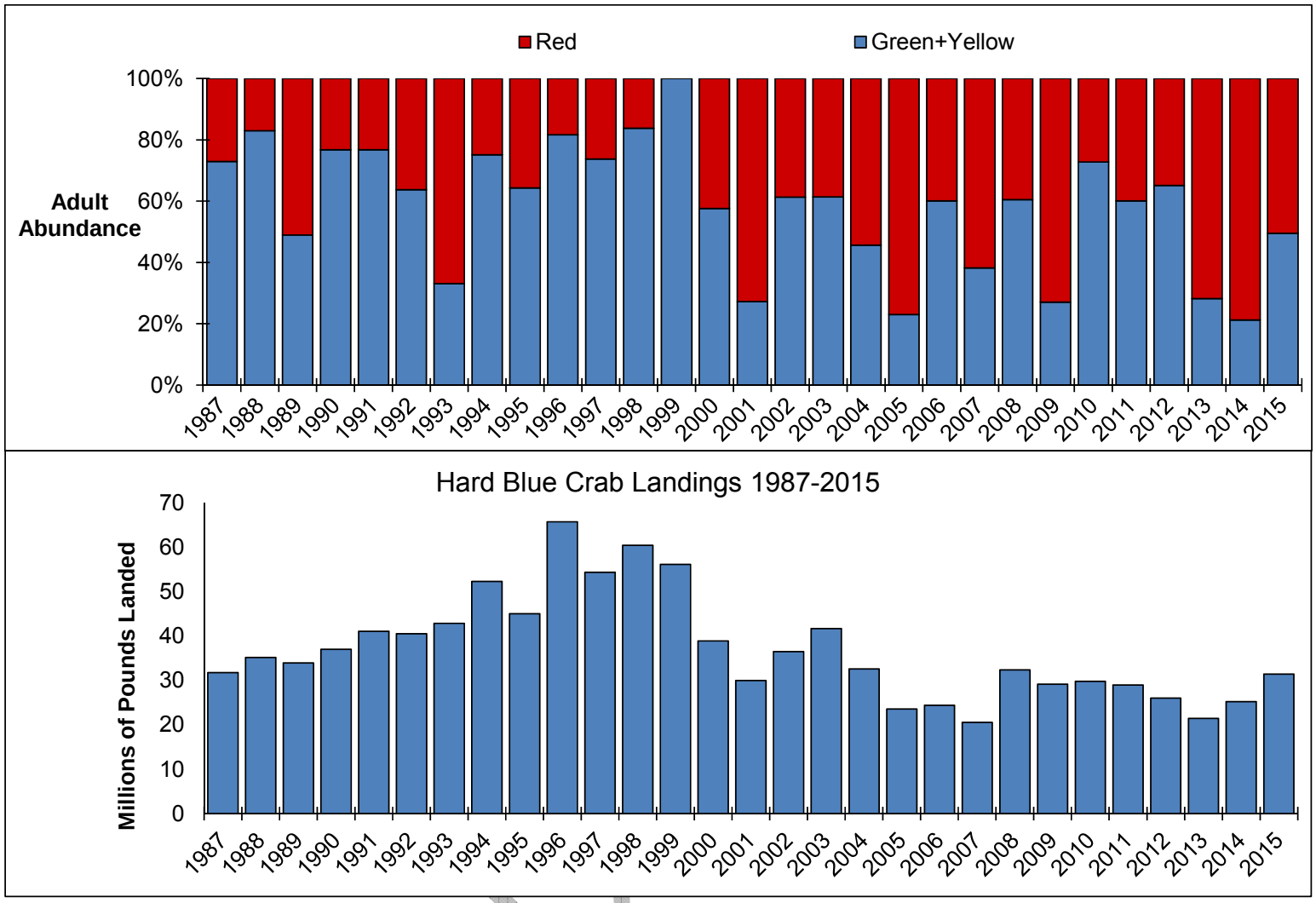

Figure A3.2. A comparison of the inverted adult abundance characteristic results and commercial hard crab landings (millions of pounds), 1987 - 2015. The blue bars for adult abundance are the combined percentages of green and yellow in the Traffic Light.

NORTH CAROLINA FISHERY MANAGEMENT PLANS

May 2016

FISHERY MANAGEMENT PLAN REVIEW SCHEDULE (July 2015 – June 2020) Revised August 2015					
SPECIES (Last FMP)	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
STRIPED MULLET (4/06)					
KINGFISHES (12/07)					
INTERJURISDICTIONAL (6/08)					
HARD CLAM (6/08)					
OYSTER (6/08)					
RED DRUM (11/08)					
SPOTTED SEA TROUT (3/12)					
SOUTHERN FLOUNDER (2/13)					
ESTUARINE STRIPED BASS (5/13)					
BLUE CRAB (11/13)					
BAY SCALLOP (3/15)					
SHRIMP (3/15)					
RIVER HERRING (4/15)					

Marine Fisheries
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: Marine Fisheries Commission

FROM: Division of Marine Fisheries

DATE: April 29, 2016

SUBJECT: Implementation of the Flounder Pound Net Total Allowable Landings as required by Supplement A to Amendment 1 to the North Carolina Southern Flounder Fishery Management Plan.

During the November 2015 Marine Fisheries Commission business meeting, Supplement A to Amendment 1 to the Southern Flounder Fishery Management Plan was finalized and a Marine Fisheries Commission motion passed that implemented further management measures specific to the flounder pound net fishery. The motion requires all "flounder pound nets will be subject to a 5 ¾-inch escape panel and will operate under a total allowable landings of 38 percent reductions based on 2011 through 2015 pound net landings. The total allowable landings will be based on the water body where the pound nets are set, as presented by the division by February 2016 meeting (assumes that the total allowable landings equals the total allowable catch)."

During the February 2016 commission meeting, the division director provided a verbal update to the commission stating that the total allowable landings will be divided into six quota monitoring groups based on locations of individual flounder pound net sets (Table 1, Figures 1-6). The flounder pound net fishery will begin for each quota monitoring group on Jan. 1 each year and continue until that group's portion of the total allowable landings has been met. Pound net types may be changed, per existing pound net rule criteria, to allow harvest of other species but no flounder may be harvested from any pound net within a specific quota monitoring group once the fishery for that group has closed.

The division will monitor landings of flounder harvested from pound nets by month solely under the trip ticket program from Jan. 1 through Aug. 31. Beginning Sept. 1, an additional quota monitoring program will be implemented that provides daily landings recorded by dealer for each Standard Commercial Fishing License number. This monitoring will be based on a Flounder Pound Net Dealer Permit (in development) that will be required by proclamation for any finfish dealer who purchases flounder harvested by pound net. This permit will require permitted dealers, whether they have purchased any flounder harvested by pound net or not, to report flounder pound net landings by Standard Commercial Fishing License number daily, Sept. 1 through the end of the fishing year. By existing rules, reports shall be submitted via fax, phone, or email. If a dealer

fails to report landings, the Notice of Violation process will begin. This process can result in revocation of the dealer permit if there are recurring violations.

When a quota monitoring group's reported flounder harvest reaches 80 percent of its allocation of the total allowable landings, a proclamation will be issued closing that quota monitoring group's fishery to the harvest of flounder with pound nets within 48 hours. This is due to the pulse nature of the pound net fishery where not all nets are fished every day and a large volume of fish can be landed in a short period of time. During the initial closing, the division will compile and analyze the landings data to account for late reporting and errors. If a quota monitoring group's allocation of the total allowable landings is not met, a proclamation may be issued opening that quota monitoring group's fishery with a daily trip limit to harvest the remaining quota. If a quota monitoring group exceeds its allocation of the total allowable landings, the responsible quota monitoring group will have a reduction the following year equal to the overage that occurred by that quota monitoring group. If a quota monitoring group's allocation of the total allowable landings is not met by the end of the fishing year, the remaining allocation will not be credited to the following year, for the benefit of the resource.

Finally, it will be unlawful to commercially harvest flounder, by the use of gigs, once all of the quota monitoring groups have reached their portion of the total allowable landings and the flounder pound net fishery closes for the last quota monitoring group, as directed by the Supplement A to Amendment 1 to the Southern Flounder Fishery Management Plan.

Table 1. Portion of Total Allowable Landings (pounds) by quota monitoring group for the flounder pound net fishery.

	Year								
Quota Monitoring Group	2011	2012	2013	2014	2015	Five Year Total	Five Year Average	**Group Allocation of TAL**	Percent of TAL
1 - Currituck	0	13,694	35,136	24,475	31,052	104,357	20,871	**12,940**	3%
2 - Albemarle	14,894	131,425	151,797	178,042	105,573	581,730	116,346	**72,135**	17%
3 - Hatteras	73,755	121,864	119,494	175,729	95,263	586,105	117,221	**72,677**	17%
4 - Ocracoke	68,916	94,673	135,449	116,580	95,032	510,650	102,130	**63,321**	15%
5 - North Core	268,817	177,594	392,793	300,901	296,892	1,436,997	287,399	**178,188**	42%
6 - South Core	37,311	26,996	61,559	50,204	43,718	219,786	43,957	**27,254**	6%
Grand Total	463,693	566,246	896,227	845,930	667,529	3,439,625	687,925	**426,513**	100%

*2015 data are preliminary.

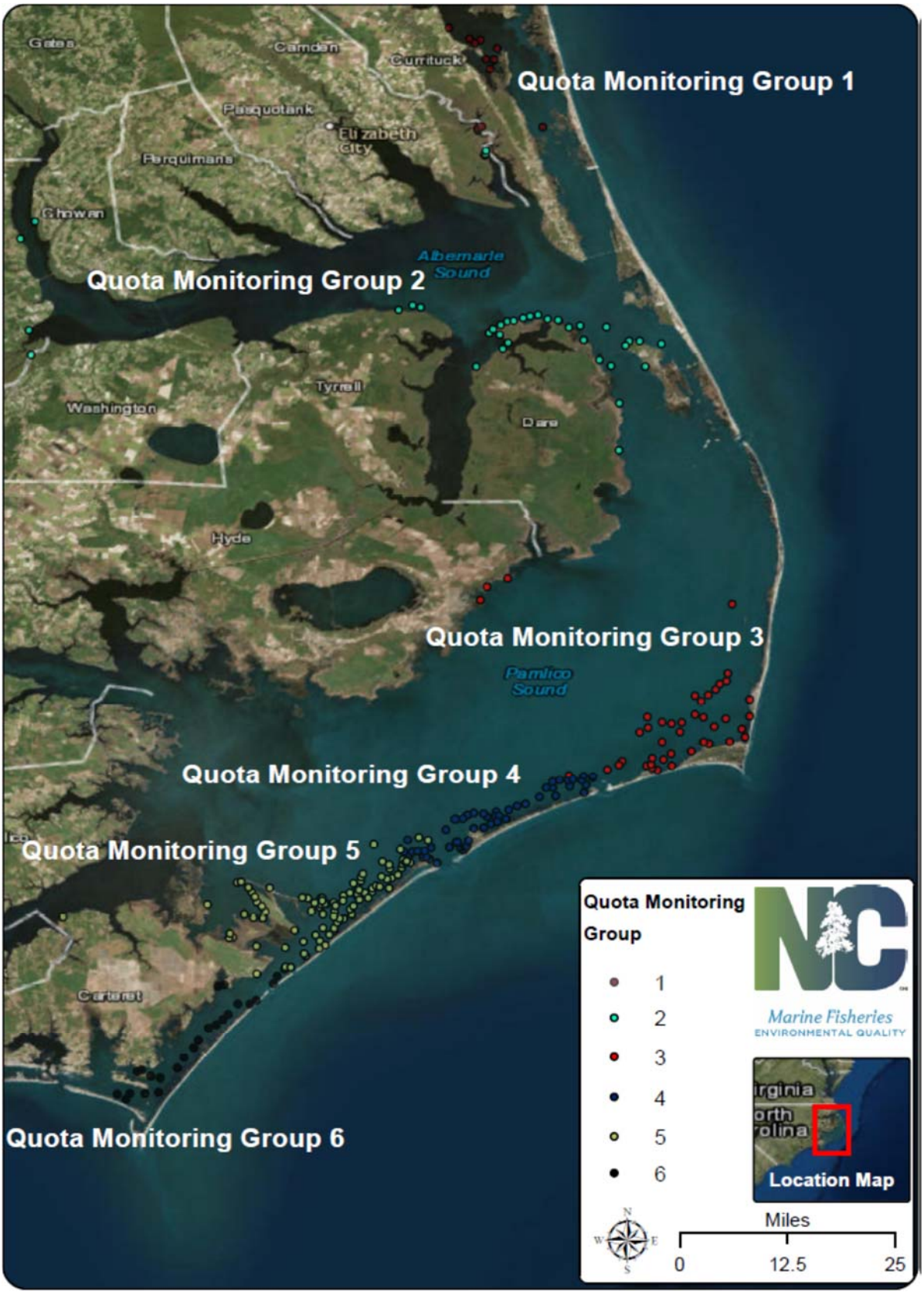

Figure 1. Flounder Pound Net Quota Monitoring Groups

Figure 2. Flounder Pound Net Quota Monitoring Group 1.

Figure 3. Flounder Pound Net Quota Monitoring Group 2.

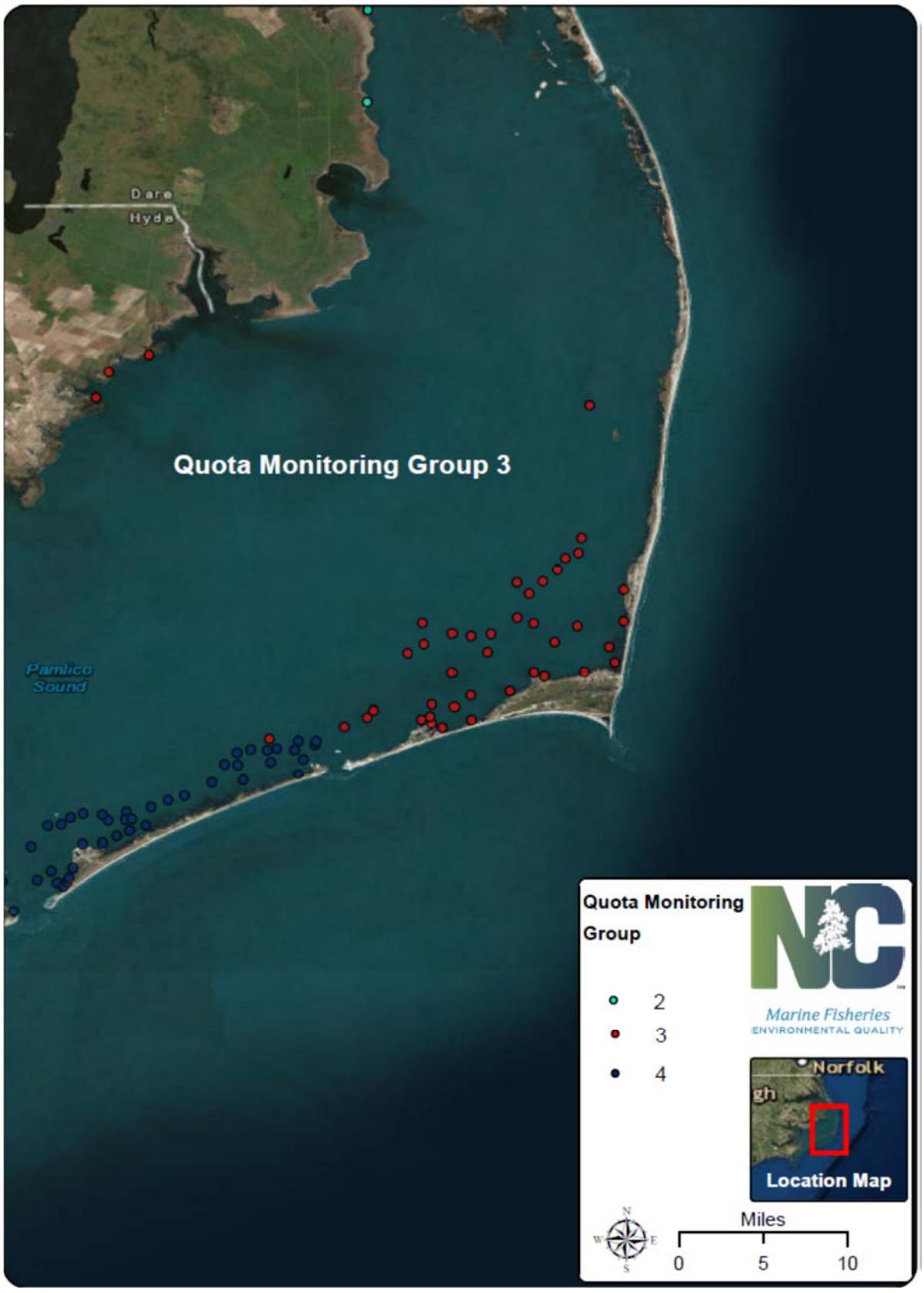

Figure 4. Flounder Pound Net Quota Monitoring Group 3.

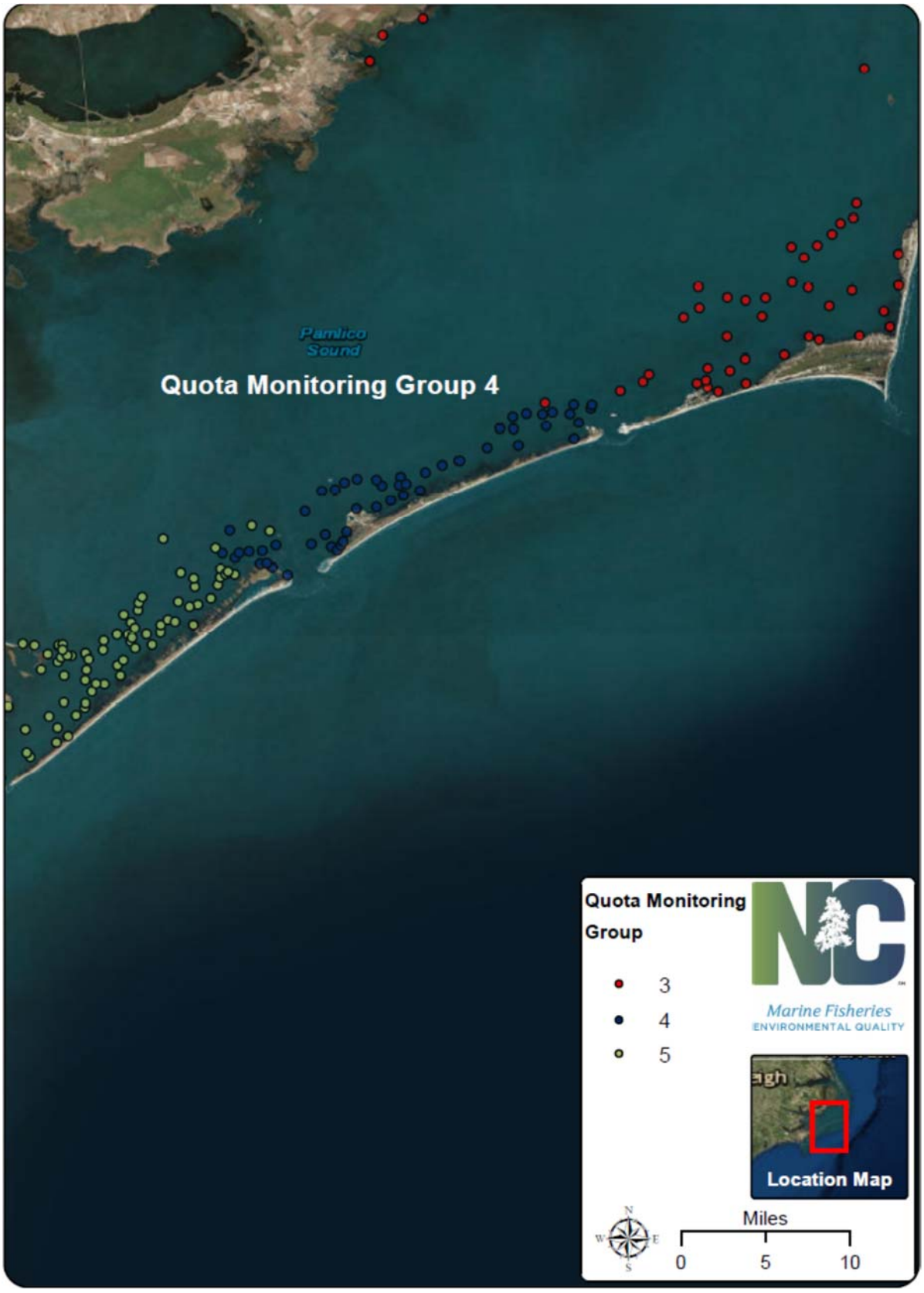

Figure 5. Flounder Pound Net Quota Monitoring Group 4.

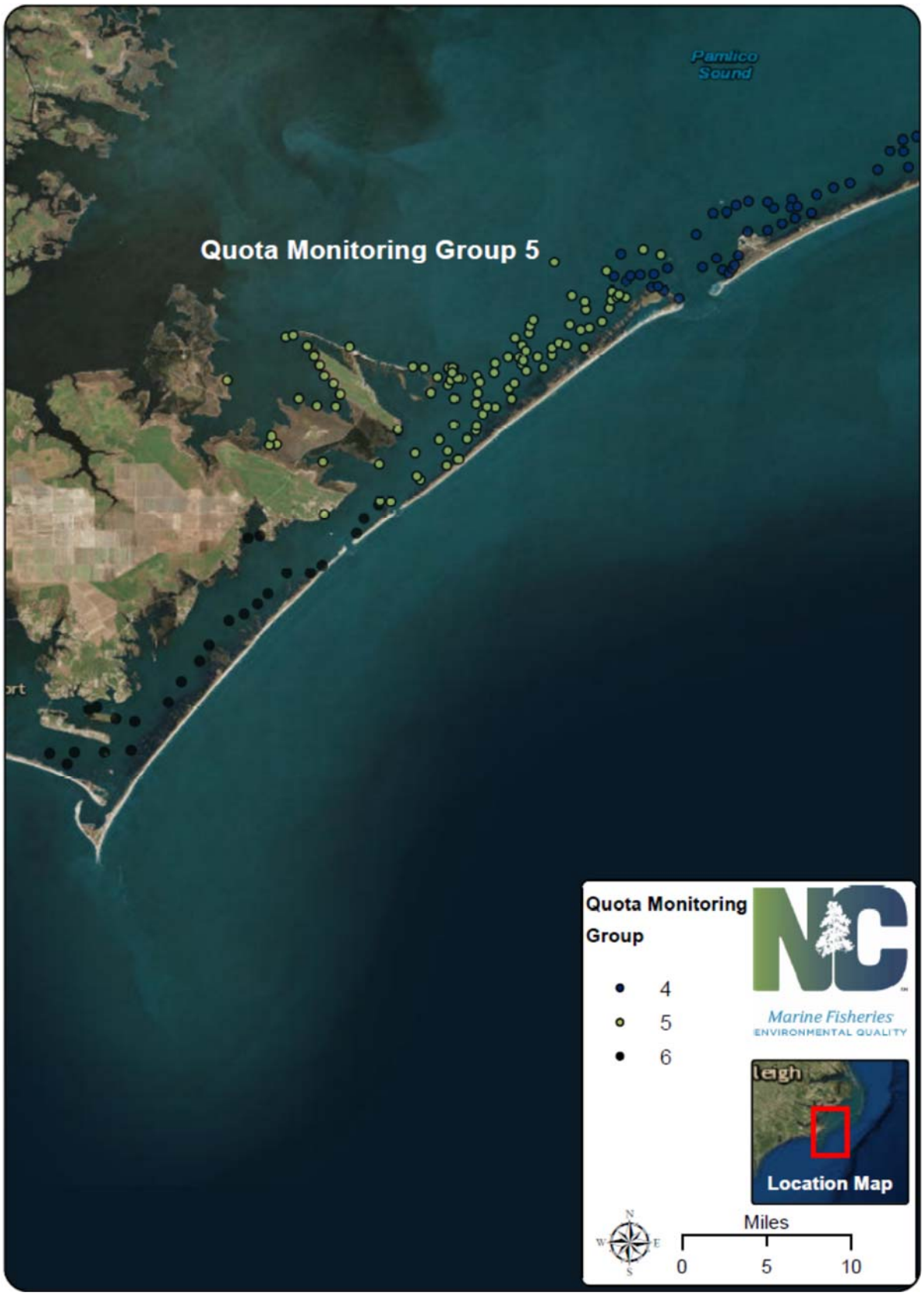

Figure 6. Flounder Pound Net Quota Monitoring Group 5.

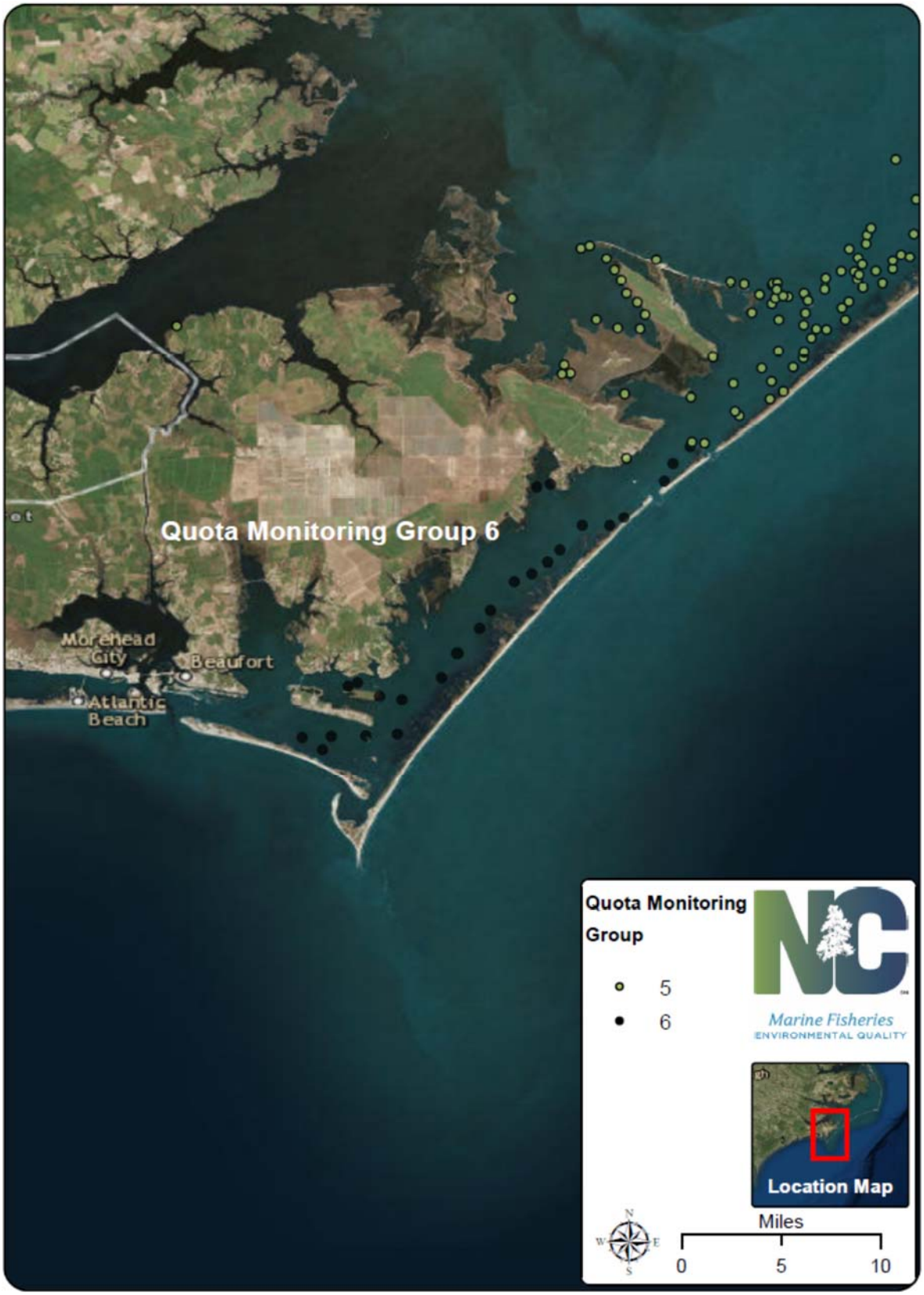

Figure 7. Flounder Pound Net Quota Monitoring Group 6.

TIMELINE FOR OYSTER FISHERY MANAGEMENT PLAN AMENDMENT 4 AND HARD CLAM FISHERY MANAGEMENT PLAN AMENDMENT 2 (June 2, 2014; Revised March 30, 2015; Revised April 5, 2016)			
MILESTONES	**INTERNAL GUIDELINES**	**TABLES 1&2 STEP**	**PROJECTED COMPLETION DATE**
1. Orient AC and Discuss Issues, Goal and Objectives	III. B.	9/5	June 2014
2. Present Timeline and Goal and Objectives to MFC; Solicit MFC Input on Issues	III. D.	11/7	August 2014
3. Issue News Release to Solicit Public Input on Issues	III. D.	12-15/8-11	September 2014
4. Draft/Revise and Review Informational Sections and Issue Papers in the FMP and Establish DMF/AC Positions	III. D - F	16-19/12-14	September 2014-September 2015
5. Obtain MFC Approval for Review of FMP	III. F.	20/15	November 2015
6. Public and Committee Review of FMP	III. F.	21-24/16-18	December 2015-January 2016
7. Present Revised FMP to MFC for Selection of Preferred Management Options	IV. A.	25/20	February 2016
8.MFC Advisory Committees Review Substantial Changes by MFC	III.F.	21-24/16-18	April 2016
9. MFC Finalizes Preferred Management Options	IV.A.	25/20	May 2016
8. Review of FMP by DEQ and JLCGO	IV. A.	26-29/21-24	June-July 2016
9. Procedural Approval of FMP; Approval of Notice of Text for Rules by MFC	IV. A.	30-32/25-27	August 2016
10. Direct Rules through APA Process	IV. B.	33/28	October 2016-January 2017
11. Final FMP and Rule Approval by MFC	IV. C.	34-35/29-30	February 2017
12. Selected Management Measures Effective Date	N/A	N/A	48 Hours if proclamation; May 1, 2017 if rule

Revision approved by DMF Director: Signature: _____ Date: 4-5-16

Presented to MFC: Date: _____

Revision(s) and reason(s): Substantial changes by the MFC warrant further review by the regional committees to provide input on a preferred management option that was recommended statewide but was initially only addressed for the southern region.

REDUCING SHELLFISH LICENSE OYSTER HARVEST LIMITS STATEWIDE[1]

April 26, 2016

I. ISSUE

To determine the impacts to participants and obtain further public comment on the Marine Fisheries Commission's preferred management option of a two bushel daily oyster limit from public bottom for Shellfish License holders statewide.

II. ORIGINATION

North Carolina Marine Fisheries Commission

III. BACKGROUND

At the February 2016 meeting, the Marine Fisheries Commission (MFC) received a presentation on the draft Amendment 4 of the Oyster Fishery Management Plan (FMP) and Amendment 2 of the Hard Clam FMP. These amendments were developed together with the assistance of the Oyster and Hard Clam FMP Advisory Committee. The MFC was asked to select its preferred management option for each issue in the plans and approve the draft plans to be sent forward for departmental and legislative review.

One of the management issues was "Assessing and Mitigating Harvest Effort Impacts on Oyster Resources in the Southern Region" from the draft Amendment 4 of the Oyster Fishery Management Plan. This issue was presented in conjunction with the issue "Consider the Elimination of the Shellfish License and Require all Shellfish Harvesters to Have a Standard Commercial Fishing License or a Retired Standard Commercial Fishing License". These issues were presented together because potential management strategies for each issue are contingent on each other. In response to these issues, the MFC passed two motions.

One motion was to pursue elimination of the standalone Shellfish License for oysters only and require all oyster harvesters to have a Standard Commercial Fishing License (SCFL) or Retired Commercial Fishing License (RSCFL) with shellfish endorsement to harvest oysters commercially. This would require statutory change in order to be implemented. The other motion the MFC passed was to establish a daily limit of two bushels of oysters per person with a maximum of four bushels of oysters per vessel off public bottom with a Shellfish License, statewide. This could be implemented via the existing Fisheries Director's proclamation authority for management of oysters.

The initial issue of "Assessing and Mitigating Harvest Effort Impacts on Oyster Resources in the Southern Region", when presented to the public and advisory committees, confined the options for possible reductions to Shellfish License bushel limits to areas within the southern region (waterbody areas south of the Highway 58 bridge) and did not investigate statewide implications of these management options. As a result of the broader scope of its preferred management option for this issue, the MFC requested additional participation and landings information in the public oyster fishery for Shellfish License holders across the state, and postponed approval of the draft oyster and clam amendments until May 2016. This issue paper will focus on the impact of a reduced daily oyster harvest limit for Shellfish License holders on public bottom

[1] Presented to: PDT on 4/14/16; AC on 4/11/16; MRT on 4/18/16; MFC on 5/19/16.

statewide. Pertinent information from the previous two related issue is also included in this document. In the interim, this issue with additional statewide information would be presented to both the northern and southern regional advisory committees, allowing for additional review and public comment prior to the MFC approval of the entire draft Oyster Fishery Management Plan Amendment 4 to be sent forward for department and legislative review. See Attachment 2 for the two regional advisory committees' input received on April 6 and 7, 2016.

The southern region was originally the focus of these two issues because it has been responsible for 47 percent of the total public oyster landings (including mechanical harvest) made statewide between 1994 and 2013. This region generates significant landings even though the area only encompasses 6 percent of the total coastal water body area of the state, and only 5 percent of the total area which is open to shellfishing. This region has the highest amount of Shellfish License holders, the highest number and regional percentage of Shellfish License holders with trip ticket landings, and increasing annual numbers of Shellfish License holders participating in the public commercial oyster fishery. There are also a large number of Shellfish License holders showing no record of trip ticket landings throughout this time period.

The discussions within the two original issue papers was also made specific to areas in the southern region because of the intertidal nature of the oysters in this area. When compared to the primarily subtidal oysters in other areas of the state, intertidal oysters are more vulnerable to harvest and require minimal investment in gear as they are accessible for collection by walking out on the exposed reefs at low tide. Recreational harvest is also allowed seven days a week, and it is unknown how much is taken with this user group. However, with the ease at which intertidal oysters may be collected, recreational pressure is likely much greater in the southern area than other parts of the state. As participation in the oyster fishery increases in the southern region, harvesters are forced to spend additional time in one area, thoroughly breaking up reefs. With average bushels landed per individual per trip declining in this region, there is growing concern that the resource may not be able to sustain the current level of harvest pressure.

Since the creation of the Shellfish License in 2000, Shellfish License holders have been held to the same commercial daily bushel harvest limits for oysters as both SCFL and RSCFL holders. Through statutory changes in 2013, the Shellfish License is restricted to hand harvest only, and harvest by mechanical methods is prohibited. In North Carolina, there are three different daily oyster commercial hand harvest limits for harvest off public bottom, depending on location. In Pamlico Sound mechanical harvest areas outside the bays, hand harvest is allowed 15 bushels per day per commercial fishing operation, 10 bushels per day per commercial fishing operation in the bays and in the Mechanical Methods Prohibited area along the Outer Banks of Pamlico Sound, and 5 bushels per person, not exceeding 10 bushels per commercial fishing operation from Core Sound south to the North Carolina-South Carolina border. The dissimilarities in commercial hand harvest limits between waterbodies has been a point of contention for some fisherman located near the border of waterbodies with different harvest limits, and has been developed as the issue "Differences in Hand Harvest Limits Statewide" in Amendment 4 of the Oyster Fishery Management Plan.

To examine the potential local and statewide impacts a reduced daily harvest limit for Shellfish License holders may have, license holder, landings, and fishery effort/participant information was grouped and analyzed by broad regions. Two methods were used to pool the data, one for licensing information, and one for landings and effort/participants. Data on total numbers of Shellfish License s (both with and without commercial landings) was grouped into five residence regions, with licensees being assigned a region based on the holder's listed county of

residence. These residence regions are delineated as: Southern (Brunswick, Columbus, New Hanover, Pender, Bladen, Sampson, Duplin, and Onslow counties), Central (Carteret, Jones, Lenoir, and Wayne counties), Pamlico (Pamlico, Beaufort, Pitt, Greene, Craven, Hyde, and Dare counties), Northern (Tyrrell, Washington, Martin, Chowan, Perquimans, Pasquotank, Camden, Currituck, Edgecombe, and Bertie counties), and Western (which includes all of the remaining counties in North Carolina that are west of Interstate 95). This method of grouping accounts for all license holders regardless of trip ticket landings, and eliminates possible duplicate counting of participants who may fish in multiple waterbodies each year.

Oyster landings and fishery effort/participant information are grouped into four hand harvest regions based on waterbody of harvest. The boundaries for these hand harvest areas are defined as: Southern (all waterbodies from Onslow County to the SC state line), Carteret (waterbodies in Carteret County, from Bogue Sound to Core Sound), Pamlico Sound (including all tributaries; Bay, Neuse, Pamlico, and Pungo rivers), and Northern (all waterbodies north of Pamlico Sound) (Figure 1). This method of hand harvest regional grouping uses similar boundaries as the residence regions as discussed above, except it is based on the waterbody origin of oysters landed (no western waterbodies). Landings and participation data grouped into a specific hand harvest region may come from license holders from any residence region, allowing one individual license holder to count as a participant in multiple hand harvest regions.

The North Carolina commercial Shellfish License is not capped at a maximum number of holders, but is restricted to state residents. Since 2000, there have been 29,552 Shellfish Licenses sold, with an average of 1,849 issued per year. When grouped into broad residence regions by county, the distribution of Shellfish License holders across the state is skewed to the southern residence region of the state (Table 1). Since 2000, 84 percent of all Shellfish Licenses sold have been to residents of the southern and central regions combines (counties approximately east of Interstate 95 and south of the Neuse River). The fee for this license has been set as 1/8 the cost of a SCFL at a cost of $50 and available to all state residents. The relative low cost and wide accessibility of this license has allowed for low-income and part-time fishermen to participate in the commercial fishery and establish a landings history for SCFL eligibility.

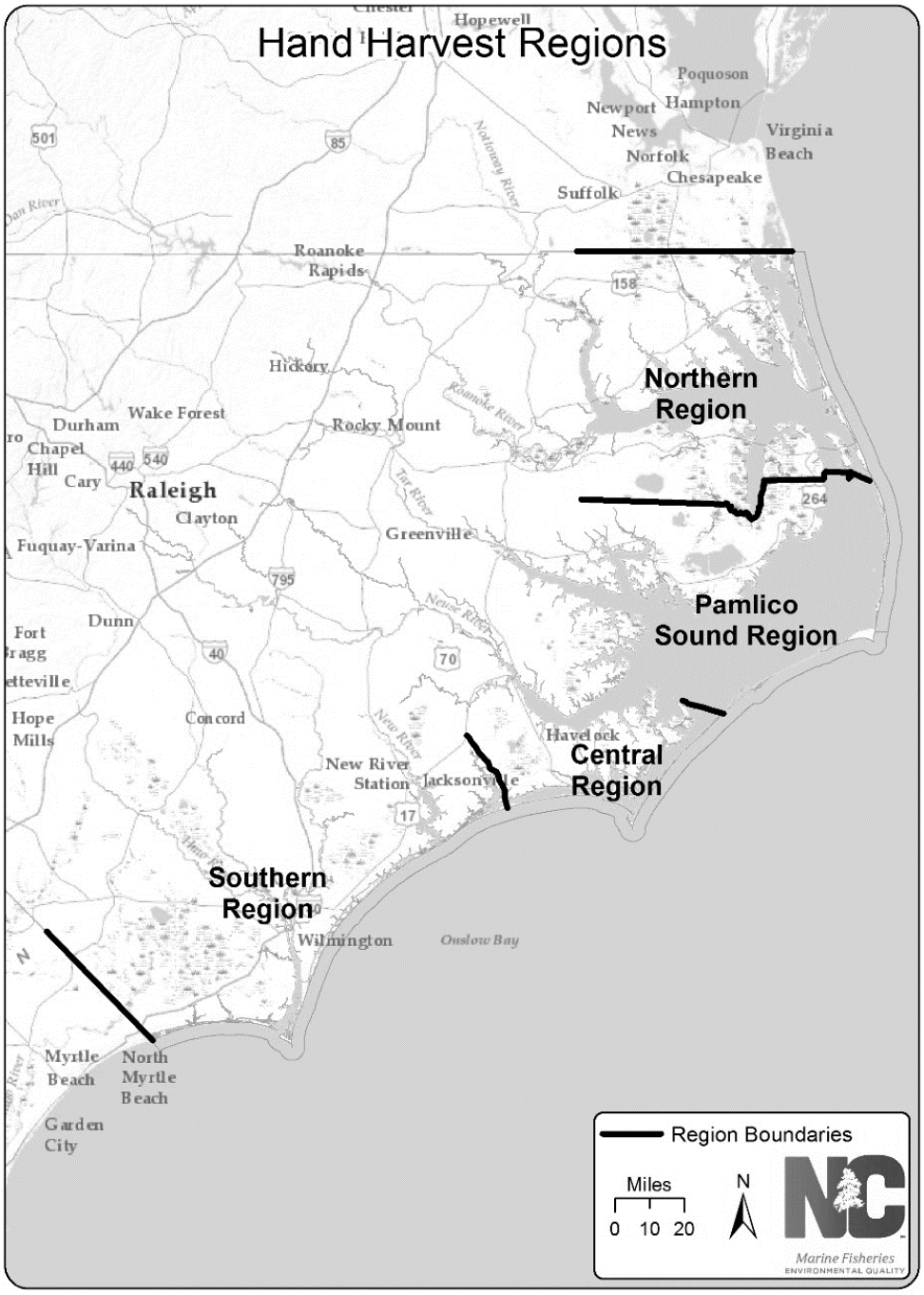

Figure 1. Oyster hand harvest regions in this issue are defined as: Southern (all waterbodies from Onslow County to the SC state line), Carteret (waterbodies in Carteret County, from Bogue Sound to Core Sound), Pamlico Sound (including all tributaries; Bay, Neuse, Pamlico, and Pungo rivers), and Northern (all waterbodies north of Pamlico Sound).

Not all holders of the Shellfish License show commercial trip ticket landings, as only 32 percent of the total Shellfish Licenses issued since 2000 have trip ticket landings for any shellfish species on record. It should be noted that individuals do hold Shellfish Licenses solely for the commercial harvest of clams. Of the Shellfish License holders with commercial landings, only 50 percent show a record of harvesting oysters from public bottom, resulting in a total of 16 percent of all Shellfish Licenses issued since 2000 with landings. The proportion of Shellfish Licenses issued that do have oyster landings from public bottom has generally been increasing annually (Figure 2), however this trend and proportion of license holders with landings does vary by region (Table 2). Individuals may be purchasing this license as a means to legally harvest and possess greater quantities of shellfish than current recreational limits allow for personal consumption and not for sale. Harvest and effort information for individuals who hold a Shellfish License but do not show landings are currently unknown. The potential impact to the oyster resource by these individuals is of concern by both fishery managers and the public, and this issue is addressed in depth in Amendment 4 of the Oyster Fishery Management Plan.

It is the low cost, and accessibility of the Shellfish License and the increase in participation by Shellfish License holders combined with decreasing overall catch rates within the public hand harvest oyster fishery in the southern region that prompted the recommendations made by the Division and the Oyster and Hard Clam FMP Advisory Committee. The number of Shellfish Licenses statewide are decreasing through time. With the largest declines in 2014, right after the Shellfish License was no longer allowed to be used to mechanical harvest shellfish. The decline also increased again in 2015, which followed a license fee increase. It cannot be determined for certain why the number of Shellfish Licenses are decreasing, but it may be attributed to recent price increases to the license fee, natural attrition similar to other commercial licenses, aging out of traditional users, state of economy, or a host of other possible reasons.

Table 1. Number and percent of total Shellfish Licenses sold since 2000, grouped by county of residence of license holder.

Residence Region	Number of Shellfish Licenses Sold	Percent of Total Sold
Southern	15,781	53%
Central	9,289	31%
Pamlico	3,408	12%
Western	892	3%
Northern	182	1%
Statewide	29,552	100%

Table 2. The number of total Shellfish Licenses issued by residence region, with the number of Shellfish Licenses showing public oyster landings (mechanical and hand harvest), 2005-2015. The number in parenthesis is the percentage of total Shellfish Licenses issued in that region with oyster landings from public bottom. Beginning in 2013 statute changes no longer allowed the Shellfish License to be used for mechanical methods for shellfish and therefore include hand harvest methods only from 2014 to 2015.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+
Southern											
Total	914	854	890	942	1055	1022	996	928	896	819	768
With Landings	135 (15)	121 (14)	169 (19)	191 (20)	243 (23)	257 (25)	257 (26)	266 (29)	246 (27)	215 (26)	236 (31)
Central											
Total	517	457	504	511	676	507	606	484	514	415	399
With Landings	90 (17)	82 (18)	116 (23)	117 (23)	97 (14)	81 (16)	125 (21)	115 (24)	92 (18)	76 (18)	100 (25)
Pamlico											
Total	138	165	174	193	316	390	466	304	244	148	104
With Landings	7 (5)	10 (6)	13 (7)	13 (7)	22 (7)	57 (15)	72 (15)	24 (8)	29 (12)	13 (9)	7 (7)
Western											
Total	50	48	52	54	73	73	63	45	48	40	44
With Landings	<5* (*)	6 (13)	5 (10)	6 (11)	12 (16)	9 (12)	<5* (*)	5 (11)	5 (10)	8 (20)	8 (18)
Northern											
Total	9	6	10	10	14	17	19	16	16	12	7
With Landings	<5* (*)	0 (0)	<5* (*)	0 (0)	<5* (*)	<5* (*)	<5* (*)	<5* (*)	<5* (*)	0 (0)	0 (0)

+ Landings data from 2015 is preliminary until April 2016 and may be revised.
* Exact data is confidential due to the low amount of participants reporting landings.

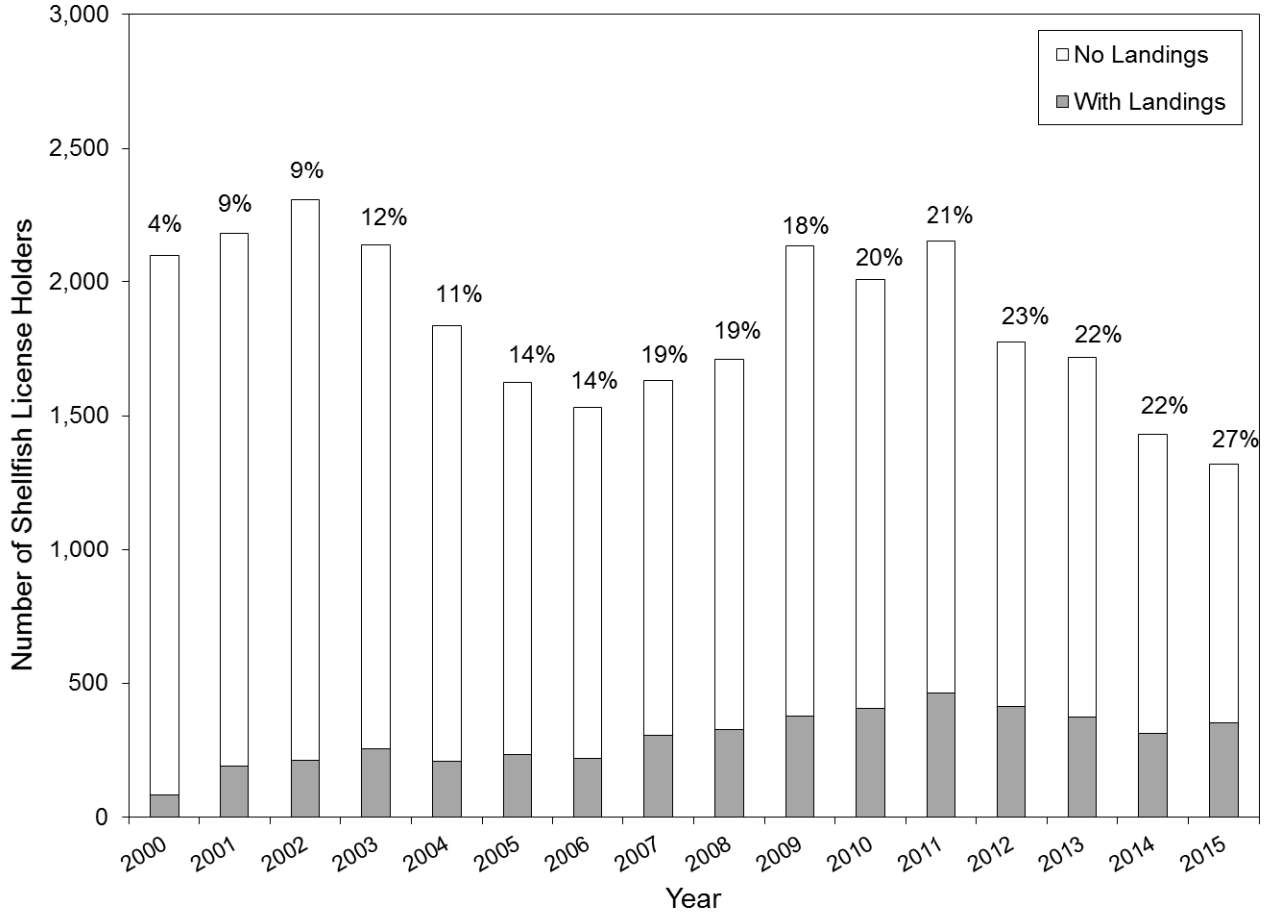

Figure 2. The annual number of Shellfish Licenses issued in North Carolina since 2000, showing the proportion of licenses with trip ticket landings in the public oyster fishery. The numbers above the bars show the percentage of total Shellfish Licenses issued that year with public oyster trip ticket landings on record. Landings data from 2015 is preliminary until April 2016 and may be revised.

Landings from Shellfish License holders have comprised 41 percent of the total hand harvest public oyster fishery since 2000. The total landings and ratio of the landings from Shellfish License holders in the public commercial hand harvest oyster fishery has generally increased statewide since 2000 (Figure 3). The increase in participation of Shellfish License holders in the public hand harvest oyster fishery appears to be driving the overall increase in landings of this fishery. The percentage of total public hand harvest oyster landings contributed by each license type since 2000 varies regionally (Table 3). Landings from the southern region have comprised 74 percent of the total hand harvest public oyster fishery since 2000, with Shellfish License holders in this region contributing 30 percent of the total landings. When combined, landings from the southern and central regions comprise 96 percent of all of the commercial public oyster hand harvest, with the Shellfish License holders contributing 39 percent of the total landings. The average annual number of trips made by Shellfish License holders with landings in the public hand harvest oyster fishery has increased since 2000, and is nearing the amount made by SCFL/RSCFL holders (Table 4).

Table 3. Percentage of total public hand harvest oyster landings since 2000 by license type and region. Includes landings data from 2015, which is preliminary until April 2016 and may be revised.

Region	Total Regional Contribution	SCFL/RSCFL Only	Shellfish Only
Southern	73.8%	43.6%	30.3%
Central	21.6%	12.1%	9.5%
Pamlico	4.5%	3.4%	1.1%
Northern	<0.1%	<0.1%	<0.1%
Statewide	100%	59.1%	40.9%

Table 4. The annual average number of trips by individual participants by license type with trip ticket landings in the public hand harvest oyster fishery

Year	Shellfish License	SCFL/RSCFL
2000	8	16
2001	9	16
2002	9	16
2003	9	16
2004	11	19
2005	12	17
2006	14	19
2007	15	20
2008	14	19
2009	13	17
2010	15	18
2011	14	19
2012	14	17
2013	16	22
2014	17	20
2015+	15	18

+ . Landings data from 2015 is preliminary until April 2016 and may be revised.

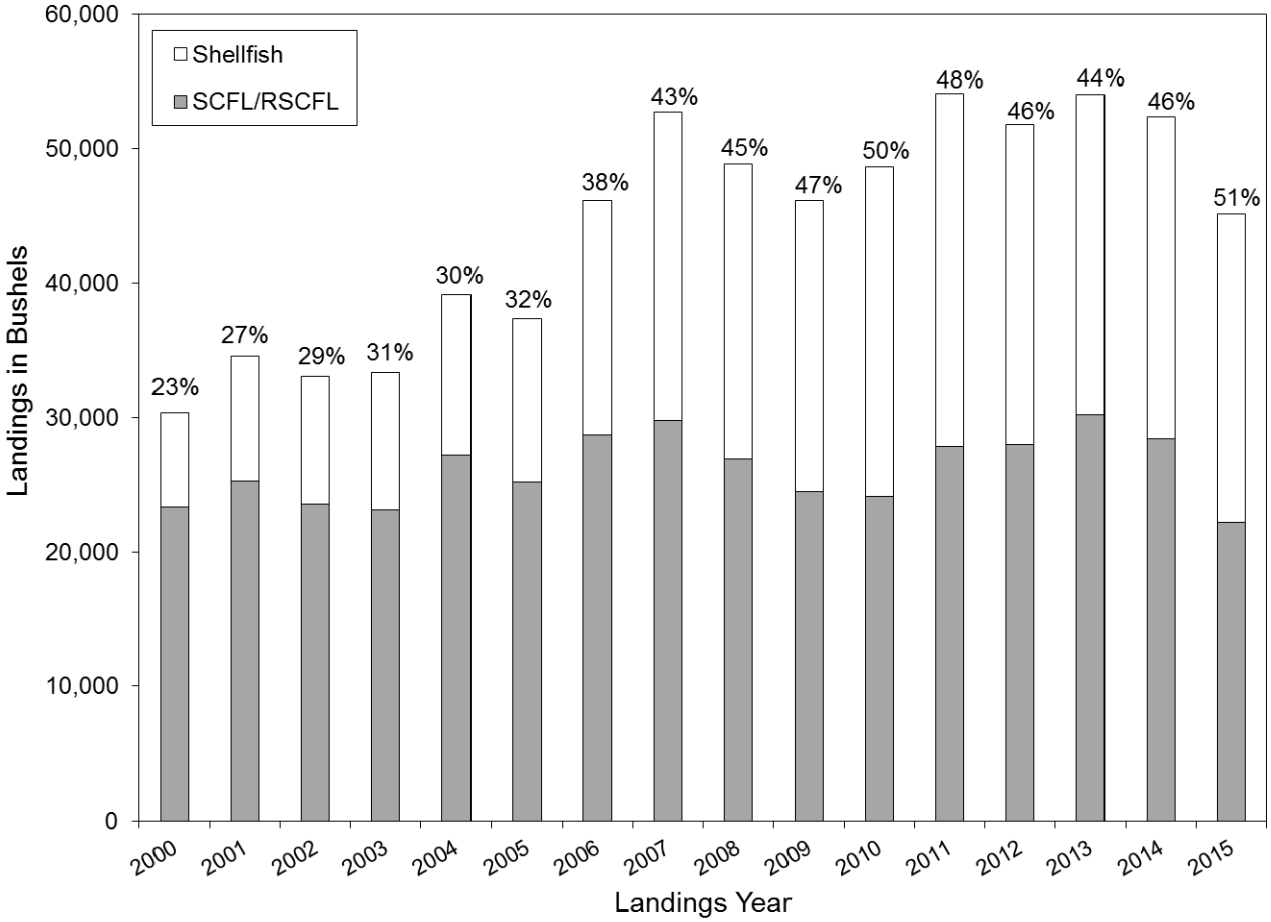

Figure 3. Total annual oyster landings from the public hand harvest oyster fishery, 2000-2015. Dark portions of the bars represent landings from SCFL/RSCFL holders, and light portions of the bars represent landings from Shellfish License holders. The numbers above the bars list the percent of the total annual public hand harvest oyster landing made by Shellfish License holders. Landings data from 2015 is preliminary until April 2016 and may be revised.

Participation in the hand harvest public oyster fishery by Shellfish License holders in the southern region ranged from 142 to 318 individuals, and ranged from 38 percent to 59 percent of the total participants (including SCFL/RSCFL) in this region (Table 5). The number of Shellfish License holder participants has increased in this region while the number of SCFL/RSCFL participants has remained relatively constant over time. Landings have generally increased with the number of participants, while average catch in bushels per individual per trip has decreased (Table 5). Increasing participation by Shellfish License holders and decreasing overall catch rates within the public hand harvest oyster fishery in the southern region was the primary concern for the development of the issue "Assessing and Mitigating Harvest Effort Impacts on Oyster Resources in the Southern Region" in the draft Amendment 4 of the Oyster Fishery Management Plan.

In the Central region, participation in the hand harvest public oyster fishery by Shellfish License holders ranged from 36 to 154 individuals, and ranged from 34 percent to 62 percent of the total participants (including SCFL/RSCFL) in this region. The number of Shellfish License holder participants has increased in this region while the number of SCFL/RSCFL participants has slightly decreased over time. Landings have generally increased and decreased with the number of participants, while average catch in bushels per trip has decreased through time (Table 5).

In the Pamlico Sound region, participation in the hand harvest public oyster fishery by Shellfish License holders ranged from 0 to 39 individuals, and ranged from 0 percent to 41 percent of the total participants (including SCFL/RSCFL) in this region. The number of Shellfish License and SCFL/RSCFL holder participants has increased in this regions with a slight decrease in recent years. Landings have generally increased with the number of participants, while average catch in bushels per trip has fluctuated through time (Table 5). Participation in the hand harvest public oyster fishery by Shellfish License holders in the northern region is low, with less than five participants in 2015. Overall the number of participants harvesting oysters by hand methods from public bottom in the Northern region (including SCFL/RSCFL) are few. Public hand harvest oyster landings in this region have only occurred the last five out of 15 years, and consist of less than 50 bushels total. The bushel per trip information for this region is based on 26 total trips over the five years of limited landings for this region, and caution should be used in interpreting this data (Table 5). Figures depicting trends in participation, landings, and bushels per trip for each hand harvest area from data in Table 5 may be found in Attachment 1.

Table 5. Number of Shellfish License and SCFL/RSCFL participants with landings, oyster landings (bushels), and average bushels of oysters per individual per trip (bushels per trip) for the hand harvest oyster fishery off public bottom by region in North Carolina, 2000-2015.

	Southern				Central				Pamlico				Northern			
Year	No. of shellfish licenses	No. of SCFL/ RSCFL	Total landings (Bushels)	Ave. bushels per trip	No. of shellfish licenses	No. of SCFL/ RSCFL	Total landings (Bushels)	Ave. bushels per trip	No. of shellfish licenses	No. of SCFL/ RSCFL	Total landings (Bushels)	Ave. bushels per trip	No. of shellfish licenses	No. of SCFL/ RSCFL	Total landings (Bushels)	Ave. bushels per trip
2000	148	244	25,044	4.49	36	69	5,267	5.13	-	10	97	4.39	-	-	-	-
2001	188	245	27,676	4.52	66	95	6,843	4.46	<5*	4	56	4.67	-	-	-	-
2002	194	218	25,158	4.23	77	110	7,941	4.46	-	12	188	5.38	-	-	-	-
2003	174	203	25,055	4.69	82	104	8,649	4.40	-	5	140	4.00	-	-	-	-
2004	165	211	27,996	4.44	102	113	11,102	3.90	<5*	10	82	3.54	-	-	-	-
2005	142	193	24,681	4.52	104	115	12,292	3.84	4	33	477	4.08	-	-	-	-
2006	176	183	27,352	4.40	130	132	17,034	3.80	5	38	1,865	5.81	-	-	-	-
2007	224	184	34,253	4.30	154	137	16,111	3.82	<5*	44	2,451	4.88	-	-	-	-
2008	256	211	35,865	4.02	125	97	10,674	3.86	6	43	2,406	4.93	-	-	-	-
2009	301	209	34,367	3.82	102	85	6,989	3.62	27	70	4,997	5.95	-	-	-	-
2010	286	206	36,702	3.66	117	93	8,134	3.94	39	67	4,649	6.64	-	-	-	-
2011	318	237	41,633	3.86	128	113	10,865	4.13	23	33	2,063	6.18	-	<5*	<15*	5.50
2012	314	226	37,846	3.78	120	88	8,046	3.73	29	70	5,884	6.55	-	4	35	4.38
2013	262	228	43,566	3.84	101	73	7,525	3.85	19	52	2,965	5.80	-	<5*	<10*	2.00
2014	271	231	42,224	3.82	105	83	8,365	3.79	16	47	1,891	4.36	-	<5*	<10*	4.57
2015	247	200	33,658	3.76	121	72	9,714	3.93	17	46	1,852	5.22	<5*	5	50	3.85
Average	229	214	32,692	4.13	104	99	9,722	4.04	19	37	2,004	5.15	<5*	5	42	4.06

+ Landings data from 2015 is preliminary until April 2016 and may be revised.

* Exact data is confidential due to the low amount of participants reporting landings.

IV. AUTHORITY

N.C. General Statute

113 134	Rules.
113 182	Regulation of fishing and fisheries.
113-182.1	Fishery management plans.
113-201	Legislative findings and declaration of policy; authority of Marine Fisheries Commission.
113 221.1	Proclamations; emergency review.
143B-289.52	Marine Fisheries Commission – powers and duties.

N.C. Marine Fisheries Commission Rules May 1, 2015 (15A NCAC)

03K .0201	Open season and possession limit

V. DISCUSSION

The two motions passed by the North Carolina MFC at the February 2016 meeting were in response to concerns regarding implications from an open access, low cost Shellfish License, as well as concerns about declining oyster resources in the southern region (south of the highway 58 bridge). As a long term solution to these issues, the MFC moved to recommend eliminating oysters from the list of species eligible for harvest under the Shellfish License. This action would require a legislative change. Removal of oysters from the Shellfish License would eliminate the incentive for individuals to use it as a low cost means to recreationally harvest commercial quantities of oysters, and potentially reduce impacts to the oyster resource in some regions of the state.

As a more immediate solution to these issues, the MFC moved to establish a daily limit of two bushels of oysters per person with a maximum of four bushels of oysters per vessel off public bottom with a Shellfish License statewide. When the issues were originally taken out for public comment at the MFC, regional, and standing committee meeting, the initial N.C. Division of Marine Fisheries (NCDMF) management recommendation did not include a lower daily harvest limit statewide for Shellfish License holders. The NCDMF position advocated for the removal of oyster as an eligible species for harvest with the open access Shellfish License. The Oyster and Hard Clam FMP Advisory Committee did recommend a lower daily harvest limit for Shellfish License holders in the southern region, and did not support removing oyster from the Shellfish License. When reviewed by the regional advisory committees, recommendations were split between two advisory committees adopting the NCDMF position of no reduced daily bushel harvest limit, and two committees adopting the Oyster and Hard Clam FMP Advisory Committee position for a reduced daily harvest limit in the southern region. One regional committee did specifically define the southern region as the waterbody areas south of the Highway 58 bridge in its motion. After the public comment period, the NCDMF position was modified to include the reduced daily bushel harvest limit for south of the Highway 58 bridge as part of the recommendations that were presented to the MFC in February 2016.

The likely reduction in landings and participation resulting in the MFC's selected management option to reduce the oyster bushel limit statewide for Shellfish License holders would mostly occur in the southern and central regions of the state, where 84 percent of all Shellfish Licenses have been issued and Shellfish Licenses have contributed 40 percent of the commercial hand harvest since 2000. The Northern and Pamlico Sound regions would be minimally impacted,

with Shellfish License holders in both areas combined contributing less than 2 percent of the total commercial hand harvest oyster landings since 2000. In 2015, the Northern and Pamlico Sound regions combined had a total of 18 Shellfish License holders with trip ticket landings. The shallow bays in Pamlico Sound are maintained at a higher (10 bu.) hand harvest limit to promote hand harvest in these areas, and a reduced limit for these areas would be a further disincentive in their use in the hand harvest oyster fishery for Shellfish License holders. However, participation in the public oyster fishery by Shellfish License holders resident to the Pamlico Sound region has declined significantly from a peak participation in 2011 (72) to 7 in 2015, due to mechanical methods being removed from Shellfish License eligible gears.

Conversely, the Central region would be significantly impacted by a reduction in bushel limits to the Shellfish License. Landings from Shellfish License holders from waterbodies in this region have accounted for 9 percent of the statewide public oyster hand harvest since 2000. The ratio of Shellfish License holders to SCFL holders with public oyster landings has been increasing in the Central region also (Table 5), with 121 Shellfish License holders with public oyster hand harvest trip ticket landings and 72 SCFL/RSCFL with landings in 2015. The Central region has not been considered to be as impacted from oyster harvest efforts as the southern region, as this area has overall lower participation and trip ticket landings in the public hand harvest oyster fishery. However, this area still shows a decline in bushels landed per trip, as well as an increase in Shellfish License holder participants in recent years.

The statewide reduction would eliminate regional harvest limits for Shellfish License holders without additional complexity in rules, and would allow a transition period for commercial oyster fishermen to pursue obtaining a SCFL prior to potential legislative action that could remove oyster from the Shellfish License. Expanding the reduction in the daily bushel limit for Shellfish License holders statewide would impact areas that were not originally discussed as having effort impacts to the resource significant enough to warrant a reduction in harvest effort.

The primary area of concern for the resource has been south of the Highway 58 bridge with the public and fishery managers. Using this boundary for a reduced bushel limit would create four regional oyster limits for Shellfish License holders, two bushels south of highway 58, five bushels in the Central region between Highway 58 and Pamlico Sound, 10 bushels in the bays and mechanical prohibited areas of Pamlico Sound, and 15 in the mechanical harvest areas of Pamlico Sound. This boundary would create additional complexity in rules and enforcement, and may create conflict in the area near the highway 58 bridge.

Another item that needs to be considered for a Shellfish License bushel limit reduction, whether implemented statewide or regionally, is that without specific vessel limit language included the proclamation it could create an issue for law enforcement. At this time vessel limits are typically capped at two individual bushel limits (e.g. 5 bushels per person, 10 bushels per vessel) regardless of the number of license holders onboard. With the creation of different per person bushel limits by license type, further discussions are needed to determine what the specific maximum daily vessel harvest limit would be for a vessel with a crew of two or more with differing license types.

The Oyster and Hard Clam Advisory Committee met on 4/11/16 to discuss this issue and review the recommendations and public comments received from the MFC regional committees (Attachment 2). They maintained their original recommendation from Swan Point Marina south to the NC/SC state line, maintain a daily trip limit of two bushels per person maximum four bushels of oysters per vessel off public bottom for holders of the Shellfish License. Maintain a

daily trip limit at five bushels of oysters per person for SCFL and RSCFL holders in the southern region.

VI. PROPOSED RULE(S)

No rule changes are proposed.

VII. PROPOSED MANAGEMENT OPTIONS

(+ potential positive impact of action)
(- potential negative impact of action)

1. Status quo (continue to maintain the same daily oyster bushel limit for all commercial license types).
   + No additional enforcement boundaries causing public confusion
   + Maintains current promotion of hand harvest in Pamlico Sound shallow bays for Shellfish License holders
   - No reduction in oyster harvest pressure
   - Continues the incentive to purchase a Shellfish License for recreational use

2. Reduce the Shellfish License oyster bushel limit to a lower specified amount statewide
   + Equity among Shellfish License holder harvest limits statewide.
   + Less confusion over commercial regulations
   + Reduction in statewide oyster harvest pressure.
   + Decreased incentive to purchase a Shellfish License for recreational use
   - Goes against current management strategy to promote hand harvest in Pamlico Sound bays for Shellfish License holders
   - Impacts oyster harvest in areas that may not need effort reductions
   - Inequity in harvest limits between holders of different commercial license types in the same area

3. Reduce the Shellfish License oyster bushel limit to a specified amount regionally
   + Reduction in oyster harvest pressure in some areas
   + Decreased incentive to purchase Shellfish License for recreational use
   + Limits effort and harvest for a concerned stock to only the most impacted areas
   - Additional enforcement
   - Goes against current management strategy to promote hand harvest in Pamlico Sound bays for Shellfish License holders
   - No equity among Shellfish License harvest limits statewide
   - Inequity in harvest limits between holders of different commercial license types in the same area

VIII. RECOMMENDATION

MFC Preferred Management Strategy

- Maintain the cost of the Shellfish License, establish a daily limit of 2 bushels of oysters per person with a maximum of 4 bushels of oysters per vessel off public bottom with the Shellfish License statewide. Allow Shellfish License holders to be eligible to acquire a Standard Commercial Fishing License after they show a history of sale of shellfish. Continue to allow commercial harvest of all other shellfish as currently allowed.[+]

NCDMF

- Establish a daily limit of two bushels of oysters per person with a maximum of four bushels of oysters per vessel off public bottom with the Shellfish License statewide•

Advisory Committee

- From Swan Point Marina south to the NC/SC state line, maintain a daily trip limit of 2 bushels per person maximum 4 bushels of oysters per vessel off public bottom for holders of the Shellfish License. Maintain a daily trip limit at 5 bushels of oysters per person for SCFL and RSCFL holders in the southern region.

+MFC Recommendation from the issue paper: "Consider Elimination of the Shellfish License and require all Shellfish Harvesters to have a Standard Commercial Fishing License or a Retired Commercial Fishing License"

•This is the final NCDMF recommendation for draft Amendment 2 of the Oyster Fishery Management Plan. This recommendation is different from the recommendation found in the issue paper "Consider Elimination of the Shellfish License and require all Shellfish Harvesters to have a Standard Commercial Fishing License or a Retired Commercial Fishing License". This final recommendation occurred after further information was provided on potential statewide impacts for this issue.

Prepared by: Joe Facendola, Joe.Facendola@ncdenr.gov, 910-796-7291
February 23, 2016

Dates revised:
February 25, 2016
March 3, 2016
March 4, 2016
March 14, 2016
March 18, 2016
March 21, 2016
April 8, 2016
April 14, 2016
April 22, 2016
April 26, 2016

Attachment 1. Information on participants by license, landings (bushels), and bushels landed per individual by trip for each region as presented to the Advisory Committees.

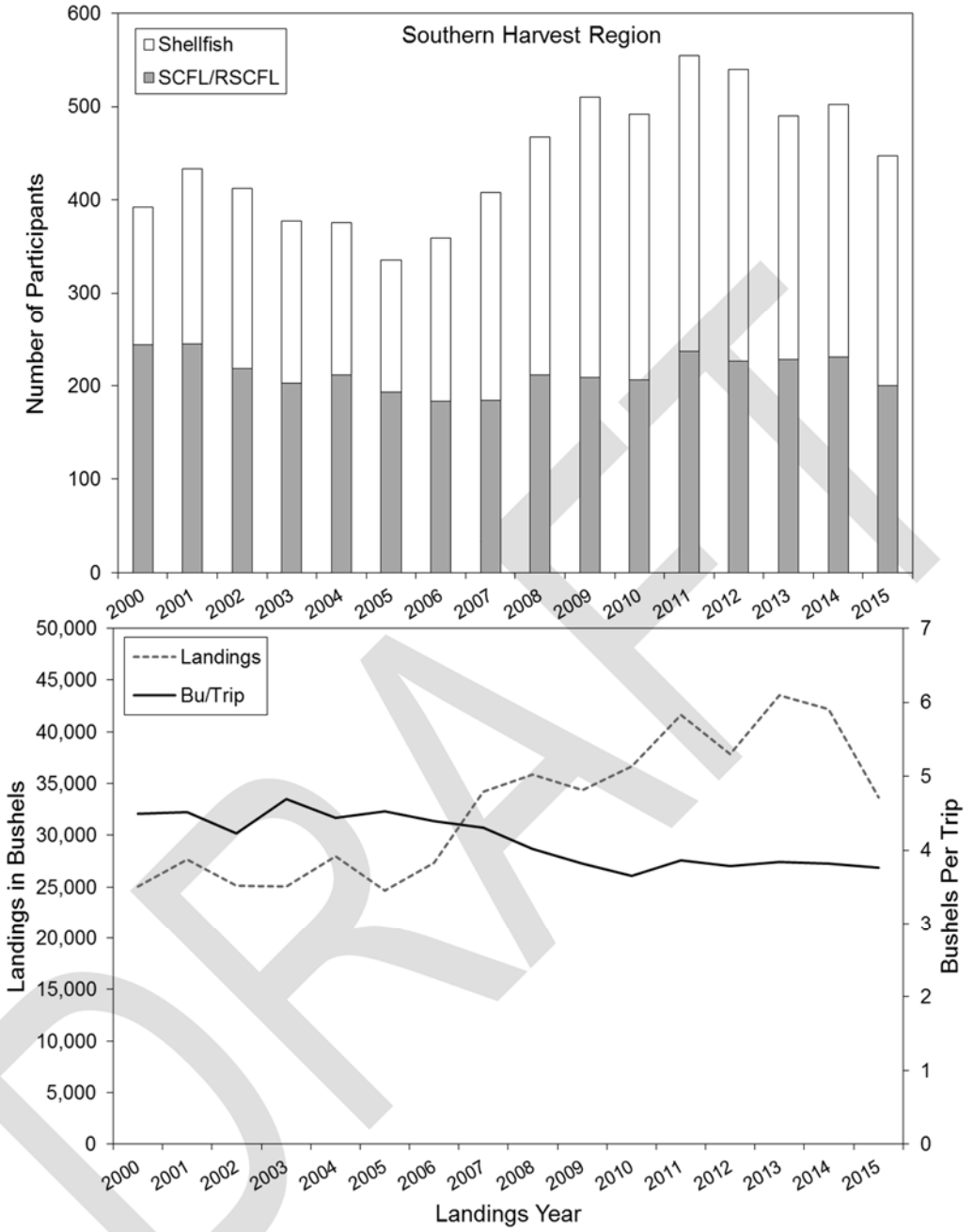

Figure A1. The upper panel shows annual number of participants with trip ticket landings from waterbodies in the southern harvest region of the state (White Oak River to SC state line) in the public bottom hand harvest oyster fishery. The lower panel shows total number of bushels landed as a dotted line on the left axis, and the average annual number of bushels landed per individual for each trip as the solid line on the right axis for public hand harvest of oyster in this region. Landings data from 2015 is preliminary until April 2016, and may be revised.

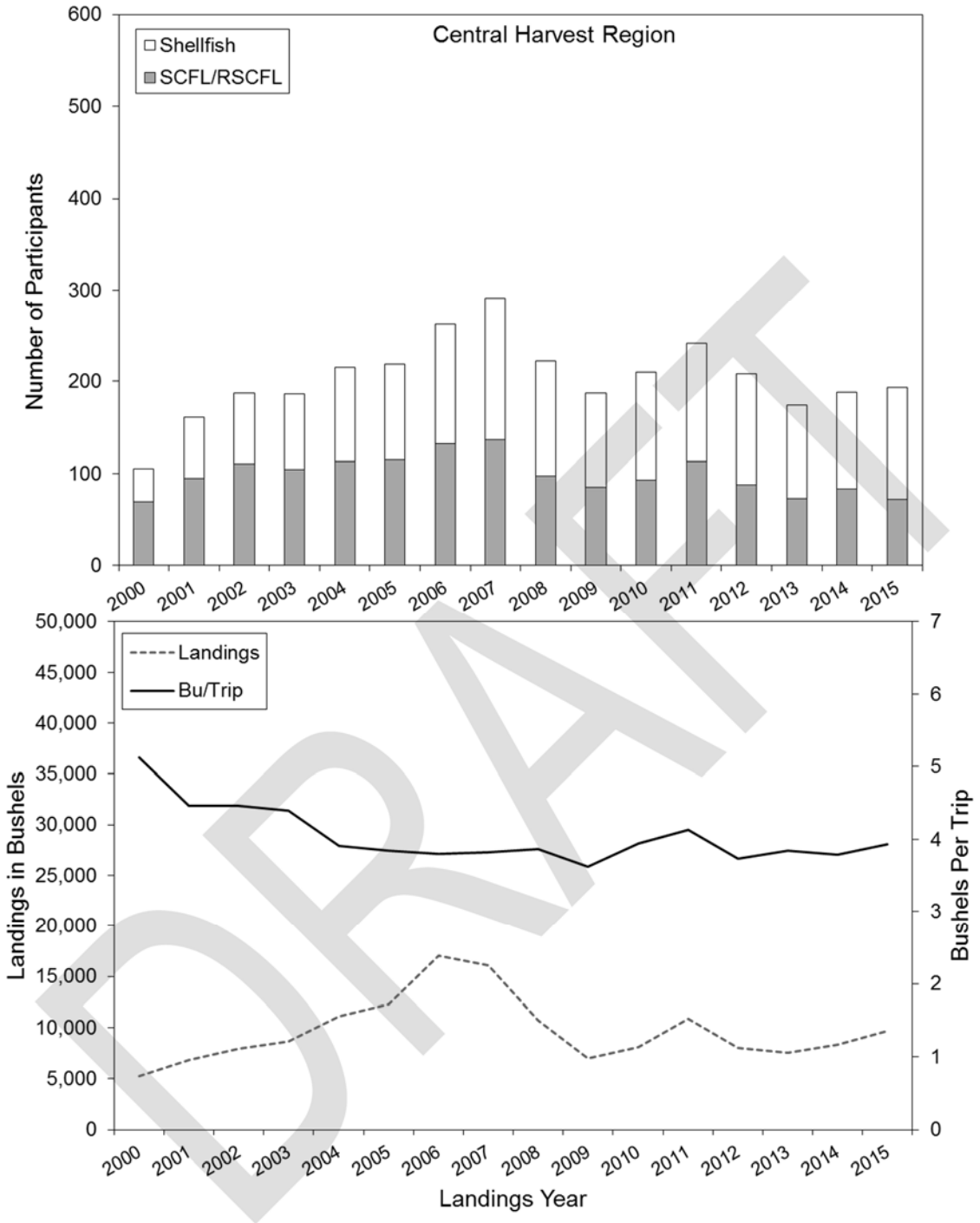

Figure A2. The upper panel shows annual number of participants with trip ticket landings from waterbodies in the central harvest region of the state (Bogue Sound to Core Sound) in the public bottom hand harvest oyster fishery. The lower panel shows total number of bushels landed as a dotted line on the left axis, and the average annual number of bushels landed per individual for each trip as the solid line on the right axis for public hand harvest of oyster in this region. Landings data from 2015 is preliminary until April 2016, and may be revised.

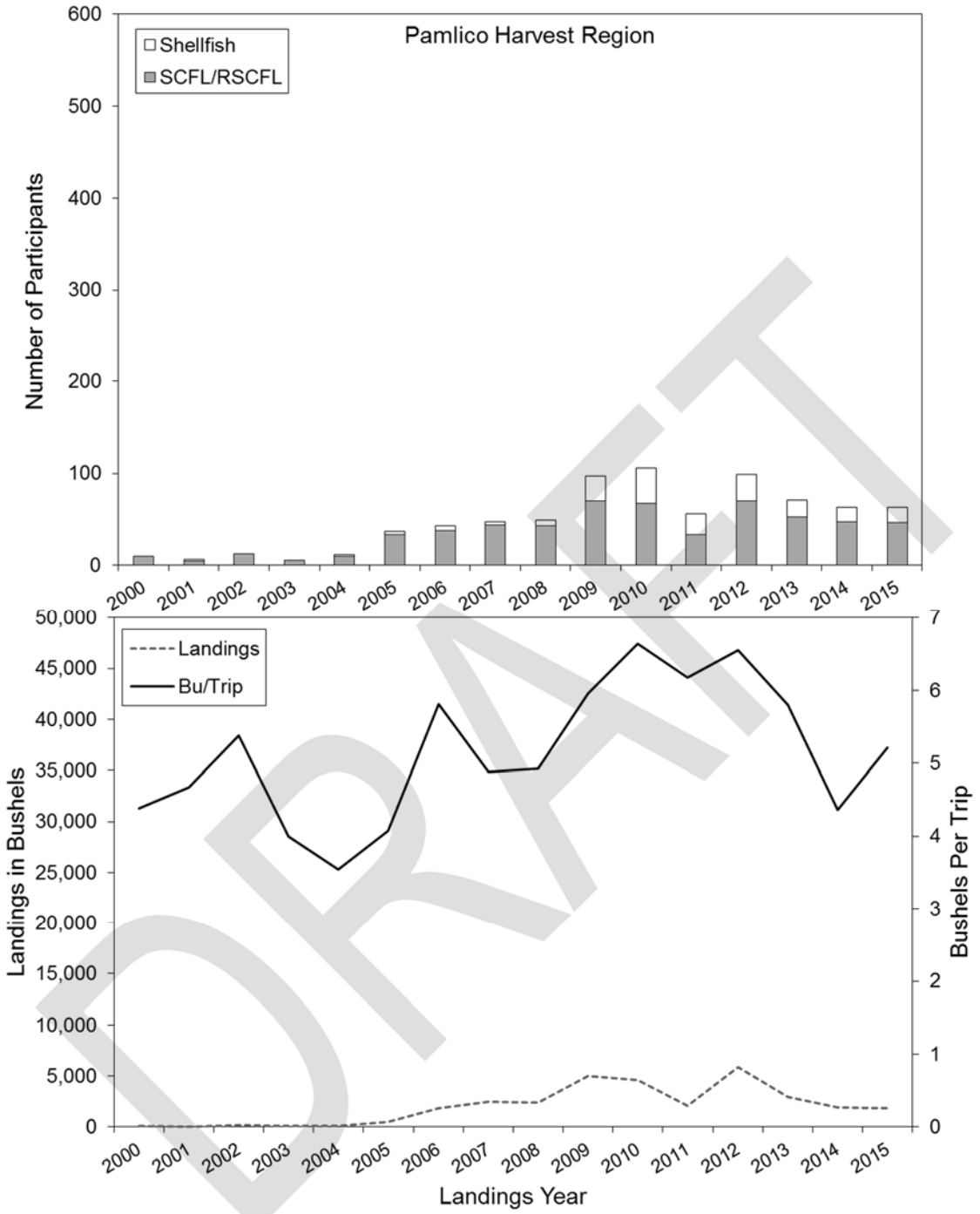

Figure A3. The upper panel shows annual number of participants with trip ticket landings from waterbodies in the Pamlico harvest region of the state (Pamlico Sound and major tributaries) in the public bottom hand harvest oyster fishery. The lower panel shows total number of bushels landed as a dotted line on the left axis, and the average annual number of bushels landed per individual for each trip as the solid line on the right axis for public hand harvest of oyster in this region. Landings data from 2015 is preliminary until April 2016, and may be revised.

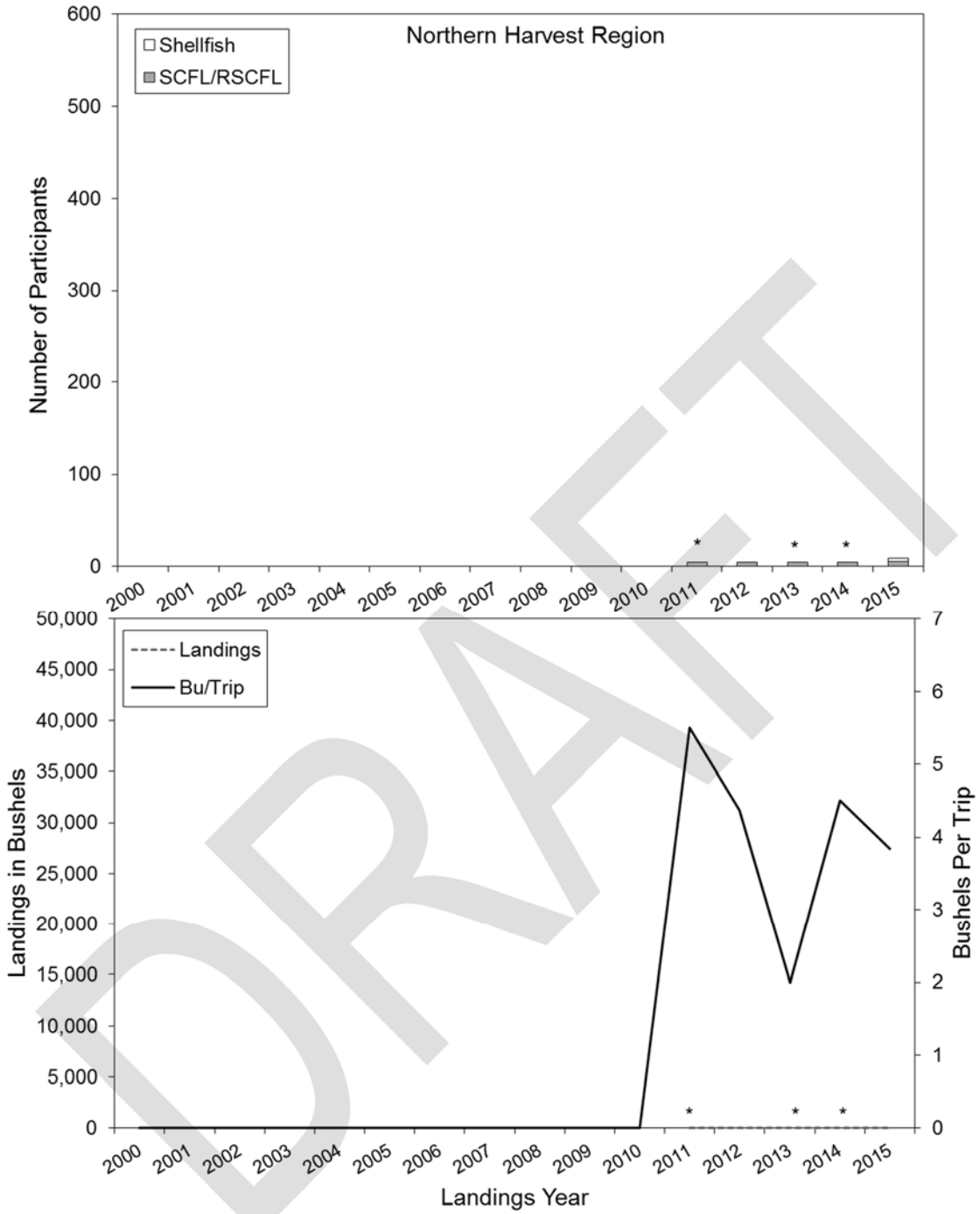

Figure A4. The upper panel shows annual number of participants with trip ticket landings from waterbodies in the northern harvest region of the state (Waterbodies north of Pamlico Sound) in the public bottom hand harvest oyster fishery. The lower panel shows total number of bushels landed as a dotted line on the left axis, and the average annual number of bushels landed per individual for each trip as the solid line on the right axis for public hand harvest of oyster in this region. Landings data from 2015 is preliminary until April 2016, and may be revised. * Exact data is confidential due to the low amount of participants, and is displayed rounded up to the next multiple of 5.

Attachment 2. Recommendations from the MFC regional committees and public comment on the issue reducing shellfish license oyster harvest limits statewide.

Southern Advisory Committee	**Northern Advisory Committee**	**Public Comments**
To support option 3 (Reduce the Shellfish License oyster bushel limit to a specified amount regionally) that reduces the southern region defined as south of the Highway 58 Bridge to two bushels per license (four bushels per vessel).	Advise the commission to request that the legislature make commercial oystering equal commercial oystering and recreational oystering equal recreational oystering, in order to track commercial and recreational oyster harvest. Thereby removing oysters from of the shellfish license. Recommend the MFC implement a statewide 2 bushel per person and 4 bushel per vessel oyster possession limit off public bottom (consistent with the MFC motion passed at the February 2016 meeting)	Cannot regulate the numbers you don't have (*In reference to no trip ticket landings for some holders of the Shellfish License*)

4.2 MARINE FISHERIES COMMISSION PREFERRED MANAGEMENT OPTIONS FOR THE DRAFT AMENDMENT 4 OF THE OYSTER FISHERY MANAGEMENT PLAN

MANAGEMENT STRATEGIES	OBJECTIVES	REQUIRED ACTION
OYSTER MANAGEMENT		
1. Maintain the cost of the Shellfish License, establish a daily limit of two bushels of oysters per person with a maximum of four bushels of oysters per vessel off public bottom with the Shellfish License.	1 an 7	No action required; Proclamation authority
2. Increase efforts to plant and monitor cultch material.	1	
3. Implement a five percent cull tolerance for oysters	7	Rule change
4. Pursue elimination of the Shellfish License for oysters only and require all oyster harvesters to have a Standard or Retired Commercial Fishing License with shellfish endorsement to harvest commercially.	1 and 7	Amend G. S. 113-169.2
5. Allow Shellfish License holders to be eligible to acquire a Standard Commercial Fishing License after they show a history of sale of shellfish. Continue to allow commercial harvest of all other shellfish as currently allowed.	1 and 6	No action required
6. Status quo (Maintain the shallow bays (< 6 feet) as defined in 15A NCAC 03R .0108)		No action required
7. Recommend a six week opening timeframe for deep bays to begin on the Monday of the week prior to Thanksgiving week through the Friday after Thanksgiving. Reopen two weeks before Christmas for the remainder of the six week season.		
8. Status quo (Maintain the 15 bushel hand/mechanical harvest limit in Pamlico Sound mechanical harvest areas outside the bays, 10 bushel hand/mechanical harvest limit in the bays and in the Mechanical Methods Prohibited area along the Outer Banks of Pamlico Sound)		
9. Adopt the provisions of Supplement A – a flexible harvest limit up to 20 bushels, a trigger of 26 percent legal-sized oysters for closing an area to mechanical harvest and set the upper harvest limit of 20 bushels in rule (rule change required).		
10. Attempt to develop and ground-truth a fishery dependent metric of effort to better inform management decisions in the future		
PRIVATE CULTURE		
1. Support modification of G.S. 113-208 and G.S. 113-269 to add minimum fines for violations on shellfish leases and franchises. With minimum fines set at $500 for the first violation and $1,000 for the second violation	5 and 6	Amend G.S. 113-208 and G.S. 113-269
2. Support modification of G.S. 113-269 to include protection to all shellfish leases and franchises, not just those with water column amendments	5 and 6	Amend G.S. 113-269

4.2 MARINE FISHERIES COMMISSION PREFERRED MANAGEMENT OPTIONS FOR THE DRAFT AMENDMENT 4 OF THE OYSTER FISHERY MANAGEMENT PLAN (CONTINUED)

MANAGEMENT STRATEGIES	OBJECTIVES	REQUIRED ACTION
PRIVATE CULTURE		
3. Modify Rule 15A NCAC 03O .0114, regardless whether statute changes occur, so that a first conviction under G.S. 113-208 or G.S. 113-269 the Fisheries Director shall revoke all licenses issued to the licensee	5 and 6	Rule change to 15A NCAC 03O .0114
4. Status quo (Adhere to Regional Conditions of USACE NWP48 with no adverse effect to SAV from shellfish leases and following measure identified in the interim)	4 and 5	No action required
5. Continue the moratorium of shellfish leases in Brunswick County	1, 4, 5 and 6	No action required
6. Establish a rule to support extensions for where "Acts of God" prevent lease holder from making production, with a two year extension and only one extension allowed per term	1, 4 and 6	Rule change 15A NCAC 03O .0201
7. Allow leases returned to the state to remain delineated for a period of one year to allow the pre-existing leased bottom to be re-issued to other shellfish growers	1, 4, 5 and 6	Amend G.S. 113-202
8. Improve public notice of proposed lease applications on the physical lease, at fish houses, and/or through electronic notices	7	No action required
9. Allow a maximum of 10 acres in both mechanical methods prohibited areas and mechanical methods allowed areas	1, 4 and 5	Rule change 15A NCAC 03O .0201(a)(3)
ENVIRONMENT AND PUBLIC HEALTH		
1. Implement shading requirements for clams on a vessel, during transport to a dealer, or storage on a dock during June through September. These requirements would be implemented as a public health protection measure under 15A NCAC 03K .0110 by proclamation annually	4	Existing proclamation authority

4.2 MARINE FISHERIES COMMISSION PREFERRED MANAGEMENT OPTIONS FOR THE DRAFT AMENDMENT 2 OF THE HARD CLAM FISHERY MANAGEMENT PLAN

MANAGEMENT STRATEGIES	OBJECTIVES	REQUIRED ACTION
MANAGEMENT OF PUBLIC BOTTOM		
1. Status quo (Continue the daily harvest limit for recreational purposes at 100 clams per person per day not to exceed 200 per clams per vessel per day)	1 and 6	No action required
2. Status quo (Maintain management of the mechanical clam harvest in existing areas from Core Sound south to Topsail Sound, including modifications to the mechanical clam harvest lines to exclude areas where oyster habitat and SAV habitat exist based on all available information)	1, 4 and 6	No action required
3. Remove the Pamlico Sound mechanical clam harvest areas in rule no longer in use	1	Rule change to 15A NCAC 03K .0302
4. Take latitude/longitude coordinates of the poles marking the open mechanical clam harvest area boundary in the New River, still with the flexibility to move a line to avoid critical habitats	4 and 7	Completed in 2015
5. Allow mechanical clam harvesters to have access to the bottom before maintenance dredging occurs	1 and 6	No action required
6. Status quo (Maintain current definitions and enforcement of hand harvest methods)	1	No action required
7. Allow Shellfish License holders to be eligible to acquire a Standard Commercial Fishing License after they show a history of sale of shellfish. Continue to allow commercial harvest of all other shellfish (clams included) as currently allowed	1 and 6	No action required
PRIVATE CULTURE		
1. Support modification of G.S. 113-208 and G.S. 113-269 to add minimum fines for violations on shellfish leases and franchises. With minimum fines set at $500 for the first violation and $1,000 for the second violation	5 and 6	Amend G.S. 113-208 and G.S. 113-269
2. Support modification of G.S. 113-269 to include protection to all shellfish leases and franchises, not just those with water column amendments	5 and 6	Amend G.S. 113-269
3. Modify Rule 15A NCAC 03O .0114, regardless whether statute changes occur, so that a first conviction under G.S. 113-208 or G.S. 113-269 the Fisheries Director shall revoke all licenses issued to the licensee	5 and 6	Rule change to 15A NCAC 03O .0114
4. Status quo (Adhere to Regional Conditions of USACE NWP48 with no adverse effect to SAV from shellfish leases and following measure identified in the interim)	4 and 5	No action required
5. Continue the moratorium of shellfish leases in Brunswick County	1, 4, 5 and 6	No action required

4.2 MARINE FISHERIES COMMISSION PREFERRED MANAGEMENT OPTIONS FOR THE DRAFT AMENDMENT 2 OF THE HARD CLAM FISHERY MANAGEMENT PLAN (CONTINUED)2

MANAGEMENT STRATEGIES	OBJECTIVES	REQUIRED ACTION
PRIVATE CULTURE		
6. Establish a rule to support extensions for where "Acts of God" prevent lease holder from making production, with a two year extension and only one extension allowed per term	1, 4 and 6	Rule change 15A NCAC 03O .0201
7. Allow leases returned to the state to remain delineated for a period of one year to allow the pre-existing leased bottom to be re-issued to other shellfish growers	1, 4, 5 and 6	Amend G.S. 113-202
8. Improve public notice of proposed lease applications on the physical lease, at fish houses, and/or through electronic notices	7	No action required
9. Allow a maximum of ten acres in both mechanical methods prohibited areas and mechanical methods allowed areas	1, 4 and 5	Rule change 15A NCAC 03O .0201(a)(3)
ENVIRONMENT AND PUBLIC HEALTH		
1. Implement shading requirements for clams on a vessel, during transport to a dealer, or storage on a dock during June through September. These requirements would be implemented as a public health protection measure under 15A NCAC 03K .0110 by proclamation annually	4	Existing proclamation authority

North Carolina Marine Fisheries Commission
2015-2016 Annual Rulemaking Cycle

May 2016

Time of Year	Action
January 2015	Last opportunity for a new issue to be presented to Division of Marine Fisheries Rules Advisory Team
February 2015	Second review by Division of Marine Fisheries Rules Advisory Team
February-April 2015	Fiscal analysis of rules prepared by Division of Marine Fisheries staff and approved by Office of State Budget and Management
May 2015	Marine Fisheries Commission considers approval of Notice of Text for Rulemaking
August 2015	Publication of proposed rules in the North Carolina Register
September 2015	Public hearing held
November 2015	Marine Fisheries Commission considers approval of permanent rules
January 2016	Rules reviewed by Office of Administrative Hearings Rules Review Commission
(January)	(Last opportunity for a new issue to be presented to Division of Marine Fisheries Rules Advisory Team for next annual cycle)
(February)	(Second review by Division of Marine Fisheries Rules Advisory Team)
Feb. 1, 2016	Earliest possible effective date of rules
February/March 2016	Rulebook supplement prepared
April 1, 2016	Actual effective date of new rules
April 1, 2016	Rulebook supplement available online and for distribution
April 15, 2016	Commercial license sales begin

North Carolina Marine Fisheries Commission
2016-2017 Annual Rulemaking Cycle

May 2016

Time of Year	Action
April 2016	Last opportunity for a new issue to be presented to Division of Marine of Fisheries Rules Advisory Team
May 2016	Second review by Division of Marine Fisheries Rules Advisory Team
May-July 2016	Fiscal analysis of rules prepared by Division of Marine Fisheries staff and approved by Office of State Budget and Management
August 2016	Marine Fisheries Commission considers approval of Notice of Text for Rulemaking
October 2016	Publication of proposed rules in the North Carolina Register
November 2016	Public hearing(s) held
(January 2017)	(Last opportunity for a new issue to be presented to Division of Marine Fisheries Rules Advisory Team for next annual cycle)
(February 2017)	(Second review by Division of Marine Fisheries Rules Advisory Team)
February 2017	Marine Fisheries Commission considers approval of permanent rules
April 2017	Rules reviewed by Office of Administrative Hearings Rules Review Commission
April 15, 2017	Commercial license sales begin
April/May 2017	New rulebook drafted and sent to vendor for publication
May 1, 2017	Earliest possible effective date of rules
May or June 1, 2017	Actual effective date of new rules
May or June 1, 2017	Rulebook available online and for distribution

Issue Paper Review for May 2016 Marine Fisheries Commission Meeting

Issue Paper Title	Issue	Origination	Proposed Rules	Division of Marine Fisheries Recommendation
DEVELOPMENT OF A PERMIT TO ALLOW WEEKEND TRAWLING TO TAKE LIVE SHRIMP	Establish a permit and rules for a commercial live bait shrimp fishery in North Carolina.	N.C. Shrimp Fishery Management Plan Amendment 1	• 15A NCAC 03J .0104 • 15A NCAC 03L .0102 • 15A NCAC 03O .0501 • 15A NCAC 03O .0503	Amend the rules to implement the bait shrimp permit.
SPINY DOGFISH DEALER PERMIT	Move the long-standing permit for quota monitoring of spiny dogfish into permanent rule. The permit has been implemented via proclamation for several years.	N.C. Division of Marine Fisheries	• 15A NCAC 03O .0503	Amend the permit rule to include the Spiny Dogfish Dealer Permit. This is consistent with other dealer permits, as well as the division policy to move long-standing, reoccurring proclamations into rule.
PROPOSED RULE CHANGES FOR CONVICTIONS OF LARCENY RELATED TO FISHING GEAR OR CONVICTIONS OF INJURING/DESTROYING/ STEALING FISHING GEAR	Authorize suspension or revocation of licenses for convictions of fishing gear-related property crimes under G.S. 14-72 or 113-268, in order to serve as a deterrent to theft of and vandalism to fishing gear, and theft of fish from fishing gear.	N.C. Division of Marine Fisheries, as a result of complaints from the fishing public	• 15A NCAC 03O .0114	Amend the rule to make a conviction under G.S. 14-72 or G.S. 113-268 result in license revocation for a minimum of one year. This is a penalty consistent with the Marine Fisheries Commission's preferred management strategy for the protection of shellfish lease and franchise rights under the Oyster Fishery Management Plan Amendment 4 and the Hard Clam Fishery Management Plan Amendment 2.
CORRECTION OF WADE CREEK PRIMARY NURSERY AREA BOUNDARY LINE	Correct a coordinate error for the primary nursery area in Wade Creek, Jarretts Bay (Carteret County) that occurred in 2004 when the format of coordinates was converted.	N.C. Division of Marine Fisheries	• 15A NCAC 03R .0103	Amend the rule to correct the coordinates.
CLARIFICATION OF LICENSE REQUIREMENTS FOR LEASEHOLDER DESIGNEES	Correct discrepancies between G.S. 113-169.2 and rule regarding license requirements for employees of a leaseholder using mechanical gear when the leaseholder holds a commercial license.	Session Law 2013-360 Session Law 2015-241	• 15A NCAC 03O .0501	Amend the rule to address the discrepancies created when the session laws were adopted.

Development of a Permit to Allow Weekend Trawling to Take Live Shrimp
Issue Paper

Dec. 4, 2015

I. ISSUE
Establishing a permit and rules for a commercial live bait shrimp fishery in North Carolina

II. ORIGINATION
N.C. Shrimp Fishery Management Plan (FMP) Amendment 1

III. BACKGROUND
Management of the shrimp fishery in North Carolina is based on regional management and shrimp size. Regional management allows flexibility within areas and waterbodies because of geographical differences in size, growth and occurrence of shrimp. As growth increases, shrimp migrate to deeper and saltier waters, and eventually move out to the ocean. There are several criteria that are used to determine opening areas to shrimping and shrimp trawling including habitat, economic and social factors, user conflicts, bycatch issues, and shrimp size. Shrimp grow at different rates depending on water temperature and salinity. Presently, the Division of Marine Fisheries (NCDMF) manages shrimp based on count size, or number of shrimp per pound. For example, thirty-count means that for one pound of shrimp, there are 30 shrimp in that pound. Shrimp count size range from as large as a 10-15 count to as small as an 80+ count shrimp depending on the area and time of year.

Because N.C. shrimp management is based on larger sizes of shrimp, conducive to the food shrimp fishery than the smaller bait size shrimp (60-80 count), waters will close in some areas if sampling indicates that there are small shrimp in the area. This prohibits the harvest of those small shrimp for live bait by recreational and commercial users except for the harvest of four quarts, heads on or two and one-half quarts, heads off per person with a cast net. Expanding the live bait shrimp fishery in North Carolina may provide another economic opportunity for commercial shrimpers and increase the value of smaller shrimp, thus improving the overall value of the fishery.

At the Southern Regional Advisory Committee (AC) meeting held in September 2012, during review and consideration of revising the 2006 Shrimp FMP, the committee recommended to the Marine Fisheries Commission (MFC) to amend the shrimp plan and to consider a bait shrimp license. In addition, the NCDMF, after hearing the concerns from the public on shrimp trawl bycatch, changed its recommendation from revising the plan to beginning the amendment process to further investigate management strategies to address bycatch concerns and to also investigate bait shrimp licensing. The MFC, at its November 2012 meeting directed the NCDMF to amend the shrimp FMP, but limit the scope of the amendment to bycatch issues in the commercial and recreational fisheries. Included in the amendment was the directive to establish a permitted commercial live bait shrimp fishery.

The Shrimp FMP Plan Development Team (PDT) developed an issue paper on the live bait shrimp fishery in NC and other states and presented it to the Shrimp FMP AC. The recommendation from the NCDMF was to remain status quo with the AC recommending establishing a permitted live bait fishery and for the NCDMF to craft guidelines and permit fees after reviewing permitted operations in other states. The preferred management strategy from the MFC that became part of the 2015 Shrimp FMP Amendment 1, was to establish a permitted live bait shrimp fishery and for NCDMF to craft the guidelines and permit fees after reviewing permitted operations in other states. The MFC also directed the NCDMF to allow live bait fishermen with a permit to fish until 12:00 p.m. (noon) on Saturdays.

IV. AUTHORITY
G.S. 113-134. Rules.
G.S. 113-169.1. Permits for gear, equipment, and other specialized activities authorized.
G.S. 113-182. Regulation of fishing and fisheries.
G.S. 143B-289.52. Marine Fisheries Commission – powers and duties.

V. DISCUSSION
Live shrimp are popular bait for recreational fishermen targeting spotted sea trout red drum and other popular recreational finfish. Currently, North Carolina does not manage shrimping for bait and fishermen harvesting shrimp

as live bait must comply with current rules and proclamations that are in place for shrimp harvested for consumption. The number of pounds of live bait is low, ranging from 129 pounds in 1994 to 2,074 pounds in 2008. However, the pounds of live bait has increased over time along with the number of dealers reporting and the number of trips taken (Table 1). The value for this fishery is high compared to food shrimp with value increasing over time (Table 1). On average the value per pound has been between $10.00 and $15.00 a pound with an increase in 2011 at $27.00 a pound. There have been a steady number of fishermen and dealers participating in the fishery since 1994 (Table 1). Over half the landings came from shrimp trawls (65%) followed by cast nets (12%), skimmer trawls (10%), and channel nets (5%). Seventy-two percent of the live bait shrimp landings come from the Cape Fear River, the Intracoastal Waterway, Stump and Topsail sounds. The NCDMF is unable to account for shrimp sold as dead bait because there are no data collected on the disposition of shrimp landings. All other states in the south Atlantic and Gulf of Mexico manage for shrimp bait harvest.

Table 1. Number of pounds of live bait shrimp, dealers, trips, and participants, 1994-2014.

Year	Number of Pounds	Number of Dealers	Number of Trips	Number of Participants	Value
1994	129	5	69	4	$1,163
1995	204	11	85	8	$1,834
1996	242	10	118	12	$3,657
1997	249	8	130	10	$2,627
1998	175	14	126	16	$1,908
1999	418	11	60	10	$1,252
2000	469	12	88	10	$6,684
2001	266	8	150	11	$4,338
2002	805	11	222	16	$12,976
2003	1,027	12	201	17	$25,758
2004	1,154	10	218	14	$19,210
2005	921	14	178	15	$7,843
2006	1,349	13	142	14	$30,132
2007	909	14	134	14	$14,009
2008	2,074	11	133	10	$34,572
2009	1,652	15	249	14	$22,942
2010	1,710	16	250	14	$30,994
2011	1,923	17	279	10	$52,673
2012	2,586	18	335	13	$52,892
2013	2,735	18	358	13	$77,601
2014	1,649	14	221	11	$41,252

The PDT met on April 14, 2015 to begin discussions for developing a commercial live bait shrimp permit, conditions of that permit and a permit fee. The group reviewed other states' regulations which are listed below.

South Carolina

A commercial trawler can sell shrimp for both bait and consumption with a land and sell license. Cast netters are restricted to 48 quarts and are limited to 12 dozen shrimp dead or live from December 16 to April 30. Dead shrimp can only be sold by cast netters if they are caught in legal trawling areas (with all necessary licenses). These regulations were established to prohibit the sale of shrimp caught by shrimp baiting and "deep holing" where fishermen cast net shrimp without bait (Larry DeLancey, personal comment). Bait dealers who harvest live shrimp to be sold as bait must have a bait dealer license and live bait tanks aboard the harvesting vessel with a compatible aeration system. Harvesting vessels are not allowed to have any dead shrimp on board when harvesting live shrimp.

Bait dealers must also be certified as a *bona fide* bait dealer and must have that certification in hand while harvesting live shrimp for bait.

Georgia
Commercial bait shrimping is open year round. Those that harvest shrimp for live bait to be sold and/or engage in the sale of shrimp for live or dead bait must possess a bait dealer license and personal commercial fishing license. Commercial bait fishermen may pull trawl nets with a headrope length of up to 20 feet constructed of mesh sizes between 1 inch and 1 3/8 inch stretch. No bycatch reduction devices or turtle excluder devices are required in bait trawls. Trawling for bait shrimp is allowed from one-half hour before sunrise to one-half hour after sunset. No more than 50 quarts of shrimp may be harvested at any one time with less than 10% dead. Fishing at night is not allowed. The Georgia Department of Natural Resources has established bait zones in areas of rivers and creeks that are open for bait shrimp fishing. Bait-holding facilities must be maintained on the harvesting vessel.

Florida
Bait shrimping is allowed with roller trawls only with the exception of the Northeast Region where one trawl is allowed with 5/8-inch mesh in the body and ½-inch mesh in the cod end. Live well requirements mandate that harvesting vessels be equipped with tanks containing a minimum of 16-cubic feet of continuously aerated saline water during harvest and transport. Fishing operations for food shrimp may not harvest live bait and food shrimp on the same trip. However, in the live bait operations are allowed five-gallons of heads on dead shrimp in most areas. Live bait operations in the Northeast Region are further restricted to one-gallon of heads on dead shrimp.

Alabama
Commercial bait shrimpers are allowed one trawl not to exceed a headrope length of 50 feet in open shrimp areas and one trawl not to exceed a headrope length of 16 feet in areas closed to commercial shrimping or in exclusive bait areas. Anyone engaged in taking, catching, transporting, or selling live bait and transporting dead bait must be in possession of a live saltwater bait dealer's license. Exclusive bait areas are special areas that are opened each day from 4:00 a.m. to 10:00 p.m. Seasonal bait areas are those areas open to commercial and recreational taking of live bait when adjacent waters are closed. Harvesting vessels are required to be equipped with live wells with aeration or forced water exchange. There is a maximum tow time of 20 minutes and harvest is limited to two standard shrimp baskets of live or dead shrimp. Harvesting vessels may catch bait shrimp of any size.

Mississippi
Commercial bait shrimping is open year-round. Fishermen are allowed one trawl with no more than a headrope length of 25 feet; however there are some water bodies that have restrictions down to a headrope length of 16 feet. There is a tow time restriction of 25 minutes for bait trawls. Night time trawling is not allowed. Size limits are 100-count shrimp or lower and only daytime fishing is allowed. Fishermen can possess no more than 30 pounds of dead shrimp. Major bays are closed, but live bait may be taken in some bays. Mississippi requires a license for live bait "catcher" boats; these boats must be equipped with shaded holding tanks with aeration and water circulation.

Louisiana
Bait shrimp may be harvested at any time. During the closed shrimp season, bait shrimp can be harvested with cast nets less than 8.5 feet in radius, hand operated dip nets with a diameter not to exceed three feet, bait traps and bait seines less than 30 feet with a maximum mesh size of ¼-inch bar mesh that are manually operated on foot. Live bait shrimp harvesters are also allowed to use one trawl with no more than a headrope of 25 feet or two skimmer nets with individual nets no more than 16 feet measured horizontally. A special bait dealer's permit is required to take live bait shrimp during the closed season beginning May 1 and between the spring and fall inshore shrimp season.

Texas
Texas requires a bait shrimp boat to be licensed and must operate only under commercial bait shrimp regulations. Bait shrimpers may only fish in places authorized for bait shrimp and sell only to a bait shrimp dealer or sportsman. Bait shrimpers can possess only one trawl net with no more than a 54-foot headrope length and are required to use approved TEDs. Bait shrimping is open year round with a 200-pound limit. From August 15 to March 31 bait shrimp operations are allowed to fish 30 minutes before sunrise to 30 minutes after sunset and 30 minutes before sunrise to 2:00 p.m. from April 1 to August 14. From November to August, 50% of the shrimp must be alive and all heads must be attached August through November.

North Carolina
There were 11 fishermen who sold live bait in 2014 (Table 1). Four of those who fish the southern coastal counties were asked about gear size, live tank specifications, tow-times, and dead shrimp tolerance. Headrope lengths of

otter trawls used by these fishermen ranged from 35 to 40 feet. One fisherman used two 35-foot nets (70 feet total headrope length) on a twin framed skimmer rig. Live tank sizes ranged from 50 to 110 gallon tanks with either circulating water or forced water pumps. Tow-times ranged from eight to 20 minutes with most around 15-minute tows. Preferable dead shrimp tolerance ranged from 20 to 50 pounds.

Based on information gathered from other states and information gathered from live bait shrimp fishermen in North Carolina, the PDT discussed creating an issuable paper permit called "Permit for Weekend Trawling for Live Shrimp" (WTLS) with the following specific permit conditions:

- A WTLS is required for holders of a SCFL or RSCFL who harvest live shrimp as bait with a shrimp trawl from Friday at 9:00 p.m. until Saturday at 12:00 p.m.
- A WTLS-holder will be allowed to live bait shrimp from Friday at 9:00 p.m. until Saturday at 12:00 p.m. only in waters that are opened by proclamation to commercial food shrimp fishing.
- Permits are non-transferable. An individual who is assigned a SCFL or RSCFL shall hold a WTLS in his or her own name. The Master designated on the single vessel corporation SCFL is the individual eligible to receive the WTLS.
- It is unlawful for a WTLS-holder to use a shrimp trawl with a headrope length greater than 40 feet.
- It is unlawful for a WTLS-holder to possess more than one gallon of dead shrimp (heads on) per trip.
- It is unlawful for a WTLS-holder to not have a functioning live bait tank or a combination of multiple functioning live bait tanks with aerator(s) and/or circulating water. Tank(s) must total a minimum of 50 gallons.

The PDT also recommended the permit cost to be $10.00 during the development of the FMP; however, it is currently the NCDMF operational policy to not charge any fee for its permits at this time. This permit would expire annually on the fiscal license year of June 30.

After completing an evaluation of other states' regulations, developing the permit conditions, and considering a permit fee, the PDT undertook an evaluation of existing N.C. Marine Fisheries Commission (NCMFC) rules to determine how best to implement the WTLS. Rule 15A NCAC 03O .0506 provides authority to the Fisheries Director to issue permits via proclamation for a special management purpose. In isolation, this would be the most efficient mechanism by which to issue a WTLS. However, the PDT identified portions of two other existing rules that pose a problem: 15A NCAC 03J .0104(b)(1) [Trawl Nets] and 03L .0102 [Weekend Shrimping Prohibited]. The first rule makes it unlawful to use trawl nets in Internal Coastal Waters on weekends. The second rule makes it unlawful to take shrimp by any method in Internal Coastal Waters on weekends, except with the use of fixed and channel nets, hand seines, shrimp pots, and cast nets. Each of these rules currently prevents trawling for live bait shrimp on weekends and thereby prevents issuance of a WTLS.

Rule 15A NCAC 03I .0102 authorizes the Fisheries Director to suspend, in whole or in part, any rule of the NCMFC that may be affected by variable conditions. But for instance, suspending NCMFC Rule 15A NCAC 03J .0104 (b)(1) would raise concern that the Director has no proclamation authority to reestablish time restrictions for all trawl nets. For example, if the Director issued a proclamation for shrimp trawls under NCMFC Rule 15A NCAC 03L .0101 and crab trawls under NCMFC Rule 15A NCAC 03L .0201, the Director potentially opened weekend trawling to all other trawling gear. The PDT determined rules 15A NCAC 03J .0104 and 03L .0102 need to be amended prior to being able to issue a WTLS.

Once these two rules have been amended the Division could issue a paper permit through the Director's proclamation authority as provided in NCMFC Rule 15A NCAC 03O .0506. This allows the director to require individuals taking marine and estuarine resources regulated by the NCMFC to obtain a special permit. Using this rule authority would give the Division time to work out any issues with the permit prior to moving the permit into permanent rule.

Another option is for the Division to start the rule making process to amend NCMFC Rules 15A NCAC 03J .0104(b) (1) and 15A NCAC 03L .0102 and to put the WTLS into permanent rule and not issue the permit under NCMFC Rule 15A NCAC 03O .0506. This approach has both positive and negative benefits. The positive is the permit would be established in permanent rule and be easier for stakeholders to find in regulations. The negative benefit of putting the permit directly into permanent rule is once this permit is put into permanent rule if issues arise

concerning the specific permit conditions the NCMFC would have to amend the rule, whereas if the permit is issued by proclamation the Director could address those issues by proclamation.

VI. PROPOSED RULES

15A NCAC 03J .0104 TRAWL NETS

(a) It is unlawful to possess aboard a vessel while using a trawl in ~~internal waters~~ Internal Coastal Waters more than 500 pounds of finfish from December 1 through ~~February 28,~~ March 1, and 1,000 pounds of finfish from March ~~1~~ 2 through November 30.

(b) It is unlawful to use trawl nets:

(1) ~~In internal coastal waters,~~ in Internal Coastal Waters, from 9:00 p.m. on Friday through 5:00 p.m. on Sunday, ~~except that in the areas listed in Subparagraph (b)(5) of this Rule, trawling is prohibited from December 1 through February 28 from one hour after sunset on Friday to one hour before sunrise on Monday;~~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; and

(B) for a holder of a Permit for Weekend Trawling for Live Shrimp in accordance with 15A NCAC 03O .0503;

(2) ~~For~~ for the taking of oysters;

(3) ~~In~~ 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~~ 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~~ from December 1 through ~~February 28~~ 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~~ 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) Minimum mesh sizes for shrimp and crab trawls are presented in 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 trawls for recreational purposes unless the trawl 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 always 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 trawls for the taking of blue crabs in ~~internal waters,~~ 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 trawls authorized by a Recreational Commercial Gear License, 50 blue crabs, not to exceed 100 blue crabs if two or more Recreational Commercial Gear License holders are on board.

(2) For commercial operations, crabs may be taken incidental to lawful shrimp trawl 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 03L .0102 WEEKEND SHRIMPING PROHIBITED

It is unlawful to take shrimp by any method from 9:00 ~~P.M.~~ p.m. on Friday through 5:00 ~~P.M.~~ p.m. on Sunday, except:

(1) in the Atlantic Ocean; ~~or~~

(2) with the use of fixed and channel nets, hand seines, shrimp pots and cast ~~nets.~~nets; and

(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; ~~113-221;~~ 143B-289.52;*
Eff. January 1, 1991;
Amended Eff; May 1, 2017; August 1, 2004; March 1, 1994.

[Note: Rule 15A NCAC 03O .0501 is also under construction in the "Clarification of License Requirements for Leaseholder Designees Issue Paper". Only proposed changes in support of the Permit for Weekend Trawling for Live Shrimp are shown here.]

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

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

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

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

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

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

(5) For permit applications from business entities:

(A) Business Name;

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

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

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

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

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

(6) Additional information as required for specific permits.

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

(1) Pound Net Permit;
(2) Permit to Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean; ~~or~~
(3) Atlantic Ocean Striped Bass Commercial Gear ~~Permit.~~Permit; or
(4) Permit for Weekend Trawling for Live Shrimp.
(A) An individual who is assigned a Standard Commercial Fishing License shall hold a Permit for Weekend Trawling for Live Shrimp.
(B) 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.

(c) A permittee and his designees shall hold a valid Standard or Retired Standard Commercial Fishing License with a Shellfish Endorsement or a Shellfish License in order to hold a:
(1) Permit to Transplant Prohibited (Polluted) Shellfish;
(2) Permit to Transplant Oysters from Seed Oyster Management Areas;
(3) Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises;
(4) Permit to Harvest Rangia Clams from Prohibited (Polluted) Areas; or
(5) Depuration Permit.

(d) A permittee shall hold a valid:
(1) Fish Dealer License in the proper category in order to hold Dealer Permits for Monitoring Fisheries Under a Quota/Allocation for that category; and
(2) Standard Commercial Fishing License with a Shellfish Endorsement, Retired Standard Commercial Fishing License with a Shellfish Endorsement or a Shellfish License in order to harvest clams or oysters for depuration.

(e) Aquaculture Operations/Collection Permits:
(1) A permittee shall hold a valid Aquaculture Operation Permit issued by the Fisheries Director to hold an Aquaculture Collection Permit.
(2) The permittee or designees shall hold appropriate licenses from the Division of Marine Fisheries for the species harvested and the gear used under the Aquaculture Collection Permit.

(f) Atlantic Ocean Striped Bass Commercial Gear Permit:
(1) Upon application for an Atlantic Ocean Striped Bass Commercial Gear Permit, a person shall declare one of the following gears for an initial permit and at intervals of three consecutive license years thereafter:
(A) gill net;
(B) trawl; or
(C) beach seine.
For the purpose of this Rule, a "beach seine" is defined as a swipe net constructed of multi-filament or multi-fiber webbing fished from the ocean beach that is deployed from a vessel launched from the ocean beach where the fishing operation takes place.
Gear declarations 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 the person.

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

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

(i) The Fisheries Director, or his agent may evaluate the following in determining whether to issue, modify, or renew a permit:
(1) Potential threats to public health or marine and estuarine resources regulated by the Marine Fisheries Commission;
(2) Applicant's demonstration of a valid justification for the permit and a showing of responsibility as determined by the Fisheries Director; and
(3) Applicant's history of habitual fisheries violations evidenced by eight or more violations in 10 years.

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

(k) Permits are valid from the date of issuance through the expiration date printed on the permit. Unless otherwise established by rule, the Fisheries Director may establish the issuance timeframe for specific types and categories of permits based on season, calendar year, or other period based upon the nature of the activity permitted, the duration of the activity, compliance with federal or state fishery management plans or implementing rules, conflicts with other fisheries or gear usage, or seasons for the species involved. The expiration date shall be specified on the permit.
(l) For permit renewals, the permittee's signature on the application shall certify all information as true and accurate. Notarization of signature on renewal applications shall not be required.
(m) For initial or renewal permits, processing time for permits may be up to 30 days unless otherwise specified in this Chapter.
(n) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries within 30 days of a change of name or address, in accordance with G.S. 113-169.2.
(o) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries of a change of designee prior to use of the permit by that designee.
(p) Permit applications are available at all Division Offices.

History Note: *Authority G.S. 113-134; 113-169.1; 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.

[Note: Rule 15A NCAC 03O .0503 is also under construction in the "Spiny Dogfish Dealer Permit Issue Paper". Only proposed changes in support of the Permit for Weekend Trawling for Live Shrimp are shown here.]

15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC

(a) Horseshoe Crab Biomedical Use Permit:
- (1) It is unlawful to use horseshoe crabs for biomedical purposes without first obtaining a permit.
- (2) It is unlawful for persons who have been issued a Horseshoe Crab Biomedical Use Permit to fail to submit a report on the use of horseshoe crabs to the Division of Marine Fisheries due on February 1 of each year. Such reports shall be filed on forms provided by the Division and shall include a monthly account of the number of crabs harvested, statement of percent mortality up to the point of release, and a certification that harvested horseshoe crabs are solely used by the biomedical facility and not for other purposes.
- (3) It is unlawful for persons who have been issued a Horseshoe Crab Biomedical Use Permit to fail to comply with the Atlantic States Marine Fisheries Commission Interstate Fishery Management Plan for Horseshoe Crab. The Atlantic States Marine Fisheries Commission Interstate Fishery Management Plan for Horseshoe Crab is incorporated by reference including subsequent amendments and editions. Copies of this plan are available via the Internet from the Atlantic States Marine Fisheries Commission at http://www.asmfc.org/fisheries-management/program-overview and at the Division of Marine Fisheries, P.O. Box 769, 3441 Arendell St., Morehead City, North Carolina 28557 at no cost.

(b) Dealers Permits for Monitoring Fisheries under a Quota/Allocation:
- (1) During the commercial season opened by proclamation or rule for the fishery for which a Dealers Permit for Monitoring Fisheries under a Quota/Allocation permit is issued, it is unlawful for the fish dealers issued such permit to fail to:
  - (A) fax or send via electronic mail by noon daily, on forms provided by the Division, the previous day's landings for the permitted fishery to the dealer contact designated on the permit. Landings for Fridays or Saturdays shall be submitted on the following Monday. If the dealer is unable to fax or electronic mail the required information, the permittee shall call in the previous day's landings to the dealer contact designated on the permit, but shall maintain a log furnished by the Division;
  - (B) submit the required log to the Division upon request or no later than five days after the close of the season for the fishery permitted;
  - (C) maintain faxes and other related documentation in accordance with 15A NCAC 03I .0114;
  - (D) contact the dealer contact designated on the permit daily regardless of whether or not a transaction for the fishery for which a dealer is permitted occurred; and

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

(2) Striped Bass Dealer Permit:

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

(i) Atlantic Ocean;

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

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

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

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

(4) Atlantic Ocean Flounder Dealer Permit:

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

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

(5) Black Sea Bass North of Cape Hatteras Dealer Permit. It is unlawful for a fish dealer to purchase or possess more than 100 pounds of black sea bass taken from the Atlantic Ocean north of Cape Hatteras (35° 15.0321' N) per day per commercial fishing operation during the open season unless the dealer has a Black Sea Bass North of Cape Hatteras Dealer Permit.

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

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

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

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

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

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

(5) It is unlawful to fail to report any sea turtle captured. Reports shall be made within 24 hours of the capture to the Marine Patrol Communications Center by phone. All turtles taken incidental to trawling shall be handled and resuscitated in accordance with requirements specified in 50 CFR 223.206. This federal rule is incorporated by reference including subsequent amendments and editions. Copies of this rule are available via the Code of Federal Regulations posted on the Internet at http://www.gpoaccess.gov/cfr/index.html and at the Division of Marine Fisheries, P.O. Box 769, Morehead City, North Carolina 28557 at no cost.

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

(f) Aquaculture Operations/Collection Permits:

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

(2) It is unlawful:

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

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

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

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

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

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

(g) Scientific or Educational Activity Permit:

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

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

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

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

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

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

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

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

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

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

(h) Under Dock Oyster Culture Permit:

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

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

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

(A) the application process;

(B) permit criteria;

(C) basic oyster biology and culture techniques;

(D) shellfish harvest area closures due to pollution;

(E) safe handling practices;

(F) permit conditions; and

(G) permit revocation criteria.

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

(i) Atlantic Ocean Striped Bass Commercial Gear Permit:

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

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

(j) Coastal Recreational Fishing License Exemption Permit:

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

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

(A) individuals with physical or mental limitations;

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

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

(D) disadvantaged youths.

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

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

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

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

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

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

(D) an estimate of the number of participants.

(k) Permit for Weekend Trawling for Live Shrimp:

(1) It is unlawful to take shrimp with trawls from Friday 9:00 p.m. through Saturday 12:00 p.m. (noon) without first obtaining a Permit for Weekend Trawling for Live Shrimp.

(2) It is unlawful for a holder of a Permit for Weekend Trawling for Live Shrimp to use trawls from 12:01 p.m. on Saturday through 5:00 p.m. on Sunday.

(3) It is unlawful for a permit holder during the timeframe specified in subparagraph (k)(1) 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 aerator(s) and/or circulating water. Tank(s) capacity must total a minimum of 50 gallons; and

(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.

History Note: *Authority G.S. 113-134; 113-169.1; 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.

VIII. RECOMMENDATION

The PDT recommends beginning the rule making process to implement the bait shrimp permit. This includes developing a Permit for Weekend Trawling for Live Shrimp through rule and to not use NCMFC Rule 15A NCAC 03O .0506.

Prepared by: Trish Murphey, trish.murphey@ncdenr.gov, 252-808-8091
June 30, 2015
Revised: July 28, 2015
Sept. 23, 2015
Oct. 9, 2015
Nov. 23, 2015
Dec. 4, 2015

NOTICE OF TEXT ATTACHMENT

15A NCAC 03J .0104 TRAWL NETS

In accordance with the N.C. Shrimp Fishery Management Plan Amendment 1, proposed amendments provide an exception for a holder of a Permit for Weekend Trawling for Live Shrimp to use trawl nets in Internal Coastal Waters during weekends as specified in 15A NCAC 03O .0503. Additional amendments modify existing dates to account for leap years.

15A NCAC 03L .0102 WEEKEND SHRIMPING PROHIBITED

In accordance with the N.C. Shrimp Fishery Management Plan Amendment 1, proposed amendments provide an exception for a holder of a Permit for Weekend Trawling for Live Shrimp to take shrimp during weekends as specified in 15A NCAC 03O .0503.

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

In accordance with the N.C. Shrimp Fishery Management Plan Amendment 1, proposed amendments require a holder of a Permit for Weekend Trawling for Live Shrimp to hold a valid Standard or Retired Standard Commercial Fishing License and clarify the responsible party for an assigned license and also for a corporation.

15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC

In accordance with the N.C. Shrimp Fishery Management Plan Amendment 1, proposed amendments establish the Permit for Weekend Trawling for Live Shrimp and set specific conditions of the permit.

Ancillary Item: Update NOV process for this permit

MFC Rulebook Index Worksheet

Rule	Rulebook Page #	Subject	Index Entry (**Bold** major headings)	Add/Delete/No Change
03J .0104(a)	17	trawl nets	**gear:**trawl:restrictions	No change
			gear:trawl, crab:requirements	
			gear:trawl, shrimp:requirements	
			species:shrimp:restrictions:gear	
(b)			**species:**oyster:restrictions:gear	
			gear:trawl, peeler:restrictions♦	
			gear:trawl:restrictions:areas♦	
(b)(1)(B)			**permit:**Weekend Trawling for Live Shrimp	Add
(d)			bycatch reduction device (BRD)♦	No change
			gear:trawl:bycatch reduction device (BRD)♦	
(f)			**species:**crab, blue:restrictions:gear	

			species:crab, blue:shrimp trawl bycatch	
(g)			**gear:**trawl:restrictions:areas♦	
03L .0102	41	weekend shrimping	**species:**shrimp:restrictions:weekend	No change
			gear:net, fixed:restrictions:shrimp	
			gear:net, channel:restrictions:shrimp	
			gear:seine, hand:restrictions, shrimp	
			gear:pot, shrimp:restrictions	
			gear:net, cast:restrictions, shrimp	
			permit: Weekend Trawling for Live Shrimp	Add
03O .0501	73	permit requirements	**permit:**application	No change
(b)			**permit:**Pound Net Set:application	
			permit: Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean	
			turtle excluder device (TED)	
			permit: Weekend Trawling for Live Shrimp	Add
(c)			relay, permit	No change
			transplanting:shellfish, permit	
			permit: Transplant Prohibited (Polluted) Shellfish	
			permit: Transplant Oysters from Seed Oyster Management Areas	
			permit: Mechanical Methods for Shellfish on Shellfish Leases or Franchises	
			gear:mechanical methods for clamming:permit	
			gear:mechanical methods for oystering:permit	
			permit: Harvest Rangia Clams From Prohibited (Polluted) Areas	
			permit: Depuration	
(d)			**permit:**Dealer Permit for Quota Monitoring:license, requirement	
(e)			**permit:**Aquaculture Collection	
			permit: Aquaculture Operation	
(f)			**permit:**Atlantic Ocean Striped Bass Commercial Gear	
			permit:bass, striped, Atlantic Ocean	
			species:bass, striped:permit, Atlantic Ocean Striped Bass Commerical Gear	
			gear:seine, beach, definition	
03O .0503(a)	75	specific permit conditions	**permit:**Horseshoe Crab Biomedical Use	No change
			species:crab, horseshoe:permit, Horseshoe Crab Biomedical Use	
(b)			**permit:**Dealer Permit for Quota Monitoring:reporting	
			permit:reporting requirements	
			permit: Dealer Permit for Quota Monitoring:Striped Bass	
			species:bass, striped:permit, Dealer Permit for Quota Monitoring	
			tag:bass, striped:dealer requirements	

			species:bass, striped:tag	
			permit: Dealer Permit for Quota Monitoring:River Herring	
			species:herring, river:Dealer Permit for Quota Monitoring	
			permit: Dealer Permit for Quota Monitoring:Flounder	
			species:flounder, summer, Dealer Permit for Quota Monitoring	
			permit: Dealer Permit for Quota Monitoring:Black Sea Bass North of Cape Hatteras	
			species:sea bass, black, Dealer Permit for Quota Monitoring	
			quota:dealer permits	
(c)			**permit:**Blue Crab Shedding	
			species:crab, blue:shedding operation	
			shedding operation, permit	
(d)			**permit:**Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean	
			turtle excluder device (TED)	
(e)			**permit:**Pound Net Set:requirements	
(f)			**permit:**Aquaculture Collection	
			permit: Aquaculture Operation	
(g)			**permit:**Scientific or Educational Activity	
(h)			**permit:**Under Dock Oyster Culture	
(i)			**permit:**Atlantic Ocean Striped Bass Commercial Gear	
			permit:bass, striped, Atlantic Ocean	
			species:bass, striped:permit, Atlantic Ocean Striped Bass Commercial Gear	
(j)			**license:**Coastal Recreational Fishing:exemptions	
			permit: Coastal Recreational Fishing License Exemption	
(k)			**permit:**Weekend Trawling for Live Shrimp	Add

Spiny Dogfish Dealer Permit Issue Paper

Sept. 19, 2014

I. ISSUE

The requirement for fish dealers to hold a dealer permit for quota monitoring specific to spiny dogfish has been issued by proclamation since its inception. It is the only dealer permit for quota monitoring purposes currently not in rule.

II. ORIGINATION

N.C. Division of Marine Fisheries (division) Rules Advisory Team

III. BACKGROUND

Certain fish species are managed under federal or state quotas that require frequent monitoring in order to limit harvest of the allocated quota. One basic requirement of any quota monitoring program is to know the population of those required to report so that reporting compliance can be assessed. For this reason, the division has developed rules for dealer permits for three federally managed fish of which North Carolina has a state allocation (summer flounder, black sea bass North of Cape Hatteras, and striped bass) and one state managed species currently under a moratorium (river herring). North Carolina is also allocated quotas of other species, namely menhaden, bluefish and horseshoe crabs, but no dealer monitoring permits are in place for those species for three reasons. First, the National Marine Fisheries Service is responsible for monitoring North Carolina's landings so there is no need for the division to monitor them. Second, it is fairly easy for North Carolina to receive a transfer of quota from other states if we exceed the state allocation. Lastly, there is a large number of dealers reporting bluefish and menhaden landings and thus the resources required to monitor those fisheries under the current quota monitoring program would be too large to undertake it. It has been standard practice within the division to require dealer permits first by proclamation and later move these requirements into rule once the process stabilizes. If the division realizes that more frequent monitoring of any of the above-mentioned fisheries currently not monitored is required, the division will likely begin by first requiring the permit by proclamation.

The division has, by proclamation, also required a dealer permit and daily reporting of landings for spiny dogfish since November 2003 (FF-42-2003.) The division has a policy which recommends moving long-standing proclamations into rule to aid in the clarity of regulations for the public. Members of the Rules Advisory Team discussed this and evaluated moving the spiny dogfish dealer permit requirement into rule.

IV. AUTHORITY

N.C.G.S. 113- 169.1 - Permits for gear, equipment, and other specialized activities authorized.

V. DISCUSSION

Placing the permit requirement in rule has no real impact on holders of the permit as the reporting requirements, application process, and cost of the permit will not change (all division permits, with the exception of one, are issued at zero cost). Dealers holding this permit (31 issued in 2013) are now required to report to the division their purchases of spiny dogfish from fishermen on a daily basis when the harvest season is open. Seasonal openings as well as trip limits will continue to be stipulated in proclamation due to the variable nature of these conditions of the fishery.

VI. PROPOSED RULE(S)

[Note: Rule 15A NCAC 03O .0503 is also under construction in the "Development of a Permit to Allow Weekend Trawling to Take Live Shrimp Issue Paper". Only proposed changes in support of the Spiny Dogfish Dealer Permit are shown here.]

15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC

(a) Horseshoe Crab Biomedical Use Permit:

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

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

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

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

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

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

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

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

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

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

(2) Striped Bass Dealer Permit:

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

(i) Atlantic Ocean;

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

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

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

landings. It is unlawful for the permittee to fail to surrender unused tags to the Division upon request.

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

(4) Atlantic Ocean Flounder Dealer Permit:

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

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

(5) Black Sea Bass North of Cape Hatteras Dealer Permit. It is unlawful for a fish dealer to purchase or possess more than 100 pounds of black sea bass taken from the Atlantic Ocean north of Cape Hatteras (35° 15.0321' N) per day per commercial fishing operation during the open season unless the dealer has a Black Sea Bass North of Cape Hatteras Dealer Permit.

(6) Spiny Dogfish Dealer Permit. It is 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.

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

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

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

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

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

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

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

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

(f) Aquaculture Operations/Collection Permits:

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

(2) It is unlawful:

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

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

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

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

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

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

(g) Scientific or Educational Activity Permit:

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

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

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

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

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

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

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

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

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

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

(h) Under Dock Oyster Culture Permit:

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

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

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

(A) the application process;

(B) permit criteria;

(C) basic oyster biology and culture techniques;

(D) shellfish harvest area closures due to pollution;

(E) safe handling practices;

(F) permit conditions; and

(G) permit revocation criteria.

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

(i) Atlantic Ocean Striped Bass Commercial Gear Permit:

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

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

(j) Coastal Recreational Fishing License Exemption Permit:

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

(2) The Coastal Recreational Fishing License Exemption Permit shall only be issued for recreational fishing activity conducted solely for the participation and benefit of one of the following groups of eligible individuals:
   (A) individuals with physical or mental limitations;
   (B) members of the United States Armed Forces and their dependents, upon presentation of a valid military identification card, for military appreciation;
   (C) individuals receiving instruction on recreational fishing techniques and conservation practices from employees of state or federal marine or estuarine resource management agencies, or instructors affiliated with educational institutions; and
   (D) disadvantaged youths.

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

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

(4) The Coastal Recreational Fishing License Exemption Permit shall only be issued when all of the following, in addition to the information required in 15A NCAC 03O .0501, is submitted to the Fisheries Director in writing a minimum of 30 days prior to the event:
   (A) the name, date(s), time and physical location of the event;
   (B) documentation that substantiates local, state, or federal involvement in the organized fishing event, if applicable;
   (C) the cost or requirements, if any, for an individual to participate in the event; and
   (D) an estimate of the number of participants.

(k) For Hire Fishing Permit:

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

(2) It is unlawful for a For Hire vessel operator to operate under the For Hire Fishing Permit without:
   (A) holding the USCG certification required in 15A NCAC 03O .0501(g)(1);
   (B) having the For Hire Fishing Permit for the vessel or copy thereof in possession and ready at hand for inspection; and
   (C) having current picture identification in possession and ready at hand for inspection.

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

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

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

History Note: *Authority G.S. 113-134; 113-169.1; 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; April 1, 2014; April 1, 2009; July 1, 2008; January 1, 2008; September 1, 2005; October 1, 2004; August 1, 2004; August 1, 2002.*

VII. PROPOSED MANAGEMENT OPTIONS

Option 1

Status Quo: continue to leave the requirement for a Spiny Dogfish Dealer Permit in proclamation.

+ No additional staff resources required to develop rule, draft fiscal analysis, accept public comment on rule and implement rule
- Inconsistent with other dealer permits
- Inconsistent with division policy to place long-term, reoccurring proclamations into rule

Option 2

Amend permit rule to include the Spiny Dogfish Dealer Permit.

+ Consistent with other dealer permits
+ No impact to dealers since requirements do not change
+ Provides more easily found permit requirements to the affected public
- Additional staff resources required to develop rule, draft fiscal analysis, accept public comment on rule and implement rule

VIII. RECOMMENDATION

The division recommends amending the permit rule to include the spiny dogfish dealer permit (Option 2.)

Prepared by: Don Hesselman, don.hesselman@ncdenr.gov, (252) 808-8099
July 14, 2014
Updated: July 24, 2014
Updated: September 19, 2014

NOTICE OF TEXT ATTACHMENT

15A NCAC 03O .0503 PERMIT CONDITIONS; SPECIFIC

Proposed amendments relocate a 2003 requirement for a permit for dealers transacting in spiny dogfish from proclamation into rule. Spiny dogfish are monitored under a quota and dealers are required to report daily landings during the open season. Placing the permit requirement in rule has no real impact on holders of the permit as the reporting requirements, application process, and cost of the permit will not change. Seasonal openings as well as trip limits will continue to be stipulated in proclamation due to the variable nature of the provisions for the fishery.

MFC Rulebook Index Worksheet

Rule	Rulebook Page #	Subject	Index Entry (**Bold** major headings)	Add/Delete
03O .0503	73-76	Spiny Dogfish Dealer Permit	**permit:**Dealer Permit for Quota Monitoring:Spiny Dogfish	Add
			species:dogfish, spiny, Dealer Permit for Quota Monitoring	Add
03O .0506	77	Spiny Dogfish Dealer Permit	**permit:**Dealer Permit for Quota Monitoring:Spiny Dogfish♦	Delete
			permit: Special Permits for Management Purposes♦:Spiny Dogfish♦	Delete
			species:dogfish, spiny♦:Special Permits for Management Purposes♦	Delete

Proposed Rule Changes for Convictions of Larceny Related to Fishing Gear or Convictions of Injuring/Destroying/Stealing Fishing Gear
Issue Paper

April 13, 2016

I. ISSUE

There has been an increase in the theft or larceny of commercial fishing gear, especially in the northeastern region of the state. Current N.C. Marine Fisheries Commission rules do not authorize suspensions or revocations of licenses for convictions of property crimes under G.S. 14-72 (Larceny of property; receiving stolen goods or possessing stolen goods) when related to fishing gear.

II. ORIGINATION

This issue originated from complaints received by the N.C. Marine Patrol from the fishing public in District One (northern district) while investigating the larcenies of crab pots.

III. BACKGROUND

For the past several years, the N.C. Marine Patrol has investigated an increasing number of crimes related to the larceny of commercial gear. It is also likely that fishermen are doing a better job of reporting significant larcenies to law enforcement than they have in the past. Most of these crimes pertain to the larceny of crab pots, but in some cases, larcenies of gill nets, hoop nets and fish pots have occurred and been investigated as well. In addition, crimes have been investigated for the stealing of fish from pots, gill nets, pound nets, and other gear. The investigations of these crimes often involve significant time and resources, including execution of search warrants, transport and storage of evidence, arrests and multiple court appearances for the officers. These investigations pull marine patrol officers away from their core mission of protecting marine resources, to a sub-mission of protecting personal property.

There are several reasons why larcenies of gear are occurring beyond the fact that theft is part of our modern society. First, fishing gear is often left unattended in the isolated and remote waters of the state where it is vulnerable to theft. In these areas, there is no one around to see the larceny being committed. Another reason is the depressed economy at the present time. This factor likely contributes in several ways. One, the price of nearly everything involved with commercial fishing has risen. Gear, fuel, motors, bait, etc. have all increased in price and have burdened the fishermen. Pertaining to crab pots, the higher prices of steel and associated supplies with constructing a pot have had an impact on the price of a crab pot. A crab pot is typically constructed of PVC-coated steel wire with a steel rebar square attached to the bottom to act as a stabilizing system for the pot. This rebar square holds the pot upright on the bottom where crabs can easily enter the pot. It also helps keep the pot in one place and decreases its movement from winds, tides and currents. Fifteen years ago, a completely rigged out crab pot cost approximately $25. In today's economy, that same pot brand new is approximately $40, almost twice the cost. There is also the possibility that pots are being stolen for the purpose of being sold to metal recycling centers. This is likely happening in small numbers that go undetected. For example, a person may find a strayed pot that he knows belongs to another fisherman. If he removes it from the water and sells it to a recycler, he is guilty of larceny. The second part of the deteriorated economy that contributes to larcenies is the lack of jobs. High unemployment rates have caused some people to turn to commercial fishing to try and make ends meet. This new influx of people to commercial fishing has, to some extent, contributed to larcenies. For a dishonest person looking to make a career in fishing, it is tempting to go out and steal gear to try and get their business running. When gear can be stolen instead of purchased, a dishonest person has now cut a significant portion of their "start up" budget for their new job as a fisherman. Likewise, there have been lifelong fishermen who have made the decision to steal to keep their operating expenses down. In either instance, people are trying to get by and make ends meet in our weakened economy by doing anything and everything they can, including stealing.

Another problem with the larceny of gear is that a lot of larcenies go undetected and unreported to law enforcement. This can also be for several reasons. If fishermen occasionally lose a pot, they often consider this normal and are not alarmed. Pots can become missing due to winds, tides and currents moving pots. Also, boats can hit buoys and cut them off from the line attached to the pot or boats can hit buoy lines and drag the pot away. Tree limbs, logs or other debris can get tangled in buoy lines and pull the buoy underwater. The buoy line can get wrapped around the pot itself and pull the buoy underwater. Most fishermen will agree when they put pots in the water, they expect to lose some. They see it as just a part of doing business as a fisherman. Since fishermen expect to lose some

pots and pots are known to get lost for many reasons, it does not "set off alarms" with the victim fisherman when a person steals a few pots here or there. This practice of someone stealing a pot here or there from a fisherman has been referred to as, "plucking" by the fishing community. "Plucking" is hard to catch and goes unreported in most cases. "Plucking" can catch up with the perpetrator once another fisherman discovers what has been occurring. Word gets out and others begin looking at the suspect's pots. They begin to find their pots and pots of others and the larcenies of times past begin to reveal themselves.

While investigating these crimes, officers often receive complaints from victims and other fishermen that if a person is convicted of stealing, the N.C. Division of Marine Fisheries (division) will not suspend or revoke the defendant's license that was issued by the division. They want to see a license revocation occur for these convictions so that the violators are immediately unauthorized to participate in fishing activities. Some request that the division "take" the accused "off the water" immediately. The Marine Patrol Officer must explain that the division does not have the authority to "take anyone off the water." The division can only suspend a license of the convicted if they were convicted of certain crimes related to fisheries regulations and had a prior violation. The division cannot suspend someone's license that is only accused of a crime (not convicted) and even for certain convictions, such as for general property crimes (stealing a bicycle or a lawn mower), the division does not have the authority to suspend a fishing-related license.

Unfortunately, the only law currently in force that counts as a conviction under 15A NCAC 03O .0114 (Suspension, revocation and reissuance of licenses) for a license is convictions of G.S. 113-268 (Injuring, destroying, stealing or stealing from nets, seines, buoys, pots, etc.) This conviction will only lead to a suspension or revocation if the defendant has certain prior Marine Fisheries offenses on his/her record. In simple terms, a suspension is when a license is taken away from a license holder for a certain amount of time. At the end of the time frame, the license is returned to the license holder and he/she can continue to use the license. A revocation is when a license is taken away from the license holder forever. However, with a revocation, the license holder may, after a specified time, petition the director of the division to reinstate his/her license. The choice is then solely up to the director as to whether the license will be reinstated. Convictions of G.S. 14-72 (Larceny of property; receiving stolen goods or possessing stolen goods) do not count as convictions under 15A NCAC 03O .0114(Suspension, revocation and reissuance of licenses) for a license. The crime of G.S. 14-72 (Larceny of property; receiving stolen goods or possessing stolen goods) is frequently charged in addition to the crime of G.S. 113-268 (Injuring, destroying, stealing or stealing from nets, seines, buoys, pots, etc.) These are frequently charged together for several reasons. First and foremost, this would be because the crime was committed. Second, this is the nature of the crime of larceny. If someone commits larceny, it is likely the investigation will reveal they committed other crimes such as breaking and entering, safecracking, or possession of stolen property. Another reason is charging multiple involved crimes gives investigators and prosecutors leverage in court proceedings in the event that a plea deal situation arises with the defendant. It could be viewed as an insurance policy of sorts. This leverage helps to insure a meaningful conviction following a plea deal. When marine patrol officers investigate fishing gear larcenies, it is preferable to charge G.S. 113-268 (Injuring, destroying, stealing or stealing from nets, seines, buoys, pots, etc.) in addition to any larceny violation, simply so the defendant will receive a violation against their division-issued license. As stated before, charges of G.S. 14-72 (Larceny of property; receiving stolen goods or possessing stolen goods) do not count as convictions under 15A NCAC 03O .0114 (Suspension, revocation and reissuance of licenses) for a license. It is also not practical to seek a misdemeanor conviction under G.S. 113-268 if the suspect is charged with felony larceny under G.S. 14-72. (Larceny becomes a felony when the value of the property exceeds $1,000. To put it in perspective, this could be viewed as approximately 25 new, rigged out crab pots.) There are several reasons why it is not practical to seek a misdemeanor conviction over a felony conviction. For one, the felony is a more serious offense. For example, if a defendant stole a push lawn mower valued at $50 from someone that would be a misdemeanor offense. A week later, if the same defendant stole a tractor valued at $5,000 from the same person, this would be a felony offense. The investigator now has two separate charges he can pursue. It would be nonsensical for the investigator and/or prosecutor to seek convicting a person for stealing a $50 push lawn mower and not pursue the stealing of the $5,000 tractor. One charge is for misdemeanor larceny and one is for felony larceny. A felony conviction is much more substantial and serious than a misdemeanor conviction. The judgments in court after a felony conviction are more serious as well, when compared to misdemeanor convictions. To compare this to how it applies to fishing gear, one could use this example: a defendant "stomped" five crab pots from one victim. He also stole 100 crab pots from the same victim. There are now two law violations that could be applied, G.S. 113-268 (Injuring, destroying, stealing or stealing from nets, seines, buoys, pots, etc.) and G.S. 14-72 (Larceny of property; receiving stolen goods or possessing stolen goods). G.S. 113-268 is a misdemeanor in this and all situations. In this situation described, the larceny of the 100 crab pots will be a felony amount due to

the crab pots being worth more than $1,000. It simply makes better enforcement and legal sense to pursue the most serious crimes involved. But, should a defendant be convicted of G.S. 14-72 (Larceny of property; receiving stolen goods or possessing stolen goods), and the charge of G.S. 113-268 (Injuring, destroying, stealing or stealing from nets, seines, buoys, pots, etc.) be dismissed, the resulting conviction will not affect any division-issued license held by the defendant. Currently, even if a defendant was convicted of a crime as serious as felony larceny under G.S. 14-72, he/she would receive no violation against any license he/she may hold that is issued by the division. (See Appendix A for N.C. General Statutes 14-72 and 113-268.)

Further compounding the problem of larcenies of commercial fishing gear is how the cases are generally handled by the court system. There seems to be a sentiment in the court system that charges brought to court by the N.C. Marine Patrol are wasting the courts' time because the charges are only a case about fish or crabs. The courts are hearing cases involving murders, rapes, assaults, abuse, drugs, etc. N.C. Marine Patrol cases may be viewed as crimes against a fish and not a person, and therefore, not taken seriously. The courts may not realize that charges may be a felony larceny case where a victim has had $8,000 of crab pots stolen from them, for example. Cases often come to plea agreements outside of court because court officials are not going to allow the case to be heard. In this instance, a judge may never hear the details of a case and understand that a crime has been committed against a person and that not just fish have been affected. Court officials have a responsibility to make sure the courts' time is used efficiently, but this type of situation leads to plea bargains and convictions that are so minor they do not serve as deterrent to future crimes. In the past, judges would sometimes make it a condition of the judgment that the defendant be forbidden from being on the waters of the state for a year or some other set period of time; this was a meaningful consequence that served as a deterrent. Since the decline of the economy it is less likely that type of condition will be a part of a judgment. Minor sentences are also likely for a defendant who has a relatively "clean" record.

Other concerns with court procedures that can add to the problem some fishermen experience with larcenies of gear is when a defendant has been charged with multiple offenses of laws and has multiple court dates. This situation occurs when a defendant commits several different unrelated crimes on different dates, times, etc. Larceny of gear could end up being heard in court and combined into a plea arrangement with any other pending charge the defendant has at the time in that county. The larceny could end up being grouped in and consolidated for judgment with anything from a speeding ticket, to drug charges, to assault charges, and the list goes on. Defendants who have multiple pending court cases often try to get all of their cases heard on the same day, because they know there is a likelihood that the cases are going to be consolidated for judgment, and they will fare better than if the cases were heard on different days. These problems with how cases are handled in court can also contribute to vigilante justice by victims who view going to court as a waste of time. In the past, there have been instances of vigilante justice where fishermen have tried to solve the problem of stealing themselves. Some of these instances include acts of retribution such as stealing gear or fish, stomping (damaging and vandalizing) pots, cutting of nets, cutting buoys off of pots, shooting other's boats with guns, communicating threats, physical confrontations and fights, and sinking and/or burning of boats.

Another problem associated with the larceny of gear, court procedures and license suspensions, is that often times, the defendant who has been convicted and received a suspension or revocation on their division-issued license remains on the waters of our state and continues to actively fish. They accomplish this by a "loophole" in the laws pertaining to 15A NCAC 03O .0114 (Suspension, revocation and reissuance of licenses.) This rule only applies to the actual division-issued license, not the person. The license belonging to the person can be suspended or revoked by the director, but the person can continue to be a part of another commercial fishing operation as long as there is a license holder on board with all required licenses. For example, if a license holder loses his/her license privileges through suspension or revocation, he/she could find another license holder to accompany him/her on their fishing trips, which would make the operation legal as far as licensing requirements are concerned. If that license holder had a boat or access to a boat with a valid Commercial Fishing Vessel Registration in the name of their spouse, family member or friend, the affected license holder could simply find someone to assign a Standard Commercial Fishing License or even buy a Standard Commercial Fishing License and have it transferred to anyone of their choosing. Often this would be a helper they normally have on the boat, and the license holder will never miss a day of work on the water during the suspension or revocation period.

IV. AUTHORITY

G.S. 14-72. Larceny of property; receiving stolen goods or possessing stolen goods.
G.S. 113-168.1. General provisions governing licenses and endorsements.

G.S. 113-171. Suspension, revocation, and reissuance of licenses.
G.S. 113-268. Injuring, destroying, stealing, or stealing from nets, seines, buoys, pots, etc.
15A NCAC 03O .0114. Suspension, revocation and reissuance of licenses.

V. DISCUSSION

There are six proposed management options to address this issue. (See the chart on page 10 for a simplified reference guide to the proposed management options.) The first option is to remain at status quo and make no changes to existing rules. Options two through six would all involve a rule change.

Option two would simply start with making the crimes of G.S. 14-72 (Larceny of property; receiving stolen goods or possessing stolen goods when related to fishing gear) an offense that counts as a conviction for license suspension and revocation purposes under 15A NCAC 03O .0114 (Suspension, revocation and reissuance of licenses). From option two, the penalties against a license increase with each option by way of suspensions, revocations or a combination of both, all the way to option six. Option six would result in a minimum of a two year license revocation for any conviction of the above mentioned crimes. It should be noted that options two through six all involve language that would make the crimes referenced above count as a conviction against a license.

Any option chosen other than status quo, would be a positive step in addressing this issue. Options three through six have the most potential for improving this issue and provide many potential positive impacts from the selected action. Options three through six all include substantial ramifications against a license that could serve as a deterrent, thereby reducing larcenies and improving conflicts between fishermen. These four options could also cut down on time-consuming and costly investigations that pull Marine Patrol Officers away from their core mission of protecting marine resources, while at the same time, improving officer safety. The negative impacts are minimal for options three through six. The modifications to 15A NCAC 03O .0114 listed in options three through six will deter future incidences of theft. Any option chosen from options two through six will be overwhelmingly supported by the fishing community, in particular the commercial fishing community.

VI. PROPOSED RULE(S)

OPTION 5 [Conviction of larceny will count against fishing license; conviction of larceny or injuring/destroying/stealing gear will result in a license revocation. The former licensee shall not be eligible to apply for reinstatement of a revoked license for a period of one year.]

[Note: Rule 15A NCAC 03O .0114 is also under construction in the "Protection of Shellfish Lease and Franchise Rights Issue Paper" included in the draft Oyster Fishery Management Plan Amendment 4 and Hard Clam Fishery Management Plan Amendment 2. Only proposed changes in support of the gear larceny issues are shown here.]

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 are subject to suspension and revocation.

(b) A conviction resulting from being charged by an inspector under G.S. 14-32, ~~14-33 or~~ 14-33, 14-72 or 14-399 shall be deemed a conviction for license suspension or revocation purposes.

(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, a second, a third or a fourth or subsequent conviction. Where several convictions result from a single transaction or occurrence, the convictions shall be treated as a single conviction so far as suspension or revocation of the licenses of a licensee is concerned. 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. ~~113-209,~~ 14-72, 113-209 or 113-268 the Fisheries Director shall revoke all licenses issued to the licensee; and

(4) For a conviction under G.S. 14-32 or 14-33, when the offense was committed against a marine fisheries inspector the Fisheries Director shall revoke all licenses issued to the licensee; 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 two years.

(d) After the Fisheries Director determines 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. The written notice may be served upon any responsible individual affiliated with the corporation, partnership, or association where the licensee is not an individual. The notice of suspension or revocation shall be served by an inspector or other agent of the Department or by certified mail, must state the ground upon which it is based, and takes effect immediately upon service. The agent of the Fisheries Director making service shall then or subsequently, as may be feasible under the circumstances, collect all license certificates and plates and other forms or records relating to the license as directed by the Fisheries Director.

(e) Where 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 and 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 Paragraph (c)(4) of this Rule. For a request for reinstatement following revocation, the eligible former licensee shall satisfy the Fisheries Director that the licensee will strive in the future to conduct the operations for which the license is sought in accord with all applicable laws and rules by sending a request for reinstatement in writing to the Fisheries Director, Division of Marine Fisheries, P.O. Box 769, Morehead City, North Carolina 28557. Upon the application of an eligible former licensee after revocation, the Fisheries Director may issue one license sought but not another, as deemed 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.

VII. PROPOSED MANAGEMENT OPTIONS

(+ potential positive impact of action)
(- potential negative impact of action)

1. Status quo
   + A conviction of injuring/destroying/stealing gear will remain a conviction for license purposes.
   + No rule change required
   - A larceny conviction will not result in a conviction for license purposes.
   - A larceny conviction will not result in a license suspension or revocation.
   - A single conviction of injuring/destroying/stealing gear will not result in a license suspension or revocation.
   - Court-imposed judgments may continue not to serve as a deterrent for larceny or injuring/destroying/stealing gear.
   - No additional deterrent put in place for license-holders for convictions of larceny or injuring/destroying/stealing gear
   - Fishermen continue to lose gear and fish from thefts.
   - Incidents of fishermen seeking retribution against other fishermen will continue.

2. Modify 15A NCAC 03O .0114 to make the crimes of G.S. 14-72 count as a conviction for license suspension or revocation purposes.
   + A larceny conviction will result in a conviction for license purposes.
   + A conviction of injuring/destroying/stealing gear will remain a conviction for license purposes.
   +/- Minor deterrent put in place for license-holders for convictions of larceny

- A single larceny conviction will not result in a license suspension or revocation.
- A single conviction of injuring/destroying/stealing gear will not result in a license suspension or revocation.
- Court-imposed judgments may continue not to serve as a deterrent for larceny or injuring/destroying/stealing gear.
- Fishermen likely to continue to lose gear and fish from thefts.
- Incidents of fishermen seeking retribution against other fishermen will likely continue.
- Rule change required

3. Modify 15A NCAC 03O .0114 to make the crimes of G.S. 14-72 count as a conviction for license suspension or revocation purposes and modify the rule to make the crimes of G.S. 14-72 or G.S. 113-268 result in a one-year license suspension.

+ A single conviction of larceny or a conviction of injuring/destroying/stealing gear will result in a one-year license suspension.
+ Deterrent put in place for license-holders for convictions of larceny and convictions of injuring/destroying/stealing gear
+ A larceny conviction will result in a conviction for license purposes.
+ A conviction of injuring/destroying/stealing gear will remain a conviction for license purposes.
+/- Potential decrease for fishermen in loss of gear and fish from thefts
+/- Potential decrease in incidents of fishermen seeking retribution against other fishermen
+/- Marine Patrol officer safety may or may not be improved by a reduction in having to serve search warrants and make arrests.
+/- Time-consuming and expensive investigations by Marine Patrol may or may not decrease.
- Rule change required

4. Modify 15A NCAC 03O .0114 to make the crimes of G.S. 14-72 count as a conviction for license suspension or revocation purposes and modify the rule to make the crimes of G.S. 14-72 or G.S. 113-268 result in a one-year license suspension for a first conviction and upon a second or subsequent conviction, result in license revocation for a minimum of one year.

+ A single conviction of larceny or a conviction of injuring/destroying/stealing gear will result in a one-year license suspension.
+ A second or subsequent conviction will result in a license revocation for a minimum of one year.
+ Increased deterrent put in place for license-holders for convictions of larceny and convictions of injuring/destroying/stealing gear
+ Likely decrease for fishermen in loss of gear and fish from thefts
+ Likely decrease in incidents of fishermen seeking retribution against other fishermen
+ Marine Patrol officer safety may be improved by a reduction in having to serve search warrants and make arrests.
+ Time-consuming and expensive investigations by Marine Patrol could decrease.
+ A larceny conviction will result in a conviction for license purposes.
+ A conviction of injuring/destroying/stealing gear will remain a conviction for license purposes.
- Rule change required

5. Modify 15A NCAC 03O .0114 to make the crimes of G.S. 14-72 count as a conviction for license suspension or revocation purposes and modify the rule to make the crimes of G.S. 14-72 or G.S. 113-268 result in license revocation for a minimum of one year.

+ A single conviction of larceny or a conviction of injuring/destroying/stealing gear will result in a license revocation for a minimum of one year.
+ Meaningful deterrent put in place for license-holders for convictions of larceny and convictions of injuring/destroying/stealing gear
+ Anticipated decrease for fishermen in loss of gear and fish from thefts
+ Anticipated decrease in incidents of fishermen seeking retribution against other fishermen
+ Marine Patrol officer safety may be improved by a reduction in having to serve search warrants and make arrests.
+ Time-consuming and expensive investigations by Marine Patrol could decrease.
+ A larceny conviction will result in a conviction for license purposes.

+ A conviction of injuring/destroying/stealing gear will remain a conviction for license purposes.
- Rule change required

6. Modify 15A NCAC 03O .0114 to make the crimes of G.S. 14-72 count as a conviction for license suspension or revocation purposes and modify the rule to make the crimes of G.S. 14-72 or G.S. 113-268 result in license revocation for a minimum of two years.

+ A single conviction of larceny or a conviction of injuring/destroying/stealing gear will result in a license revocation for a minimum of two years.
+ Significant deterrent put in place for license-holders for convictions of larceny and convictions of injuring/destroying/stealing gear
+ Anticipated decrease for fishermen in loss of gear and fish from thefts
+ Anticipated decrease in incidents of fishermen seeking retribution against other fishermen
+ Marine Patrol officer safety may be improved by a reduction in having to serve search warrants and make arrests.
+ Time-consuming and expensive investigations by Marine Patrol could decrease.
+ A larceny conviction will result in a conviction for license purposes.
+ A conviction of injuring/destroying/stealing gear will remain a conviction for license purposes.
- Rule change required

Summary of Management Options for Gear Larceny Convictions

#	Result of option	. . . and . . .	. . . and . . .	Comparable to conviction of . . .
1.	No change			
2.	Gear larceny conviction counts against fishing license			Injuring/destroying/stealing gear, and all other crimes listed below
3.	Gear larceny conviction counts against fishing license	One-year license suspension		Felony littering
4.	Gear larceny conviction counts against fishing license	First conviction: one-year license suspension	Additional conviction: license revocation for minimum of one year	Taking shellfish from polluted waters
5.	Gear larceny conviction counts against fishing license	License revocation for minimum of one year		Taking shellfish from polluted waters at night or second conviction of taking shellfish from polluted waters within preceding two years
6.	Gear larceny conviction counts against fishing license	License revocation for minimum of two years		Assault on marine patrol officer

VIII. RECOMMENDATION

The division recommends option 5. This is consistent with a parallel issue in the Oyster and Hard Clam fishery management plan draft amendments that also addresses license suspension and revocation.

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Oct. 16, 2014

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Oct. 22, 2014
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Jan. 6, 2015
Jan. 15, 2015
Jan. 28, 2015
March 31, 2015
April 2, 2015
May 11, 2015
April 13, 2016

NOTICE OF TEXT ATTACHMENT

15A NCAC 03O .0114 SUSPENSION, REVOCATION AND REISSUANCE OF LICENSES

Proposed amendments provide for an appropriate sanction against a licensee for convictions of G.S. 14-72 Larceny of property; receiving stolen goods or possessing stolen goods when related to fishing gear or G.S. 113-268 Injuring, destroying, stealing or stealing from nets, seines, buoys, pots, etc. to serve as a deterrent to theft of fishing gear, vandalism to fishing gear, and theft of fish from fishing gear. These sanctions would be consistent with sanctions under other similar marine fisheries laws.

MFC Rulebook Index Worksheet

Rule	Rulebook Page #	Subject	Index Entry (**Bold** major headings)	Add/Delete
03O .0114	60	License suspension and revocation	**license:**suspension	No Change
			license:revocation	No Change
(c)			enforcement:convictions, number of	No Change
(c)(4)			enforcement:penalties:assault	No Change
(c)(4)			**license:**revocation:assault	No Change
(d)			enforcement:service of notice	No Change
(e)			**license:**reissuance	No Change

Appendix A

G.S. 14-72. Larceny of property; receiving stolen goods or possessing stolen goods.

(a) Larceny of goods of the value of more than one thousand dollars ($1,000) is a Class H felony. The receiving or possessing of stolen goods of the value of more than one thousand dollars ($1,000) while knowing or having reasonable grounds to believe that the goods are stolen is a Class H felony. Larceny as provided in subsection (b) of this section is a Class H felony. Receiving or possession of stolen goods as provided in subsection (c) of this section is a Class H felony. Except as provided in subsections (b) and (c) of this section, larceny of property, or the receiving or possession of stolen goods knowing or having reasonable grounds to believe them to be stolen, where the value of the property or goods is not more than one thousand dollars ($1,000), is a Class 1 misdemeanor. In all cases of doubt, the jury shall, in the verdict, fix the value of the property stolen.

(b) The crime of larceny is a felony, without regard to the value of the property in question, if the larceny is any of the following:

(1) From the person.

(2) Committed pursuant to a violation of G.S. 14-51, 14-53, 14-54, 14-54.1, or 14-57.

(3) Of any explosive or incendiary device or substance. As used in this section, the phrase "explosive or incendiary device or substance" shall include any explosive or incendiary grenade or bomb; any dynamite, blasting powder, nitroglycerin, TNT, or other high explosive; or any device, ingredient for such device, or type or quantity of substance primarily useful for large-scale destruction of property by explosive or incendiary action or lethal injury to persons by explosive or incendiary action. This definition shall not include fireworks; or any form, type, or quantity of gasoline, butane gas, natural gas, or any other substance having explosive or incendiary properties but serving a legitimate nondestructive or nonlethal use in the form, type, or quantity stolen.

(4) Of any firearm. As used in this section, the term "firearm" shall include any instrument used in the propulsion of a shot, shell or bullet by the action of gunpowder or any other explosive substance within it. A "firearm," which at the time of theft is not capable of being fired, shall be included within this definition if it can be made to work. This definition shall not include air rifles or air pistols.

(5) Of any record or paper in the custody of the North Carolina State Archives as defined by G.S. 121-2(7) and G.S. 121-2(8).

(6) Committed after the defendant has been convicted in this State or in another jurisdiction for any offense of larceny under this section, or any offense deemed or punishable as larceny under this section, or of any substantially similar offense in any other jurisdiction, regardless of whether the prior convictions were misdemeanors, felonies, or a combination thereof, at least four times. A conviction shall not be included in the four prior convictions required under this subdivision unless the defendant was represented by counsel or waived counsel at first appearance or otherwise prior to trial or plea. If a person is convicted of more than one offense of misdemeanor larceny in a single session of district court, or in a single week of superior court or of a court in another jurisdiction, only one of the convictions may be used as a prior conviction under this subdivision; except that convictions based upon offenses which occurred in separate counties shall each count as a separate prior conviction under this subdivision.

(c) The crime of possessing stolen goods knowing or having reasonable grounds to believe them to be stolen in the circumstances described in subsection (b) is a felony or the crime of receiving stolen goods knowing or having reasonable grounds to believe them to be stolen in the circumstances described in subsection (b) is a felony, without regard to the value of the property in question.

(d) Where the larceny or receiving or possession of stolen goods as described in subsection (a) of this section involves the merchandise of any store, a merchant, a merchant's agent, a merchant's employee, or a peace officer who detains or causes the arrest of any person shall not be held civilly liable for detention, malicious prosecution, false imprisonment, or false arrest of the person detained or arrested, when such detention is upon the premises of the store or in a reasonable proximity thereto, is in a reasonable manner for a reasonable length of time, and, if in detaining or in causing the arrest of such person, the merchant, the merchant's agent, the merchant's employee, or the peace officer had, at the time of the detention or arrest, probable cause to believe that the person committed an offense under subsection (a) of this section. If the person being detained by the merchant, the merchant's agent, or the merchant's employee, is a minor under the age of 18 years, the merchant, the merchant's agent, or the merchant's employee, shall call or notify, or make a reasonable effort to call or notify the parent or guardian of the minor, during the period of

detention. A merchant, a merchant's agent, or a merchant's employee, who makes a reasonable effort to call or notify the parent or guardian of the minor shall not be held civilly liable for failing to notify the parent or guardian of the minor. (1895, c. 285; Rev., s. 3506; 1913, c. 118, s. 1; C.S., s. 4251; 1941, c. 178, s. 1; 1949, c. 145, s. 2; 1959, c. 1285; 1961, c. 39, s. 1; 1965, c. 621, s. 5; 1969, c. 522, s. 2; 1973, c. 238, ss. 1, 2; 1975, c. 163, s. 2; c. 696, s. 4; 1977, c. 978, ss. 2, 3; 1979, c. 408, s. 1; c. 760, s. 5; 1979, 2nd Sess., c. 1316, ss. 11, 47; 1981, c. 63, s. 1; c. 179, s. 14; 1991, c. 523, s. 2; 1993, c. 539, s. 34; 1994, Ex. Sess., c. 24, s. 14(c); 1995, c. 185, s. 2; 2006-259, s. 4(a); 2012-154, s. 1.)

G.S. 113-268. Injuring, destroying, stealing, or stealing from nets, seines, buoys, pots, etc.

(a) It is unlawful for any person without the authority of the owner of the equipment to take fish from nets, traps, pots, and other devices to catch fish which have been lawfully placed in the open waters of the State.

(b) It is unlawful for any master or other person having the management or control of a vessel in the navigable waters of the State to willfully, wantonly, and unnecessarily do injury to any seine, net or pot which may lawfully be hauled, set, or fixed in such waters for the purpose of taking fish except that a net set across a channel may be temporarily moved to accommodate persons engaged in drift netting, provided that no fish are removed and no damage is done to the net moved.

(c) It is unlawful for any person to willfully steal, destroy, or injure any buoys, markers, stakes, nets, pots, or other devices on property lawfully set out in the open waters of the State in connection with any fishing or fishery.

(d) Violation of subsections (a), (b), or (c) is a Class A1 misdemeanor.

(e) The Department may, either before or after the institution of any other action or proceeding authorized by this section, institute a civil action for injunctive relief to restrain a violation or threatened violation of subsections (a), (b), or (c) of this section pursuant to G.S. 113-131. The action shall be brought in the superior court of the county in which the violation or threatened violation is occurring or about to occur and shall be in the name of the State upon the relation of the Secretary. The court, in issuing any final order in any action brought pursuant to this subsection may, in its discretion, award costs of litigation including reasonable attorney and expert-witness fees to any party. (1987, c. 636, s. 1; 1989, c. 727, s. 112; 1993, c. 539, s. 849; 1994, Ex. Sess., c. 24, s. 14(c); 1998-225, s. 3.9.)

Correction of Wade Creek Primary Nursery Area Boundary Line
Issue Paper

Oct. 13, 2015

I. ISSUE

In 2004, an error occurred when the coordinates in rule for the primary nursery area in Wade Creek, Jarretts Bay were converted from one format (degrees/minutes/seconds) to another (decimal minutes). This coordinate error places the primary nursery area boundary line further inland than the original designation. This issue can be rectified by correcting N.C. Marine Fisheries Commission (MFC) rule 15A NCAC 3R.0103 (10)(g)(vii).

II. ORIGINATION

N.C. Division of Marine Fisheries (DMF) staff.

III. BACKGROUND

Nursery areas are an important component of the DMF mission of ensuring sustainable marine and estuarine fisheries and habitats for the benefit and health of the people of North Carolina. Nursery areas are equally important for the MFC's duty to manage, protect, preserve, and enhance the marine and estuarine resources within its jurisdiction (G.S. 143B-289.52.) Per MFC rule 15A NCAC 03I .0101(4)(f), nursery areas are "areas that for reasons such as food, cover, bottom type, salinity, temperature, and other factors, young finfish and crustaceans spend the major portion of their initial growing season." As defined in this same rule, primary nursery areas "are those areas in the estuarine system where initial post-larval development takes place. These are areas where populations are uniformly early juveniles." Several MFC rules designate and protect these important areas, to include restricting the use of certain fishing gears and activities. In addition, G.S. 113-187 provides the penalty for not abiding by these restrictions in primary nursery areas. These regulations contribute to the overall health of the state's fisheries.

All primary nursery area boundaries are listed in rule and can be found in 15A NCAC 03R .0103. Wade Creek is located off Jarrett Bay, near Core Sound (Carteret County). Wade Creek was designated as a primary nursery area by rule in 1977 as part of the original primary nursery rule designations. Primary nursery areas, in accordance with other supporting rules, means that it is unlawful to use trawl nets, long haul seines, swipe nets, dredges, or mechanical methods for clamming or oystering in Wade Creek. In general, these restrictions help to protect juvenile fish to allow them to mature, migrate, and eventually spawn and contribute to achieving healthy fisheries. Also, nursery areas may be recognized by the Environmental Management Commission for enhanced water quality standards, or by the Coastal Resources Commission for more protective coastal development standards. Primary nursery areas, in particular are considered High Quality Waters for the purpose of water quality standards, and have dredging restrictions by both commissions.

A marine patrol officer noted a discrepancy in the Wade Creek primary nursery area. The coordinates in rule do not align with the placement of the primary nursery area signs or the primary nursery area map provided by N.C. Department of Environmental Quality Geographic Information System (GIS) staff. The source of the discrepancy was not readily apparent and warranted further investigation.

The error in the coordinates most likely occurred during a project DMF staff undertook in the early 2000s of converting to an updated coordinate format for all the subchapter 03R descriptive boundaries. The resulting conversions were then codified and published in the 2004 rulebook. The Wade Creek primary nursery area coordinate error went unnoticed. All information sources seem to reveal the error occurred from the coordinate conversion. No documentation can be found indicating the coordinates were meant to be substantively changed through the rulemaking process. Available historical DMF nursery area maps as well as closed shrimp proclamation maps up to and beyond 2004 demarcate the Wade Creek primary nursery area with the same original boundaries and reveal no changes despite the unintended rule change in 2004.

IV. AUTHORITY

North Carolina General Statutes
113-134. Rules.
113-182. Regulation of fishing and fisheries.

113-187. Penalties for violations of Subchapter and rules.
143B-289.52. Marine Fisheries Commission – powers and duties.

North Carolina Marine Fisheries Commission Rules May 1, 2015
15A NCAC 03R .0103 Primary Nursery Areas

V. DISCUSSION

Research into this issue revealed the error most likely occurred during the coordinate conversions codified in the 2004 rule amendment. All coordinates were originally listed in degrees/minutes/seconds (ddmmss) format and converted to decimal degrees (ddmm.xxxx) with four decimal places. The conversions were part of a project to update boundary lines and physically check boundary lines to ensure accuracy.

GIS staff looked into the issue and stated the boundary did not change, only the coordinate points in the rule changed (see Attachment 1.) There is no documentation indicating the coordinates were intentionally changed during this time nor did the rule maps available on the DMF website reveal any changes to the coordinates. The coordinates prior to the 2004 amendment of the rule place the primary nursery area line in the same location as indicated in previous rulebooks and align with maps dating back to 1986 from Land Resources Information Systems (Attachment 1, purple line.) In speaking with members of the DMF staff, no one can recall any reasoning for the coordinates to have been changed, or know of any rule changes incorporating new coordinates for the Wade Creek primary nursery area.

If the coordinates in rule remain unchanged (Attachment 1, red line), the Wade Creek primary nursery area will not be fully protected. The area will be subjected to the use of commercial gear normally not allowed and lose enhanced water quality measures. The discrepancy will also remain between the information in the primary nursery area boundary listed in rule and the rule map provided by GIS staff. This error simply needs to be resolved to align the rule and the mapping information to provide accurate and uniform information to the public.

With this information in hand, it seems the rule alone is in error and needs to be corrected. The rulemaking process needs to be initiated to correct the rule to align the coordinates for the Wade Creek primary nursery area to their historical placement, only adjusting for improved GIS accuracy (Attachment 1, blue line.) This would ensure the primary nursery area is properly protected in the rule and corresponds with all available resources. Additionally, G.S. 150B-19.1, part of the Administrative Procedure Act, sets forth the principles of rulemaking. These principles include that rules shall be written in a clear and unambiguous manner and that rules shall be based on sound, reasonably available scientific, technical, and other relevant information. Correcting the error in rule will comply with the statutory requirements for rulemaking.

VI. PROPOSED RULE(S)

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:

. . .

(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° 46.3022' N - 76° 30.5443' W;~~ 34° 46.3125' N - 76° 30.2676' W; running southerly to the south shore to a point ~~34° 46.2250' N - 76° 30.3864' W;~~ 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:

. . .

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.

VII. PROPOSED MANAGEMENT OPTIONS

(+ Potential positive impact of action)
(- Potential negative impact of action)

A. Status quo
- Primary nursery area not fully protected in rule
- An error remains in the rulebook for a primary nursery area boundary line.
- Division primary nursery map remains inconsistent with the rule
- Does not comply with principles of rulemaking in G.S. 150-B

B. Correct the coordinates
+ Primary nursery area fully protected in rule.
+ The primary nursery area boundary line would be corrected and accurate in the rulebook.
+ Division primary nursery area map would be consistent with the rule
+ Complies with principles of rulemaking in G.S. 150-B

VIII. RECOMMENDATION

The Division supports option B to correct the coordinates for the Wade Creek primary nursery area in rule.

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252-726-7021
Date: Sept. 24, 2015
Revised: Oct. 13, 2015

NOTICE OF TEXT ATTACHMENT

#8 – Explain Reason for Proposed Action:

15A NCAC 03R .0103 PRIMARY NURSERY AREAS

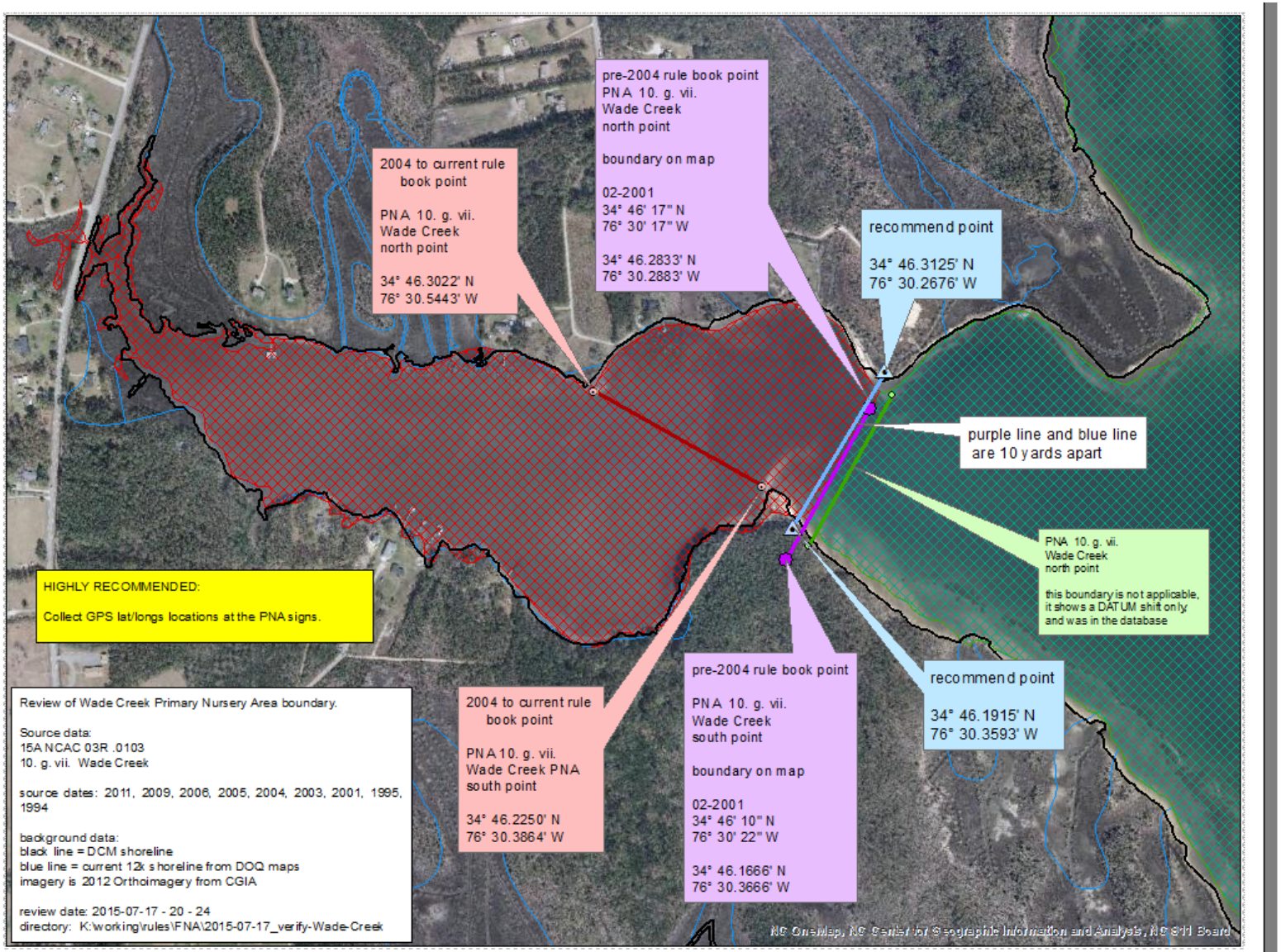
Proposed amendments correct a coordinate error for the Wade Creek primary nursery area made when the coordinate format changed in 2004.

MFC Rulebook Index Worksheet

Rule	Rulebook Page #	Subject	Index Entry (**Bold** major headings)	Add/Delete
03R .0103	114	primary nursery areas	boundaries:nursery areas:primary	No Change
			nursery area:primary	No Change

Ancillary Item: Collect GPS coordinate locations at the existing Wade Creek primary nursery area signs to identify if the signs need to be relocated upon the effective date of the rule.

Attachment 1



Clarification of License Requirements for Leaseholder Designees
Issue Paper

April 13, 2016

I. ISSUE

In 2015, the General Assembly passed legislation that created a provision for employees of a leaseholder with a Standard Commercial Fishing License (SCFL) to harvest shellfish from a lease by mechanical means without a license. This created a discrepancy between G.S. 113-169.2 and N.C. Marine Fisheries Commission (MFC) Rule 15A NCAC 03O .0501 (c)(3). Upon review of this issue, staff discovered that Session Law 2013-360 made a SCFL a requirement to harvest shellfish by mechanical means. Thus, a discrepancy has existed between G.S. 113-169.2 and MFC Rule 15A NCAC 03O .0501 (c)(3) since 2013. Both of these issues can be corrected by amending MFC Rule 15A NCAC 03O .0501.

II. ORIGINATION

Session Law 2013-360
Session Law 2015-241

III. BACKGROUND

According to G.S. 113-201, the General Assembly finds that shellfish cultivation provides increased seafood production, economic and employment opportunities, and increased ecological benefits to the estuarine environment by promoting natural water filtration and increased fishery habitats. Shellfish are defined in G.S. 113-201.1 as oysters, clams, scallops, mussels or any other species of mollusks that the MFC determines suitable for cultivation, harvesting, and marketing from public grounds or private beds. The North Carolina Division of Marine Fisheries (NCDMF) administers the Shellfish Lease and Franchise program to provide for private use of public trust waters for the commercial production of shellfish. Staff works with potential leaseholders and franchise holders to ensure leaseholders and franchise holders and other individuals working on those private shellfish beds are properly licensed and/or permitted to take shellfish.

Shellfish can be harvested from a lease or franchise by either hand methods or mechanical methods. Hand methods include harvesting by hand, hand rake, or hand tongs. Mechanical methods for clamming defined in 15A NCAC 03I .0101(3)(l) include dredges, hydraulic clam dredges, stick rakes, and other rakes when towed by engine power, patent tongs, kicking with propeller or deflector plates with or without trawls and any other method that utilizes mechanical means to harvest clams. Mechanical methods for oystering defined in 15A NCAC 03I .0101(3)(m) include dredges, patent tongs, stick rakes, and other rakes when towed by engine power, and any other method that utilizes mechanical means to harvest oysters.

G.S. 113-169.2 provides the license requirements for harvesting shellfish from public and private grounds. Section 14.8.(g) of Session Law 2013-360 amended this statute and specified different license requirements for hand and mechanical harvest. Prior to this, the license requirements were the same for either method. Individuals taking shellfish from leases or franchises (private grounds) by hand methods are required to hold a Shellfish License or a SCFL with a shellfish endorsement. Prior to Session Law 2015-241, any individual taking shellfish from leases or franchises by mechanical methods was required to obtain a SCFL. Section 14.10B of Session Law 2015-241 further amended G.S. 113-169.2 and provides that the employees of a leaseholder holding a valid SCFL are exempt from mechanical methods licensing requirements.

One additional requirement for the mechanical harvest of shellfish from private grounds is contained in MFC Rule 15A NCAC 03K .0111. This rule states that it is unlawful to harvest shellfish by the use of mechanical methods from shellfish leases or franchises without first obtaining a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases and Franchises. As provided in 15A NCAC 03O .0501 (c)(3), a requirement to hold this permit is that the permittee and his designees shall hold a valid SCFL or Retired SCFL with a shellfish endorsement or a *Shellfish License*. When Session Law 2013-360 was passed it created a discrepancy with this rule since an individual who takes shellfish by mechanical means must obtain a SCFL, thus making a *Shellfish License* insufficient to obtain a

Permit to Use Mechanical Methods for Shellfish on Shellfish Leases and Franchises. Also, as written in 15A NCAC 03O .0501 (c)(3), the permittee and his *designees* shall hold a valid SCFL or Retired SCFL with a shellfish endorsement or a Shellfish License. The term "designee" is defined in 15A NCAC 03I .0101 (5)(b) as any person who is under the direct control of the permittee or who is employed by or under direct contract to the permittee for the purposes authorized by the permit. When Session Law 2015-241 was passed, Section 14.10B created a discrepancy between G.S. 113-169.2 and 15A NCAC 03O .0501 (c)(3) because employees of leaseholders with a SCFL are now exempt from holding a license by statute, yet the license requirement remains in rule.

IV. AUTHORITY

North Carolina Session Law 2013-360, Section 14.8.(g)

North Carolina Session Law 2015-241, Section 14.10B. SCFL exemption for employees of leaseholder

North Carolina General Statutes
113-134. Rules.
113-169.1. Permits for gear, equipment, and other specialized activities authorized.
113-169.2. Shellfish license for North Carolina residents without a SCFL.
113-182. Regulation of fishing and fisheries.
113-201. Legislative findings and declaration of policy; authority of Marine Fisheries Commission.
113-201.1. Definitions.
143B-289.52. Marine Fisheries Commission – powers and duties.

North Carolina Marine Fisheries Commission Rules May 1, 2015
15A NCAC 03K .0111 Permits to use mechanical methods for shellfish on shellfish leases or franchises
15A NCAC 03O .0501 Procedures and requirements to obtain permits

V. DISCUSSION

MFC Rule 15A NCAC 03O .0501 contains procedures and requirements to obtain permits. Paragraph (c)(3) of this Rule requires the holder of a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises and his designees to hold a valid SCFL or Retired SCFL with a shellfish endorsement or a Shellfish License. However, since 2013, G.S. 113-169.2 (a1) required any individual who takes shellfish by mechanical means to obtain a SCFL. G.S. 113-169.2 (i) now provides an exemption from license requirements for the employees of leaseholders holding a valid SCFL. These contradictions could create confusion for the regulated public in trying to determine what, if any, license they are required to hold to harvest shellfish from a lease. These issues also create confusion for Shellfish Lease Program staff for how to advise leaseholders as to license requirements. Issuing a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises to an individual with a Shellfish License as allowed under MFC rule would contradict statutory requirements. Adhering to MFC rule requirements for designees of permittees would result in a more burdensome interpretation of who is required to be issued a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises to mechanically harvest shellfish from leases or franchises. Since license requirements are unclear, it could create problems for Marine Patrol officers, from an enforcement standpoint.

In addition to the discrepancy between statute and rule, the 2015 statute change only provides a license exemption for a portion of potential stakeholders. It is unclear if other similar stakeholders were intentionally not included. NCDMF staff intend to work with the Department of Environmental Quality to pursue additional clarification to G.S. 113-169.2. For example, G.S. 113-169.2 (a1) provides the license exemption when harvesting by mechanical means, but according to G.S. 113-169.2 (a) someone harvesting by hand methods will still require a license. In addition, G.S. 113-169.2 (i) provides for taking shellfish without a license as an *employee* of a permittee who holds a SCFL, but other designees (any person who is under the direct control of the permittee or who is under direct contract to the permittee) are still required to hold their own license. Finally, G.S. 113-169.2 (i) provides the license exemption for employees of *leaseholders*, but does not specify whether the exemption should also apply to the employees of franchise holders.

The recommended course of action is to amend the MFC rule to align with the statute as modified by Session Law 2013-360 and Session Law 2015-241. To align MFC Rule 15A NCAC 03O .0501 with changes to G.S. 113-169.2

(a1) from Session Law 2013-360, the ability of Shellfish License holders to obtain a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises needs to be removed. In order to address the changes to G.S. 113-169.2 (i) from Session Law 2015-241, one option is for MFC Rule 15A NCAC 03O .0501 to be amended to specifically define that the license exemption only applies to employees using mechanical methods to harvest shellfish for a leaseholder with a SCFL. However, further changes to G.S. 113-169.2 that could potentially occur during the 2016 legislative session would make the proposed rule change out of date before it could become effective. Thus, the proposed amendment to 15A NCAC 03O .0501 simply refers to the statute for the specific exemption to license requirements.

VI. PROPOSED RULE(S)

[Note: Rule 15A NCAC 03O .0501 is also under construction in the "Development of a Permit to Allow Weekend Trawling to Take Live Shrimp Issue Paper". Only proposed changes in support of license requirements for leaseholder designees are shown here.]

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

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

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

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

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

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

(5) For permit applications from business entities:

(A) Business Name;

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

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

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

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

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

(6) Additional information as required for specific permits.

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

(1) Pound Net Permit;

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

(3) Atlantic Ocean Striped Bass Commercial Gear Permit.

(c) ~~A~~ When 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 ~~or a Shellfish License~~ in order for a permittee to hold a:

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

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

(3) Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or ~~Franchises;~~ Franchises, except as provided in G.S. 113-169.2;

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

(5) Depuration Permit.

(d) When 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) Permit to Transplant Prohibited (Polluted) Shellfish;

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

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

(4) Depuration Permit.

~~(d)~~(e) A permittee shall hold a valid:

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

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

~~(e)~~(f) Aquaculture Operations/Collection Permits:

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

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

~~(f)~~(g) Atlantic Ocean Striped Bass Commercial Gear Permit:

(1) Upon application for an Atlantic Ocean Striped Bass Commercial Gear Permit, a person shall declare one of the following gears for an initial permit and at intervals of three consecutive license years thereafter:

(A) gill net;

(B) trawl; or

(C) beach seine.

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

Gear declarations 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 the person.

~~(g)~~(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 deficiency in the application so noted.

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

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

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

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

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

~~(j)~~(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.

~~(k)~~(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.

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

~~(m)~~(n) For initial or renewal permits, processing time for permits may be up to 30 days unless otherwise specified in this Chapter.
~~(n)~~(o) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries within 30 days of a change of name or address, in accordance with G.S. 113-169.2.
~~(o)~~(p) It is unlawful for a permit holder to fail to notify the Division of Marine Fisheries of a change of designee prior to use of the permit by that designee.
~~(p)~~(q) Permit applications are available at all Division 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.*

[NOTE: The following excerpt of Session Law 2013-360 is provided for informational purposes only.]

SECTION 14.8.(g) G.S. 113-169.2 reads as rewritten:
"**§ 113-169.2. Shellfish license for North Carolina residents without a SCFL.**
(a) License or Endorsement Necessary to Take or Sell ~~Shellfish.~~Shellfish Taken by Hand Methods. – It is unlawful for an individual to take shellfish from the public or private grounds of the State ~~by mechanical means or~~ as part of a commercial fishing operation by ~~any means~~hand methods without holding either a shellfish license or a shellfish endorsement of a SCFL. A North Carolina resident who seeks only to take shellfish by hand methods and sell such shellfish shall be eligible to obtain a shellfish license without holding a SCFL. The shellfish license authorizes the licensee to sell shellfish.
(a1) License Necessary to Take or Sell Shellfish Taken by Mechanical Means. – Subject to subsection (i) of this section, an individual who takes shellfish from the public or private grounds of the State by mechanical means must obtain an SCFL under the provisions of G.S. 113-168.2.
(b) Repealed by Session Laws 1998-225, s. 4.17, effective July 1, 1999.
(c) Fees. – Shellfish licenses issued under this section shall be issued annually upon payment of a fee of ~~twenty-five dollars ($25.00)~~thirty-one dollars and twenty-five cents ($31.25) upon proof that the license applicant is a North Carolina resident.
(d) License Available for Inspection. – It is unlawful for any individual to take shellfish as part of a commercial fishing operation from the public or private grounds of the State without having ready at hand for inspection a current and valid shellfish license issued to the licensee personally and bearing the licensee's correct name and address. It is unlawful for any individual taking or possessing freshly taken shellfish to refuse to exhibit the individual's license upon the request of an officer authorized to enforce the fishing laws.
(e) Repealed by Session Laws 1998-225, s. 4.17, effective July 1, 1999.
(f) Name or Address Change. – In the event of a change in name or address or upon receipt of an erroneous shellfish license, the licensee shall, within 30 days, apply for a replacement shellfish license bearing the correct name and address. Upon a showing by the individual that the name or address change occurred within the past 30 days, the trial court or prosecutor shall dismiss any charges brought pursuant to this subsection.
(g) Transfer Prohibited. – It is unlawful for an individual issued a shellfish license to transfer or offer to transfer the license, either temporarily or permanently, to another. It is unlawful for an

individual to secure or attempt to secure a shellfish license from a source not authorized by the Commission.
(h) Exemption. – Persons under 16 years of age are exempt from the license requirements of this section if accompanied by a parent, grandparent, or guardian who is in compliance with the requirements of this section or if in possession of a parent's, grandparent's or guardian's shellfish license.
(i) Taking Shellfish Without a License for Personal Use. – Shellfish may be taken without a license for personal use in quantities established by rules of the Marine Fisheries Commission."

[NOTE: The following excerpt of Session Law 2015-241 is provided for informational purposes only.]

SCFL EXEMPTION FOR EMPLOYEES OF LEASEHOLDER

SECTION 14.10B. G.S. 113-169.2 reads as rewritten:

"**§ 113-169.2. Shellfish license for North Carolina residents without a SCFL.**

(a) License or Endorsement Necessary to Take or Sell Shellfish Taken by Hand Methods. – It is unlawful for an individual to take shellfish from the public or private grounds of the State as part of a commercial fishing operation by hand methods without holding either a shellfish license or a shellfish endorsement of a SCFL. A North Carolina resident who seeks only to take shellfish by hand methods and sell such shellfish shall be eligible to obtain a shellfish license without holding a SCFL. The shellfish license authorizes the licensee to sell shellfish.

(a1) License Necessary to Take or Sell Shellfish Taken by Mechanical Means. – ~~Subject to~~ Except as provided in subsection (i) of this section, an individual who takes shellfish from the public or private grounds of the State by mechanical means must obtain an SCFL under the provisions of G.S. 113-168.2.

…

(i) Taking Shellfish Without a License for Personal ~~Use.~~Use or as Employee of Certain License Holders. – Shellfish may be taken without a license ~~for~~ under the following circumstances:

(1) For personal use in quantities established by rules of the Marine Fisheries Commission.

(2) When the taking is from an area leased for the cultivation of shellfish under Article 16 of this Chapter by a person who is an employee of a leaseholder holding a valid SCFL issued under the provisions of G.S. 113-168.2, and the person provides an authorization letter with the leaseholder's SCFL number and signature."

VII. PROPOSED MANAGEMENT OPTIONS

(+ Potential positive impact of action)
(- Potential negative impact of action)

A. Status quo
- MFC rule contradicts statute
- License requirements unclear to regulated public and NCDMF staff
- Does not comply with principles of rulemaking in G.S. 150B

B. Amend the rule
+ MFC rule aligns with statute
+ License requirements clearly defined for regulated public and NCDMF staff
+ Complies with principles of rulemaking in G.S. 150B

VIII. RECOMMENDATION

The Division supports option B so that MFC rule aligns with statute.

Prepared by: Valerie Wunderly, Valerie.Wunderly@ncdenr.gov, 252-808-8061
Date: Jan. 7, 2016
Revised: Feb. 2, 2016
April 7, 2016
April 13, 2016

NOTICE OF TEXT ATTACHMENT

#8 – Explain Reason for Proposed Action:

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

Proposed amendments clarify the requirement to hold a Standard or Retired Standard Commercial Fishing License with a Shellfish Endorsement to obtain a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises. Additional proposed amendments provide an exemption from license requirements for certain designees of the holder of a Permit to Use Mechanical Methods for Shellfish on Shellfish Leases or Franchises in accordance with G.S. 113-169.2. [*Before filing rule package in June 2016 ensure no additional changes to statute occurred in short session which could trigger edits to this statement.*]

MFC Rulebook Index Worksheet

Rule	Rulebook Page #	Subject	Index Entry (**Bold** major headings)	Add/Delete
03O .0501	73	permit requirements	**permit:**application	No change
(b)			**permit:**Pound Net Set:application	
			permit: Waive the Requirement to Use Turtle Excluder Devices in the Atlantic Ocean	
			turtle excluder device (TED)	
(c)			relay, permit	
			transplanting:shellfish, permit	
			permit: Transplant Prohibited (Polluted) Shellfish	
			permit: Transplant Oysters from Seed Oyster Management Areas	
			permit: Mechanical Methods for Shellfish on Shellfish Leases or Franchises	
			gear:mechanical methods for clamming:permit	
			gear:mechanical methods for oystering:permit	
			permit: Harvest Rangia Clams From Prohibited (Polluted) Areas	
			permit: Depuration	
(d)			**permit:**Dealer Permit for Quota Monitoring:license, requirement	
(e)			**permit:**Aquaculture Collection	
			permit: Aquaculture Operation	
(f)			**permit:**Atlantic Ocean Striped Bass Commercial Gear	
			permit:bass, striped, Atlantic Ocean	
			species:bass, striped:permit, Atlantic Ocean Striped Bass Commerical Gear	
			gear:seine, beach, definition	

Director's Report

Annual Report 2015

Atlantic States Marine Fisheries Commission

Sustainably Managing Atlantic Coastal Fisheries

2015 Annual Report

of the

Atlantic States Marine Fisheries Commission

To the Congress of the United States and to the Governors and Legislators of the Fifteen Compacting States

Presented in compliance with the terms of the Compact and the state-enabling acts creating such Commission and Public Law 539 - 77th Congress assenting thereto (Chapter 283, Second Session, 77th Congress; 56 Stat. 267) approved May 4, 1942, as amended by Public Law 721, 81st Congress, approved August 19, 1950

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Robert E. Beal
Executive Director

Tina L. Berger
Editor

February 2016

Commonly Used Acronyms

AAE	Annual Awards of Excellence
ACCSP	Atlantic Coastal Cooperative Statistics Program
ACFHP	Atlantic Coastal Fish Habitat Partnership
ACFCMA	Atlantic Coastal Fisheries Cooperative Management Act
ACLs	Annual catch limits
ARM	Adaptive Resource Management
ASMFC	Atlantic States Marine Fisheries Commission (also referred to as the Commission)
BRDs	Bycatch reduction devices
CPUE	Catch-per-unit-effort
DPS	Distinct population segments
DW	Dressed weight
ERPs	Ecological-based reference points
ESA	Endangered Species Act
F	Fishing mortality
FMP	Fishery Management Plan
GBK	Georges Bank
GOM	Gulf of Maine
GOM/GBK	Gulf of Maine/Georges Bank
HMS	Highly Migratory Species
ISFMP	Interstate Fisheries Management Program
IFA	Interjurisdictional Fisheries Act
ITC	Interstate Tagging Committee
IUCN	International Union for the Conservation of Nature
LCS	Large coastal shark complex
MAFMC	Mid-Atlantic Fishery Management Council
MSP	Maximum spawning potential
MSTC	Multispecies Technical Committee
MSVPA-X	Extended Multispecies Virtual Population Analysis
MSY	Maximum sustainable yield
MT	Metric tons
NEAMAP	Northeast Area Monitoring and Assessment Program
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NFHAP	National Fish Habitat Action Plan
NFWF	National Fish and Wildlife Foundation
NMFS	National Marine Fisheries Service; also known as NOAA Fisheries
NOAA	National Oceanic and Atmospheric Administration
PDT	Plan Development Team
PRT	Plan Review Team
RHL	Recreational harvest limit
RSA	Research Set-Aside Program
SAFMC	South Atlantic Fishery Management Council
SAS	Stock Assessment Subcommittee
SAW/SARC	Northeast Regional Stock Assessment Workshop and Stock Assessment Review Committee, respectively
SCA	Statistical catch-at-age
SCS	Small coastal shark complex
SEAMAP	Southeast Area Monitoring and Assessment Program
SEDAR	SouthEast Data, Assessment, and Review Process
SFMPs	Sustainable fishery management plans
SNE	Southern New England
SNE/MA	Southern New England/Mid-Atlantic
SPR	Spawning potential ratio
SSB	Spawning stock biomass
SSC	Scientific and Statistical Committee
TAC	Total allowable catch
TAL	Total allowable landings
TLA	Traffic Light Analysis
USFWS	U.S. Fish and Wildlife Service
TEWG	Technical Expert Working Group

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Guiding Principles

Mission

To promote cooperative management of fisheries – marine, shell, and diadromous – of the Atlantic coast of the United States by the protection and enhancement of such fisheries, and by the avoidance of physical waste of the fisheries from any cause

Vision

Sustainably Managing Atlantic Coastal Fisheries

Goals

- Rebuild, maintain, fairly allocate, and promote Atlantic coastal fisheries
- Provide the scientific foundation for, and conduct stock assessments to support, informed management actions
- Promote compliance with fishery management plans to ensure sustainable use of Atlantic coast fisheries
- Protect and enhance fish habitat and ecosystem health through partnerships and education
- Strengthen stakeholder and public support for the Commission
- Advance Commission and member states' priorities through a proactive legislative policy agenda
- Ensure the fiscal stability and efficient administration of the Commission

Commissioner Values

- Effective stewardship of marine resources through strong partnerships
- Decisions based on sound science
- Long-term ecological sustainability
- Transparency and accountability in all actions
- Timely response to new information through adaptive management
- Balancing resource conservation with the economic success of coastal communities
- Efficient use of time and fiscal resources
- Work cooperatively with honesty, integrity, and fairness

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Stephen R. Train

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Massachusetts
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Preface

The Commission was formed 73 years ago by the 15 Atlantic coastal states to assist in managing and conserving their shared coastal fishery resources.

With the recognition that fish do not adhere to political boundaries, the states formed an Interstate Compact, which was approved by the U.S. Congress in 1942. The states have found that their mutual interest in sustaining healthy coastal fishery resources is best promoted by working cooperatively, in collaboration with the federal government. With this approach, the states uphold their collective fisheries management responsibilities in a cost-effective, timely, transparent, and responsive fashion.

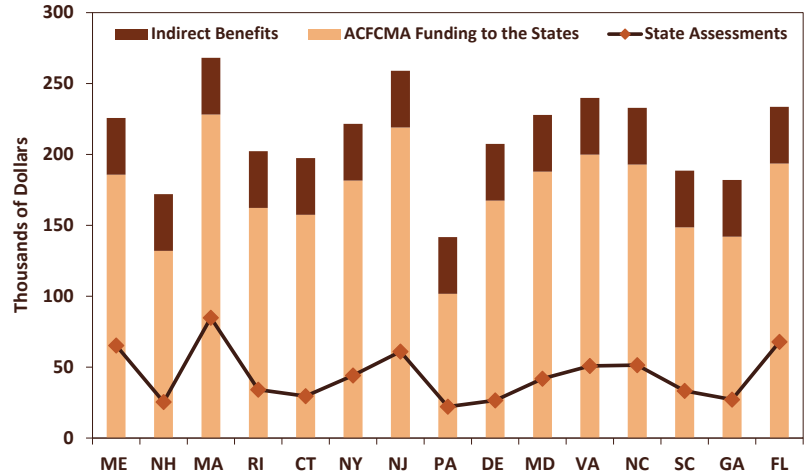
The Commission's current budget is $7.3 million. The base funding ($665,255) comes from the member states' appropriations, which are determined by the value of commercial fishing landings and saltwater recreational trips within each state. The bulk of the Commission's funding comes from a combination of state and federal grants, the largest being a line-item in the NOAA Fisheries budget appropriated to implement the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA). The Commission also receives funds from NOAA Fisheries to carry out the provisions of the Interjurisdictional Fisheries Act (IFA) (P.L. 99-659). The accompanying graph illustrates the benefits states receive from ACFCMA and IFA.

The U.S. Fish and Wildlife Service (USFWS) also provides grant funding to the Commission through its Federal Aid in Sport Fish Restoration Program (Wallop/Breaux). Also, since 1999 the Commission has overseen the administration of the Atlantic Coastal Cooperative Statistics Program (ACCSP), a state and federal partnership for Atlantic coastal fisheries data collection and management. Funding for this program is provided by ACFCMA and Fisheries Information Network line in the NOAA Fisheries budget.

The Commission serves as a deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell, and diadromous species. The 15 member states of the Commission are (from north to south): Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida. Each state is represented on the Commission by three Commissioners: the director of the state's marine fisheries management agency, a state legislator, and an individual appointed by the state's governor to represent fishery interests. These Commissioners participate in deliberations in the Commission's main policy arenas: interstate fisheries management, fisheries science, habitat conservation, and law enforcement. Through these activities, the states collectively ensure the sound conservation and management of Atlantic coastal fishery resources and the resulting benefits that accrue to their fishing and non-fishing public.

2016 Return on State Assessments to the Commission

Source: FY16 ASMFC Assessments and FY15 ACFCMA & IFA Allocations



*Indirect Benefits include travel and per diem for 6 people from each state to participate in Commission meetings. Please note that this figure does not include the collective benefits derived from the work of the FMP Coordinators and Science Staff.

On behalf of the Atlantic States Marine Fisheries Commission (Commission), I am pleased to present our 2015 Annual Report. The report fulfills our obligation to inform Congress on the use of public funds provided to the Commission and provides our stakeholders with a summary of activities and progress in carrying out our cooperative stewardship responsibilities. In addition to detailing our 2015 activities, this report includes figures displaying the historical trends in stock status or catch for each managed species. These figures reflect our Commissioners' commitment to accountability and transparency in all they do to manage and rebuild fisheries under their care.

We remain grateful to the Administration, Members of Congress, our governors, and state legislators for their continued support. Many of the Commission's most important accomplishments would not have been possible without their trust and confidence.

ROBERT E. BEAL, EXECUTIVE DIRECTOR

We remain grateful to the Administration, Members of Congress, our governors, and state legislators for their continued support. Many of the Commission's most important accomplishments would not have been possible without their trust and confidence. In addition, the fiscal, staff, and technical support provided by NOAA Fisheries and USFWS to the Commission and states is an important part of our interstate fisheries management program and science activities.

2015 was one of the busiest years on record at the Commission with a whopping six benchmark stock assessments approved for management use – American lobster, Atlantic menhaden, black drum, bluefish, scup and tautog. Atlantic menhaden, in particular, spent much of the year in the public spotlight. In May, the Atlantic Menhaden Board began to look at ecological-based reference points that reflect menhaden's role as a forage species. Moving forward, the Commission has begun an unprecedented socioeconomic analysis of the bait and reduction fisheries to help describe the tradeoffs of various allocation strategies.

2015 was also the first year under new Addendum IV fishing mortality reference points approved by the Atlantic Striped Bass Board. Coastal states implemented a 25% harvest reduction from 2013 levels, while Chesapeake Bay states/jurisdictions implemented a 20.5% harvest reduction from 2012 levels. These reductions are in response to a number of below average year classes that occurred in the 2000s. Under reduced fishing pressure, the stocks are projected to rebuild to target levels.

American lobster, which is featured on the cover of this Report, will face a complicated year on the management front. While stocks in the Gulf of Maine are booming, the once productive Southern New England grounds are at the lowest levels on record. In 2016, we will begin development of an addendum for Southern New England to respond to the results of the 2015 benchmark stock assessment and address just one of our fisheries that is being impacted by warming ocean waters.

The Commission has continued to work closely with its sister Commissions in the Gulf of Mexico and Pacific. The three Commission alliance has shown to be an effective approach to unify the messages of 24 U.S. coastal states through one strong voice on national fisheries issues. This year our Annual Meeting was held in conjunction with the Gulf Commission where new relationships were forged and many policies, especially law enforcement, are now stronger thanks to the collaboration

Over the past 12 months, the three Commission alliance continued to work with our state and federal partners to reinforce the social and economic returns that come from investing in marine fisheries management and science. The overall investment is relatively modest; however, the returns are impressive. Commission-managed marine resources generate billions of dollars in economic activity annually and provide tens of thousands of jobs within our coastal communities. Our previous management successes have demonstrated the economic returns and jobs that can result from abundant and healthy coastal fisheries. This lesson reinforces the relevance and importance of the Commission's Vision today and in the years to come.

I continue to be amazed by the staff's commitment to healthy marine fisheries, and appreciate the devotion of Commissioners to our Vision, *Sustainably Managing Atlantic Coastal Fisheries.* It is always worth remembering the Legislative Commissioners and Governors' Appointees provide their time and expertise to the Commission without compensation. The Commission also elected new leadership at our Annual Meeting in St. Augustine, Florida. Doug Grout of New Hampshire will serve as Chair and James Gilmore of New York will serve as Vice Chair. We are grateful to outgoing Chair Dr. Louis Daniel of North Carolina for his many contributions.

Thank you all for your commitment to the Commission and the successful management of marine resources along the Atlantic coast.

Report from the Chair

DR. LOUIS B. DANIEL, III

As my last report as Chair of the Commission, I want to thank my fellow Commissioners for the support they have given me and Doug Grout over the past two years in carrying out our collective goals of ending overfishing and rebuilding depleted fishery resources, seeking outcomes that support the economic success of coastal communities, working toward long-term ecological sustainability, and being transparent and accountable in all our actions. Over the past year alone, we have made significant strides in furthering these goals.

2015 was a banner year in advancing the science behind our management decisions. We successfully completed benchmark stock assessments for Atlantic menhaden, black drum, tautog, American lobster, scup and bluefish, with the last two assessments being conducted in close coordination with our federal partners from NOAA Fisheries and the Mid-Atlantic Fishery Management Council. We continued to make progress on benchmark stock assessments for red drum, weakfish, spot and Atlantic croaker – all of which will have been peer-reviewed by the end of 2016. We have continued to invest in long-term fisheries-independent data collection activities through our support of the Northeast Area Monitoring and Assessment Program (NEAMAP) and the South Atlantic component of Southeast Area Monitoring and Assessment program (SEAMAP). We were able to secure funding to conduct the Virginia Tech Horseshoe Crab Trawl Survey, a critical input to our specifications setting process for horseshoe crab. This important long-term survey has been unfunded for the last two years, however, we are hopeful that long-term funding will be secured to allow this survey to be conducted for many years to come.

On the recreational data collection front, the Commission and ACCSP have worked hard this year to prepare for a significant change in the way recreational catch data will be collected along the Atlantic coast. Beginning in 2016, all coastal states from Maine through Georgia will transition to conducting the catch estimate portion of Marine Recreational Information Program, also known as APAIS. To prepare for this transition, new staff have been hired by the states and ACCSP, the Commission offices were reconfigured to accommodate the new hires, and the Commission readied itself to address the administrative and human resource challenges of an increased workforce. While NOAA Fisheries will retain primary accountability for APAIS and will be responsible for survey design, catch and effort estimation, and public dissemination, the Commission and ACCSP will act as the central coordinators of the state-conducted APAIS and will be responsible for data entry, compilation, quality control/quality assurance, as well as formatting and delivering intercept data to NOAA Fisheries. States will oversee and manage field collection, which will be conducted by state or Commission employees in accordance with APAIS standard data collection protocols.

From a fisheries management perspective, Commissioners adopted a new Interstate Fishery Management Plan (FMP) for Jonah Crab to manage growth in this expanding fishery with the intent of ensuring the sustainability of the resource. Given the linkages between the Jonah crab and American lobster fisheries and the predominance of the Jonah crab fishery in federal waters, we will continue to work closely with the New England Fishery Management Council and NOAA Fisheries on managing this shared resource. Based on the findings of the benchmark stock assessments for American lobster, tautog, and Atlantic menhaden, Commissioners have begun to discuss possible changes to management programs for these species. For American lobster, Commissioners will wrestle with what is the best approach to manage the severely depleted Southern New England stock unit given the environmental constraints placed on this resource that limit rebuilding efforts.

Responding to the positive findings of the Atlantic menhaden assessment, Commissioners have begun to move forward with the next stage on menhaden management. This new management regime will not only seek to fairly allocate the resource among the states and between fishery sectors but to also establish ecological based reference points that reflect Atlantic menhaden's role as a forage species. While working groups of Commissioners, scientists, and stakeholders have met throughout this year to lay the groundwork for future Board discussions, substantial work is still ahead of us. Luckily, we are not alone as we navigate the complex terrain of ecosystem management as our counterparts with the New England and Mid-Atlantic Fishery Management Councils explore ecosystem and forage species management as well.

2015 was the first year we implemented new management measures to reduce the coastwide harvest of Atlantic striped bass in order to assure a more rapid increase in the abundance of spawning fish which has been declining in recent years. Based on recent projections, the implemented management measures appear to meet, if not exceed, the required harvest reductions, with the resource not overfished and overfishing not occurring. This, coupled with the news of Maryland's above average juvenile index and Virginia's average juvenile index, offer promising news for the future of the striped bass resource.

USFWS's recent decision to not list American eel under the Endangered Species Act is also welcome news. The decision affirms the significant work and resources invested by the Commission, its member states, and federal partners over the past several years to conduct the first coastwide benchmark stock assessment for American eel and implement a management program in response to the assessment findings. However, given the current depleted status of the resource, there is still considerable

work to be done to rebuild American eel. The Commission will continue to closely monitor American eel fisheries and the status of the resource, and make adjustments to the management program as necessary, to ensure stock rebuilding.

The Commissioners and staff continue to work to secure the necessary resources to support important scientific, management, and enforcement activities. A critical component of this work is strengthening our partnerships with NOAA Fisheries and USFWS. The three interstate commissions continue to meet jointly with NOAA Fisheries leadership to communicate the states' budget priorities. This effort was successful in getting nearly one million dollars to support unfunded data collection programs. As the 2016 budget is finalized by Congress, staff and our government relations firm will continue to communicate the importance of supporting the interstate fishery management process.

In closing, I want to thank my fellow Commissioners for the trust they have placed in Doug Grout and me to serve as your Vice-Chair and Chair. We are grateful for their support and sustained commitment to the Commission and its programs. I am also deeply appreciative of the support and dedication of the Commission's talented staff. We have seen a lot of staff transitions over the past two years, with some well-respected veteran staff leaving some big shoes to fill. I am pleased to say that our new hires, who include three FMP Coordinators, one stock assessment scientist, and an accounting manager and HR manager, have admirably stepped into their new positions without missing a beat. This seamless transition is in large part due to the outstanding leadership of the senior staff and the remarkable teamwork exhibited by the remaining staff who have stepped in to mentor and contribute to the increased workload. It has been an honor to serve as your Chair. I look forward to continuing to work with you all over the coming years to sustainably manage Atlantic coastal fisheries. ✦

Stock Status Overview

In 2015, the Commission maintained sustainable fisheries for a number of rebuilt species such as Gulf of Maine/Georges Bank American lobster, Atlantic herring, Atlantic menhaden, bluefish, scup, and spiny dogfish. The Commission approved a new Jonah Crab FMP, updated management programs for two species (via addenda), and initiated four plan amendments in response to stock assessment information and changes in the fisheries. Two of the plan amendments will seek to improve resource sustainability for northern shrimp and tautog, while the other two amendments will seek to improve management of Atlantic herring and Atlantic menhaden fisheries. The Commission and Mid-Atlantic Fishery Management Council also initiated the development of new plan amendments for summer flounder and black sea bass. While these are positive steps forward, there is still substantial work ahead to rebuild valuable Atlantic coastal fishery resources such as American shad, river herring, Southern New England American lobster, winter flounder, and weakfish.

The Commission maintains its role as the deliberative forum for the Atlantic coastal states to come together to discuss the biological, socioeconomic, and environmental issues central to developing management programs for each species. The task of managing finite marine resources continues to grow more complex with the consideration of climate change, predator/prey interactions, habitat, and competing ocean uses, in addition to the more traditional considerations of stock maintenance, rebuilding, and the allocation of fisheries resources.

The following section provides a summary of the status of species managed by the Commission and highlights management activities that occurred throughout 2015. For this summary, **overfishing** occurs when fish are removed from a population at a rate that exceeds the threshold established in the FMP, which over the long-term will lead to declines in the population. A stock that is experiencing overfishing has fish removed at a rate faster than the population can sustain in the long run. Over the long-term, this will lead to declines in the population. An **overfished** determination occurs when stock biomass falls below the threshold established by the FMP, significantly reducing the stock's reproductive capacity to replace fish removed through harvest. The term **depleted** reflects low levels of abundance though it is unclear whether fishing mortality is the primary cause for reduced stock size. **Recovering/rebuilding** occurs when stocks exhibit stable or increasing trends, and stock biomass is between the threshold and the target level established by the FMP. A **rebuilt/sustainable** stock is one whose biomass is equal to or above the biomass level established by the FMP to ensure population sustainability. When between benchmark assessments a stock can still be considered rebuilt/sustainable if it drops below the target but remains above the threshold. **Concern** is when a stock develops emerging issues, e.g., increased effort, declining landings, or impacts due to environmental conditions. **Unknown** stock status occurs when there is no accepted stock assessment to estimate the stock condition.

Some other terms used throughout this report are benchmark stock assessment, peer-reviewed stock assessment, and stock assessment update. A **benchmark stock assessment** is a full analysis and review of the stock condition, focusing on the consideration of new data sources and newer or improved assessment models. This assessment is generally conducted every three to five years and undergoes a formal peer review by a panel of independent fisheries scientists who evaluate whether the data and methods used to produce the assessment are scientifically sound and appropriate for management use (**peer-reviewed stock assessment**). A **stock assessment update** incorporates data from the most recent years into the peer-reviewed assessment model to determine current stock status (abundance and overfishing level).

Quick Guide to Stock Status

STATUS/ TRENDS	SPECIES		OVERFISHED	OVERFISHING	REBUILDING STATUS & SCHEDULE
⬇		American Eel	Depleted	Unknown	Harvest restrictions adopted for glass, yellow, and silver eel fisheries in response to 2012 benchmark assessment
✓	American Lobster 	Gulf of Maine (GOM)/ Georges Bank (GBK)	Not Depleted	N	GOM and GBK stocks rebuilt Board approved 10% reduction in exploitation on SNE stock in 2012 as 1st phase in rebuilding program, as well as trap reductions in Areas 2 & 3. Board considering additional restrictions for SNE in response to 2015 benchmark assessment.
⬇		Southern New England (SNE)	Depleted	N	
⬇		American Shad	Depleted	Unknown	Amendment 3 establishes 2013 moratorium unless sustainability can be documented
?		Atlantic Croaker	Unknown	N	Overfished status unknown; however, biomass has been increasing & age structure has been expanding since late 1980s; benchmark assessment scheduled for 2016
✓		Atlantic Herring	N	N	Rebuilt; 2015 stock assessment update indicated SSB is above the target and F is below the threshold
✓		Atlantic Menhaden	N	N	Board set a TAC for the 2015 and 2016 fishing seasons at 187,880 mt per year, a 10% increase from the 2014 TAC
✸		Atlantic Striped Bass	N	N	Rebuilt since 1995, although female SSB has continued to decline since 2004; Board adopted harvest reductions for implementation in 2015 in response to 2013 benchmark assessment
?		Atlantic Sturgeon	Y	N	40+ year moratorium; to be rebuilt by ~2038; listed in 2012 under the ESA; benchmark assessment scheduled for 2017
✓		Black Drum	N	N	FMP approved in 2013; status based on 2015 benchmark assessment which found 2012 median biomass well above median biomass that produces MSY
✸		Black Sea Bass	N	N	Benchmark assessment scheduled for 2016; may change stock status
✓		Bluefish	N	N	Biomass above threshold but below target
✸		Coastal Sharks	Varies by species and species complex		
✸		Horseshoe Crab	Unknown	Unknown	2013 assessment update found New England & NY stocks to have declined, while DE Bay & Southeast stocks have increased over time series; since 2013, ARM Framework has been used to set harvest levels for horseshoe crabs of DE Bay origin
?		Jonah Crab	Unknown	Unknown	No range-wide assessment; Interstate FMP adopted in August 2015
⬇		Northern Shrimp	Depleted	N	Abundance & biomass indices lowest on record; recruitment indices also very low; fishery moratorium in place for 2014-2016 fishing seasons to protect remaining spawning population

✓ = Rebuilt /Sustainable ⇔ = Recovering/Rebuilding ⬇ = Depleted ? = Unknown ✸ = Concern

STATUS/ TRENDS	SPECIES		OVERFISHED	OVERFISHING	REBUILDING STATUS & SCHEDULE
⇔	Red Drum 	Northern Region	Unknown	N	SPR above target and threshold SPRs; benchmark assessment scheduled for completion in 2016
		Southern Region	Unknown	N	SPR above threshold SPR; benchmark assessment scheduled for completion in 2016
🡻		River Herring	Depleted	Unknown	Depleted on coastwide basis; Amendment 2 established 2012 moratorium unless river-specific sustainability can be documented
✓		Scup	N	N	Rebuilt
✓		Spanish Mackerel	N	N	Rebuilt
✓		Spiny Dogfish	N	N	Rebuilt
?		Spot	Unknown	Unknown	Traffic light approach adopted to assess stock trends & initiate management response if necessary; benchmark assessment scheduled for 2016
?		Spotted Seatrout	Unknown	Unknown	Omnibus Amendment includes measures to protect spawning stock & establishes 12" minimum size limit
✸		Summer Flounder	N	Y	2015 assessment update indicates biomass trending downward since 2010; 2014 F is 16% above threshold
✸		Tautog	Y	Varies by region	Overfished on coastwide basis; 2015 benchmark assessment presented stock status based on 3 regions; Board has initiated amendment to address regional stock units and reference points
🡻		Weakfish	Depleted	N	6-year rebuilding period if spawning stock biomass < threshold level; Board approved further harvest restrictions in 2009; benchmark assessment scheduled for 2016
✸	Winter Flounder 	Gulf of Maine	Unknown	N	Stock biomass is unknown; assessment not accepted due to concerns with large retrospective pattern; unknown why stock is not responding to low catches and low exploitation rates
🡻		South New England/ Mid-Atlantic	Y	N	Current biomass at 23% of SSB target; recruitment continues to decline

✓ = Rebuilt /Sustainable ⇔ = Recovering/Rebuilding 🡻 = Depleted ? = Unknown ✸ = Concern

American Eel

2015 marks the first year of the implementation of Addendum IV to the American Eel FMP. Addendum IV establishes a 907,671 pound coastwide quota for yellow eel commercial fisheries, sets Maine's glass eel quota at 9,688 pounds, and allows for the continuation of New York's silver eel weir fishery in the Delaware River. In concert with Addendum III, Addendum IV seeks to reduce mortality and increase conservation of American eel stocks across all life stages.

For yellow eel commercial fisheries, the coastwide quota was implemented in the 2015 fishing year, but will not initially include state-specific allocations. Instead, Addendum IV establishes two management triggers: (1) exceeding the coastwide quota by more than 10% in a given year, or (2) exceeding the coastwide quota for two consecutive years, regardless of the overage amount. If either trigger is met, then states would implement state-specific allocation. The Commission prepared for the potential implementation of state-specific allocation through the approval of state implementation plans in 2015. A major theme of those plans was improved catch monitoring in order to timely track harvest relative to an imposed quota (if triggered).

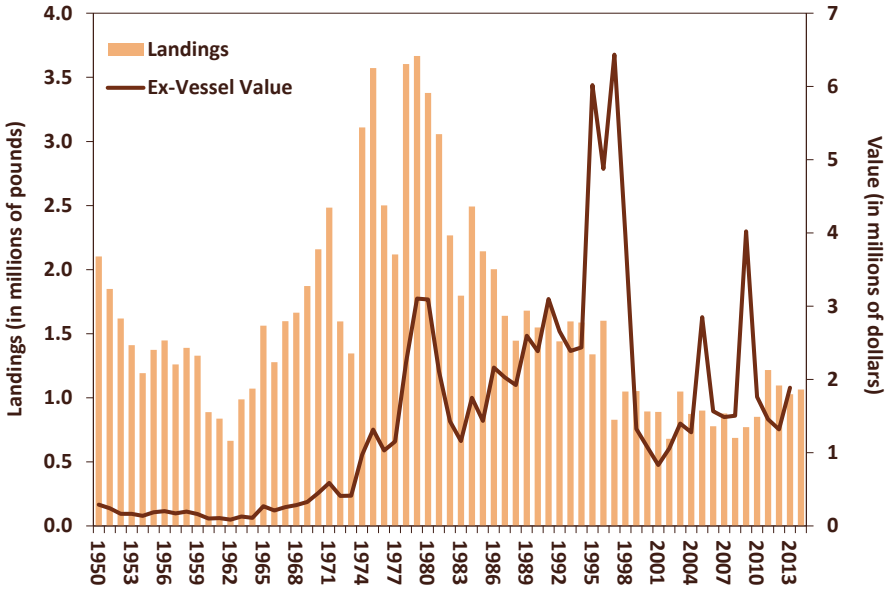
For the glass eel fishery, Maine vastly improved its catch monitoring program through the implementation of a dealer and harvester swipe card system. The swipe card program serves two purposes: (1) it is an effective fish management tool used to track individual fishing quotas, and (2) it is used as a daily quota monitoring tool. The results of the swipe card system were significant, reducing the number of fishery related infractions reported by the Maine Marine Patrol from 200 in 2013 to under 20 in 2014 and 2015. Maine will continue to use the swipe card program and require a pound-for-pound payback in the event of quota overages in its glass eel fishery. Additionally, the state plans to implement a Technical Committee and Board approved fishery-independent life cycle survey covering glass, yellow, and silver eels within the Cobboseecontee River system. The Addendum requires implementation of daily reporting and a life cycle survey for any jurisdiction with a commercial glass eel fishery harvesting more than 750 pounds.

From the 1970s to the mid-1980s, American eel supported significant commercial fisheries, with landings ranging from 2.5 -3.6 million pounds. Landings dropped to 1.6 million pounds in 1987 and have remained at low levels since then, ranging from 1.5 million to 700,000 pounds. State reported landings of yellow and silver eels in 2014 totaled just over one million pounds, 4% higher than 2013. Since 2010, increased demand for glass eels by foreign markets has led to a dramatic increase in the value of glass eels and record high prices of $2,000 per pound. In 2014, glass eel harvest from Maine and South Carolina totaled 12,515 pounds, a decrease from 2013 due to the new quota in Maine. In 2014, total eel landings (glass, yellow, and silver eel combined) were valued at approximately $9.8 million.

In 2011, USFWS initiated a status review of American eel under the Endangered Species Act (ESA) to assess the health of the population and the magnitude of threats facing the species. On October 7, 2015,

American Eel Total Commercial Landings and Value

Source: ASMFC 2012 American Eel Benchmark Stock Assessment Report (2012), ASMFC State Compliance Reports, and NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('99); Addendum I ('06); Addendum II ('08), Addendum III ('13); Addendum IV (2014)

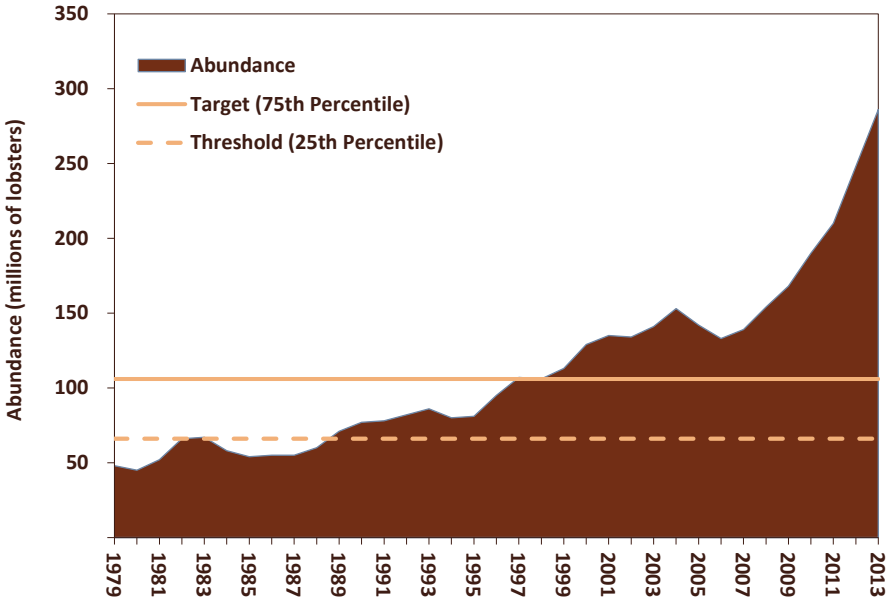
USFWS announced American eel is stable and does not need protection under the ESA. Nonetheless, for the species' long-term stability, the agency recommended continuing efforts to maintain healthy habitats, monitor harvest levels, and improve river passage for migrating eels. In 2014, the International Union for the Conservation of Nature (IUCN) listed American eel as "Endangered" on the Red List. The IUCN assesses flora and fauna globally to determine their conservation status. While the IUCN list has no legal implications, it is an important metric that accounts for a variety of factors including habitat, threats, potential stresses, and research status. Given these findings and recent actions taken by the Commission and its member states, the Commission remains committed to closely monitoring American eel fisheries and the status of the resource, and making adjustments to the management program as necessary to ensure stock rebuilding.

American Lobster

With roughly 148 million pounds of lobster landed in 2014 at an estimated value of $567 million, American lobster continues to be one of the most valuable species harvested throughout New England. While the fishery has experienced significant growth over the past 40 years, the results of the 2015 benchmark stock assessment showed a mixed picture of stock status. In the Gulf of Maine/Georges Bank (GOM/GBK), the stock is experiencing record high abundance and recruitment. In contrast, the Southern New England (SNE) stock is at record low abundance and is experiencing recruitment failure. The stock assessment found while the GOM/GBK stock is not overfished and not experiencing overfishing, the SNE stock is severely depleted with poor prospects of recovery. Declines in the SNE population abundance are most pronounced in the inshore portion where environmental conditions have remained unfavorable to lobster since the late 1990s. The Peer Review Panel recommended close monitoring of the SNE stock along with implementing measures to protect the remaining lobster resource. Approval of the stock assessment combined the GOM and GBK stocks into a single biological unit given extensive data that lobsters migrate between the two areas.

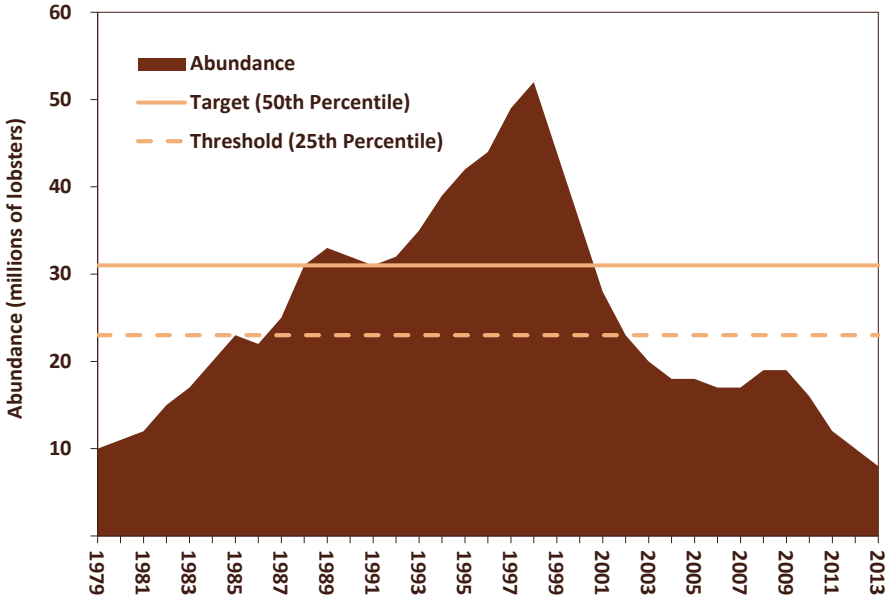
In response to the stock assessment findings, the American Lobster Management Board is evaluating potential management measures to respond to the poor condition of the SNE stock. As a first step, the Board convened a SNE

American Lobster Gulf of Maine/Georges Bank Abundance
Source: ASMFC American Lobster Benchmark Stock Assessment Report, 2015



Timeline of Management Actions: Amendment 3 ('97); Addendum I ('99); Addendum II ('01); Addendum III ('02); Addenda IV & V ('04); Addenda VI & VII ('05); Addenda X & XI ('07); Addendum XIII ('08); Addendum XIV ('09); Addendum XV ('09); Addendum XVI ('10); Addendum XVII ('11); Addendum XVIII ('12); Addenda XIX – XXII ('13); Addendum XXIII ('14); Addendum XXIV ('15)

American Lobster Southern New England Abundance
Source: ASMFC American Lobster Benchmark Stock Assessment Report, 2015



Working Group, comprised of a subset of industry representatives, Technical Committee members, Commissioners, and federal representatives. The Working Group discussed a suite of management objectives for the stock ranging from stabilizing the stock through reductions in fishing mortality to preserving fishery infrastructure at the expense of stock rebuilding. Preliminary projections of the SNE stock presented to the Working Group showed large reductions in fishing mortality would be needed to stabilize the stock. Furthermore, these projections suggested that, under current conditions, it may not be possible to rebuild the stock to its current reference point.

In November 2015, the Board reviewed the objectives of the Working Group and charged the Technical Committee with completing several tasks, including a review of preliminary stock projections and a recalculation of reference points. The goal of these tasks is to gain more information on the SNE stock and management options moving forward.

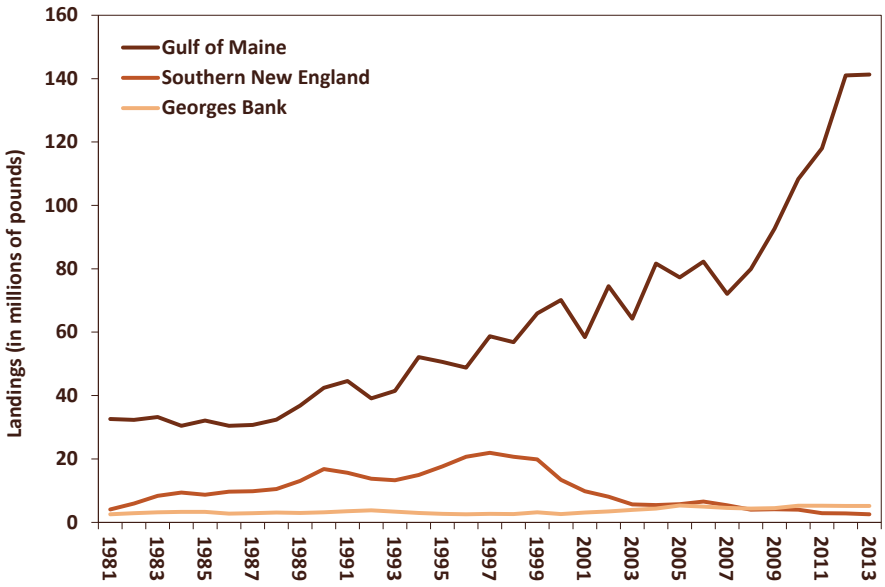
In 2015, the Board also approved Addendum XXIV, which aligns state and federal measures for trap transfer programs in Lobster Conservation Management Areas 2, 3, and Outer Cape Cod. The Addendum removes the 10% conservation tax on full business transfers and specifies that traps shall be transferred in 10 trap increments in all areas that currently have a trap transferability program, unless otherwise specified. Addendum XXIV also allows dual permit holders to transfer allocation with dual permit holders from other states. If a dual permit holder chooses to purchase a federal trap allocation from a dual permit holder from another state, only the federal allocation will transfer.

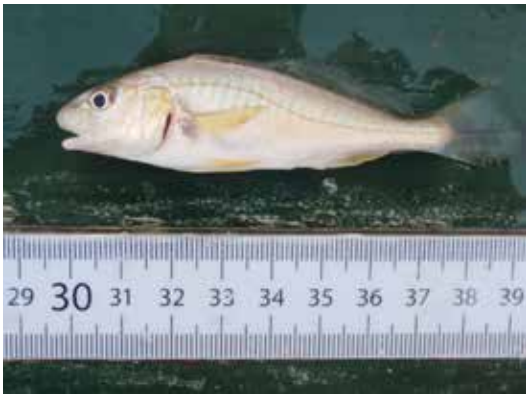
Atlantic Croaker

Atlantic croaker are a popular bottom-dwelling species, which gets its name from the croaking noises it makes during mating rituals. The species is most abundant from the Chesapeake Bay to northern Florida and is sought by recreational anglers and commercial fishermen. An estimated 10.1 million pounds of croaker were landed in 2014, with approximately 70% landed by the commercial sector and 30% harvested by recreational anglers.

American Lobster Landings by Area

Source: ASMFC American Lobster Benchmark Stock Assessment Report, 2015





The majority of these landings occurred in the Mid-Atlantic region.

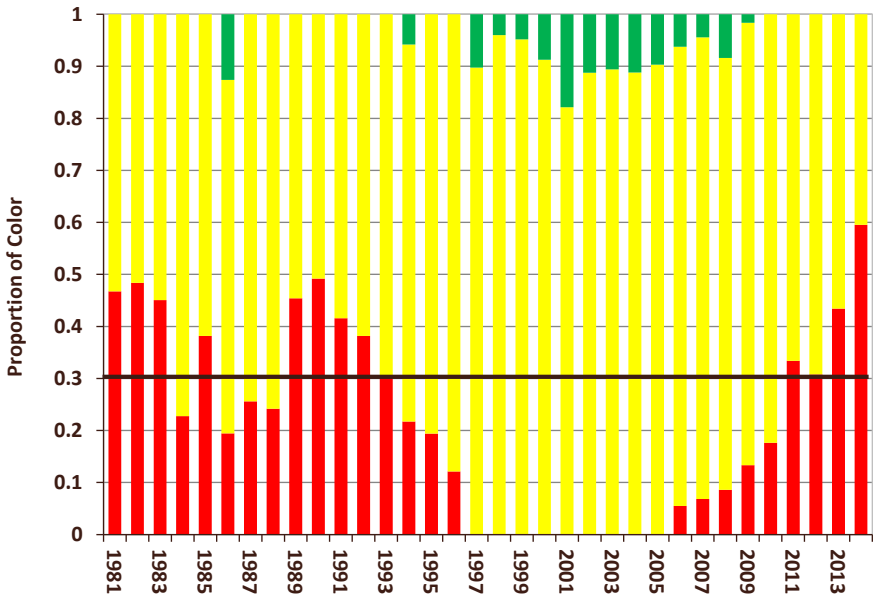
In 2015, the South Atlantic State/Federal Fisheries Management Board reviewed the Traffic Light Analysis (TLA) for Atlantic croaker. The TLA evaluates fishery trends and develops state-specific management actions (e.g. bag limits, size restrictions, time & area closures, and gear restrictions) when harvest and abundance thresholds are exceeded for three consecutive years. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of indicators which reflect the condition of the fish population (abundance metric) or fishery (harvest metric). For example, as harvest or abundance increase relative to their long-term mean, the proportion of green in a given year increases and as harvest or abundance decrease, the amount of red in that year becomes more

predominant. The TLA improves the management approach as it illustrates long-term trends in the stock and includes specific management recommendations in response to declines in the stock or fishery.

The TLA showed a significant decrease in Atlantic croaker harvest in both the commercial and recreational sectors. Data from fishery-independent surveys also showed a slight decrease in the abundance of Atlantic croaker Management measures were not triggered in 2014 since the abundance index did not exceed the management threshold; however, the TLA does show a declining trend in the fishery which warrants monitoring in the future.

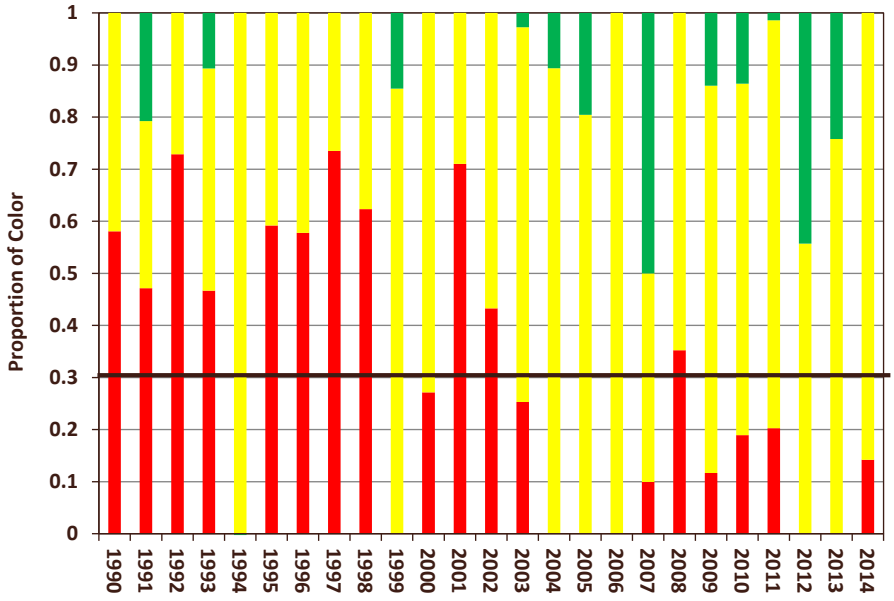
Traffic Light Analysis of Atlantic Croaker (Harvest Metric)

Solid line represents 30% threshold



Traffic Light Analysis of Atlantic Croaker (Abundance Metric)

Solid line represents 30% threshold



Management response is triggered when proportion of red exceeds the 30% threshold level for three consecutive years in both fishery characteristics (harvest and abundance metrics).

Timeline of Management Actions: FMP ('87); Amendment 1 ('05); Addendum I ('11); Addendum II ('14)

In 2015, the South Atlantic Board also initiated a benchmark stock assessment for Atlantic croaker. The previous stock assessment was completed in 2010 and found Atlantic croaker was not experiencing overfishing. Although model estimates of spawning stock biomass (SSB) were too uncertain to be used to determine an overfished stock status, biomass was increasing and the age structure of the population was expanding. The new assessment hopes to address a major source of uncertainty in previous assessments – the magnitude of croaker bycatch in the South Atlantic shrimp trawls. A data workshop was held in September 2015, and the stock assessment and peer review are scheduled for completion in late 2016.

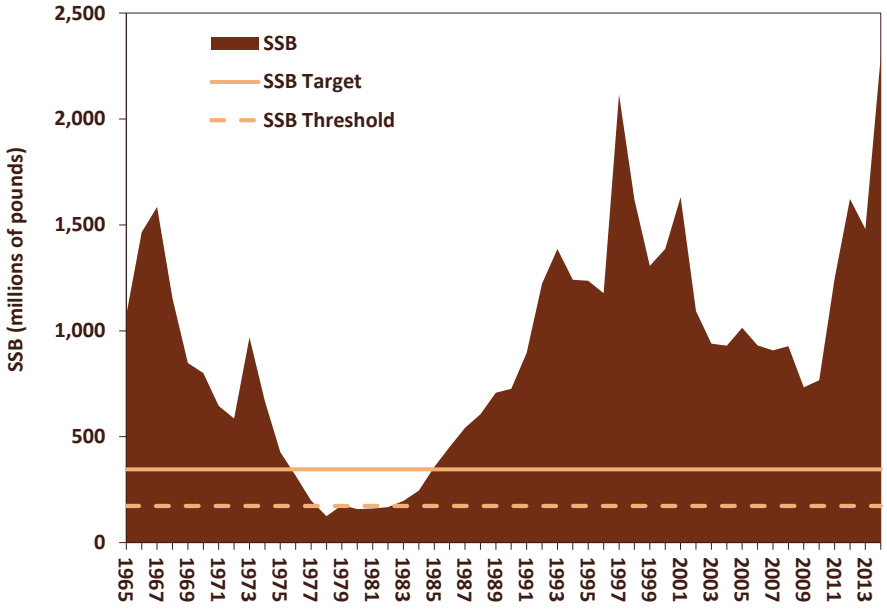
Atlantic Herring

The Atlantic herring fishery is managed cooperatively by the Commission through its Atlantic Herring Section and the New England Fishery Management Council (NEFMC). Commission management extends from the shore out to 3 miles, while NEFMC oversees management in federal waters (3-200 miles from shore).

Commercially, Atlantic herring are used as both bait and food. Currently, the herring fishery is thriving, with total domestic harvest (203 million pounds) valued at $28.8 million in 2014. These values are the third highest since the 1950s. As a baitfish, herring supports the American lobster fishery and tuna fishery. The majority of landings are taken from GOM, but fisheries also occur in GBK and areas south and west of Cape Cod.

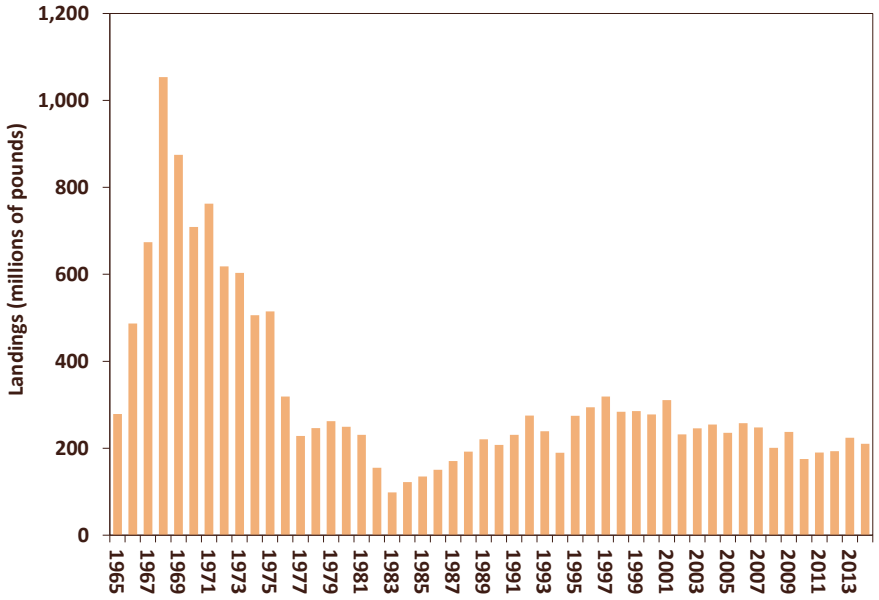
The 2015 stock assessment indicates Atlantic herring are not overfished and overfishing is not occurring. Spawning stock biomass in 2014 is estimated at 1.3 billion pounds, well above the spawning stock biomass

Atlantic Herring Spawning Stock Biomass (SSB)
Source: Northeast Regional Stock Assessment Update, 2015



Timeline of Management Actions: FMP ('93); Amendment 1 ('99); Amendment 2 ('06); Addendum I ('09); Addendum II ('10); Addendum V; ('12); Addendum VI ('13)

Atlantic Herring Commercial Landings
Source: ACCSP Data Warehouse, 2015



(SSB) threshold and target of 343 million pounds and 686 million pounds, respectively. Current fishing mortality is estimated at 0.16, below the fishing mortality threshold of 0.24.

Although the Atlantic herring stock complex is assessed as a whole, catch limits are allocated among four management areas based on estimates of stock composition and relative biomass. The Section set the 2016-2018 annual catch limit (ACL) at 231 million pounds per year. The ACL was further subdivided by Atlantic herring management areas as follows: Area 1A (inshore GOM) = 66.79 million pounds, Area 1B = 9.9 million pounds, Area 2 = 64.1 million pounds, and Area 3 = 90.16 million pounds. For the 2016 fishing season, as in previous years, Area 1A's sub-ACL will be distributed seasonally with 72.8% available from June 1-September 30 (Trimester 2) and 27.2% available from October 1-December 31 (Trimester 3). Directed fisheries within a management area will close when 92% of the sub-ACL has been harvested, and the stock-wide fishery will close when 95% of the ACL is projected to be reached.

During the 2015 fishing year, Maine, New Hampshire, and Massachusetts continued to modify days-out of the Area 1A fishery during the season, setting seven landing days for Trimester 2 (June 1 – September 30), which was subsequently lowered to zero landing days in mid-August due to an accelerated rate of landings. Landing days were increased to three days at the start of Trimester 3 (October 1 – December 31). On November 2, 2015, the Area 1A fishery was closed, having reached 92% of the management area's ACL.

Throughout 2015, the Atlantic Herring Section worked on the development of Draft Amendment 3 to the Atlantic Herring FMP. The Draft Amendment proposes changes to the spawning regulations and the fixed gear set-aside rollover provision, and considers a requirement for vessel holds to be empty of fish prior to departing on a trip. Based on over a decade of sampling data and literature review, the Draft Amendment proposes adjusting the method that informs the closure of spawning areas. The proposed method would forecast the expected onset of spawning and give advance notice when a spawning closure is likely to occur, allowing industry to plan their activities accordingly. The Draft Amendment was released for public comment in early December, with state hearings scheduled for early January 2016. The Section will consider final action on the amendment in early 2016.

Atlantic Menhaden

In 2015, the Atlantic Menhaden Management Board approved a total allowable catch (TAC) for

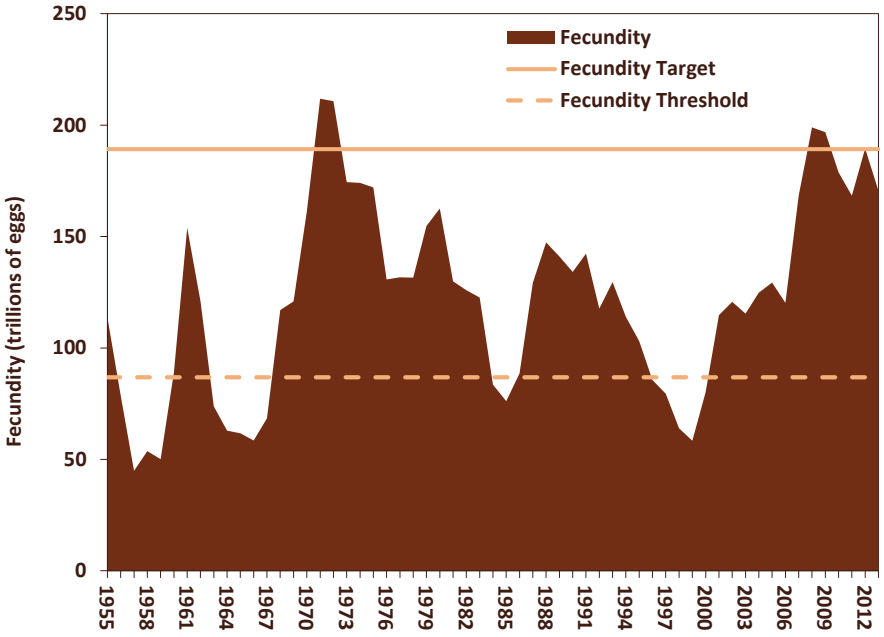
the 2015 and 2016 fishing seasons at 187,880 metric tons (mt) per year, a 10% increase from the 2014 TAC. The increase responds to the positive findings of the 2015 Atlantic menhaden benchmark assessment, which indicates the resource is not overfished nor experiencing overfishing relative to the biological reference points that were used in the 2015 stock assessment and accepted for management use. Population fecundity, a measure of reproductive capacity, is estimated to be 10% below the revised target value (189 trillion eggs) and fishing mortality is estimated to be 0.22, below both the revised fishing mortality threshold (1.26) and target (0.38). The 2015 stock assessment results were markedly different from those of the 2012 assessment due to improvements in both the datasets used and modeling approaches that split the resource by fishery and area.

The preliminary estimate of 2014 coastwide harvest, which includes the reduction and bait fisheries, and episodic event set asides is 168,607 mt, representing a 1.3% underage from the coastwide TAC of 170,800 mt. Additional bycatch landings of 3,101 mt accounted for approximately 1.8% of the coastwide harvest, but do not count towards the TAC. These bycatch landings were harvested under the 6,000 pound bycatch allowance. Combining total landings (including bycatch) is estimated at 171,709 mt.

In 2015, the Board committed to moving forward with the development of Amendment 3 to the Atlantic Menhaden FMP. Amendment 3 will consider both ecosystem reference points (ERPs) and allocation. Throughout 2015, the Board made progress on both topics through the establishment of two working groups. The first group was tasked with developing a complete list of potential allocation options for the menhaden fishery,

Atlantic Menhaden Fecundity

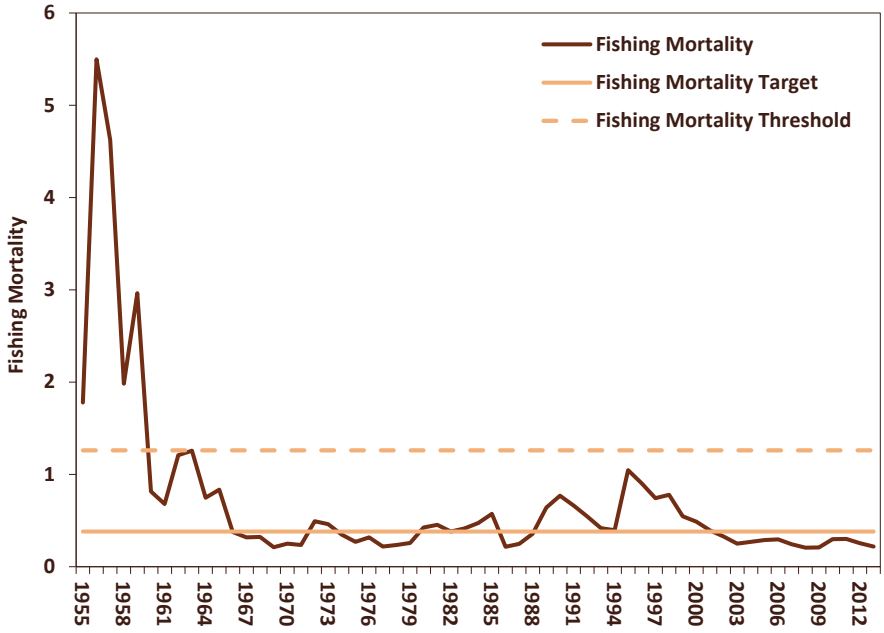
Source: SEDAR Atlantic Menhaden Stock Assessment, 2015



Timeline of Management Actions: FMP ('81); FMP revision ('91); Amendment 1 ('01); Addendum I ('04); Addendum II ('05); Addendum III ('06); Addendum IV ('09); Addendum V ('11); Amendment 2 ('12); Addendum I ('13)

Atlantic Menhaden Fishing Mortality (Ages 2-4)

Source: SEDAR Atlantic Menhaden Stock Assessment, 2015



while the second group identified potential ecosystem goals and objectives that will be used to advance ERP development by the Biological Ecological Reference Point Working Group. The next step of the amendment process will be development of a public information document to scope both allocation options and available ERPs in late 2016/early 2017, followed by a Draft Amendment document in mid-2017 for potential implementation of final measures in 2018.

The above timeframe will allow for the completion of a socioeconomic analysis to further characterize the Atlantic menhaden fishery. This analysis will provide much needed information on the importance of menhaden to its stakeholders to help inform allocation discussions. The analysis will be conducted throughout 2016, and will rely on stakeholder engagement to obtain socioeconomic data to conduct the analysis. The results are expected to assist fishery managers, industry, and stakeholders as they contemplate difficult allocation decisions through Amendment 3.

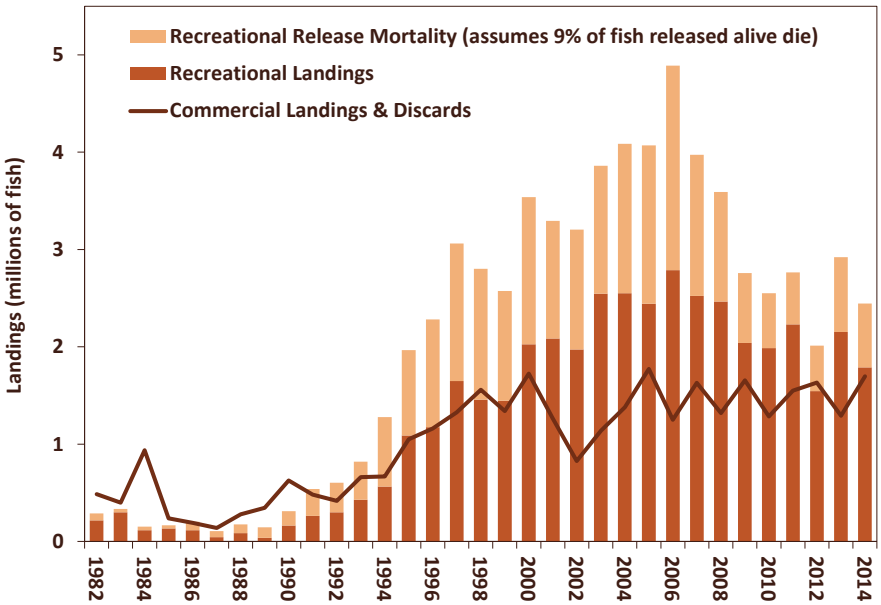
Atlantic Striped Bass

In 2015, the states and jurisdictions involved in the management of Atlantic striped bass (i.e., Maine through North Carolina, including Pennsylvania, the District of Columbia and the Potomac River Fisheries Commission) implemented the required harvest reductions of Addendum IV to Amendment 6 to the Atlantic Striped Bass FMP. Specifically, commercial state quotas were reduced by 25% from 2013 levels for coastal fisheries, and by 20.5% from 2012 levels for Chesapeake Bay commercial fisheries. To reduce recreational harvest, states implemented a one fish bag limit while keeping a 28" minimum size limit. Eight states and jurisdictions submitted conservation equivalency proposals (e.g., alternative measures that achieve the same reduction but are designed to meet the state's fishery needs) for at least one of their fisheries . These proposals were approved by both the Technical Committee and Atlantic Striped Bass Management Board. The projected harvest estimate based on previous years' fishing indicates that the combined measures implemented by the states and jurisdictions should reduce the 2015 coastwide harvest by 25.6%. The 2016 stock assessment update is expected to provide more accurate information regarding the performance of Addendum IV regulatory changes.

Addendum IV responds to the 2013 benchmark assessment which indicated fishing mortality was above the new target (0.18) and female SSB has been steadily declining below the target of 158.8 million pounds since 2006. While the stock

Atlantic Striped Bass Commercial Landings and Discards and Recreational Landings and Release Mortality

Source: ASMFC Atlantic Striped Bass Stock Assessment Update, 2015



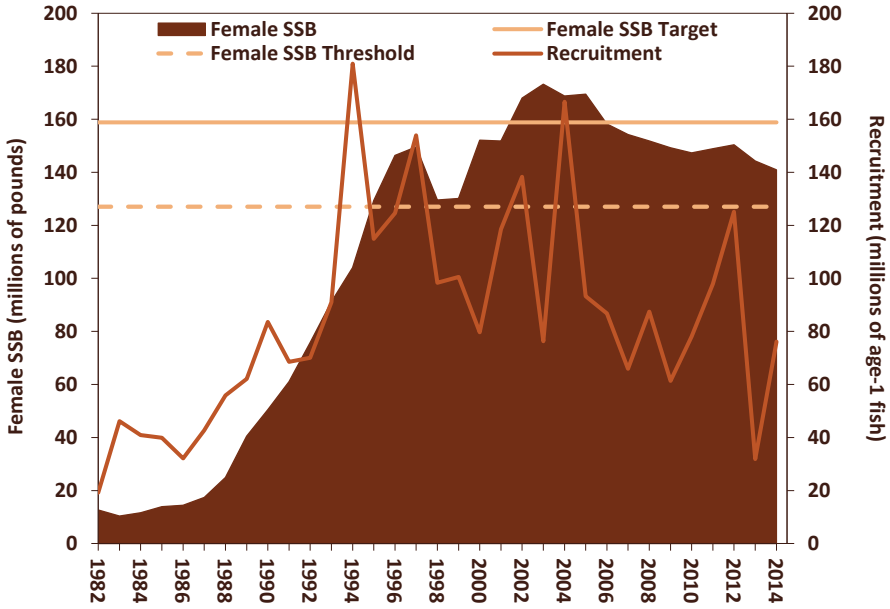
Timeline of Management Actions: Amendment 1 & 2 ('84); Amendment 3 ('85); Amendment 4 ('90); Amendment 5 ('95); Amendment 6 ('03); Addendum I ('07); Addendum II ('10); Addendum III ('12); Addendum IV ('14)

was not overfished and overfishing was not occurring, the Addendum established new fishing mortality reference points and required coastwide harvest reductions in order to reduce fishing mortality to a level at or below the new target . The 2015 stock assessment update results similarly indicated that the Atlantic striped bass stock was not overfished nor experiencing overfishing. Additionally, given the Albemarle Sound/Roanoke River (A/R) stock of striped bass contributes minimally to the coastwide complex when compared to the Chesapeake Bay, Delaware, and Hudson stocks, Addendum IV defers management of this stock to the State of North Carolina using stock-specific biological reference points. These stock-specific reference points, which have been approved by the Board, will result in a separate quota that is set to maintain fishing mortality for the A/R stock at its target level. The quota for the A/R stock in 2014 was 305,762 pounds.

From 2005 to 2014, total recreational harvest has ranged from a high of 31 million pounds (2.79 million fish) in 2006 to a low of 19.2 million pounds (1.55 million fish) in 2012, with an average of 26.2 million pounds. Landings from New York (29%), Massachusetts (19%), New Jersey (18%), and Maryland (12%) have comprised approximately 78% of annual recreational landings since 2005. Recreational harvest in 2014 is estimated at 24.1 million pounds. The number of fish released alive increased annually after the passage of Amendment 6 (2003) to a high of 23.3 million fish in 2006. Since then, the number of fish released alive has decreased by 77% to a low of 5.2 million fish in 2012. Reasons for the decline may be attributed to a reduction in stock size from the peak in 2003, a decreased availability of fish staying in nearshore areas, and changes in angler behavior in response to socioeconomic factors. The number of fish released alive in the recreational sector for 2014 is estimated to be 7.3 million fish.

Atlantic Striped Bass Female Spawning Stock Biomass (SSB) and Recruitment (Age-1)

Source: ASMFC Atlantic Striped Bass Stock Assessment Update, 2015



Total commercial harvest from 2005 to 2014 ranged between 5.8 and 7.2 million pounds (765,101 and 1.1 million fish, respectively), and averaged 6.7 million pounds. The Chesapeake Bay jurisdictions accounted for approximately 59% of total commercial harvest over the same time period, ranging between 3.3-4.4 million pounds and averaging 4.1 million pounds. Other primary contributors to coastwide commercial landings include Massachusetts (17%) and New York (11%). Commercial landings in 2014 were estimated at 5.9 million pounds.

Within the A/R management area, total harvest in 2014 was estimated at 121,956 pounds with 71,372 pounds coming from the Albemarle Sound commercial fishery, and 61,642 pounds from the A/R recreational fisheries.

Atlantic Sturgeon

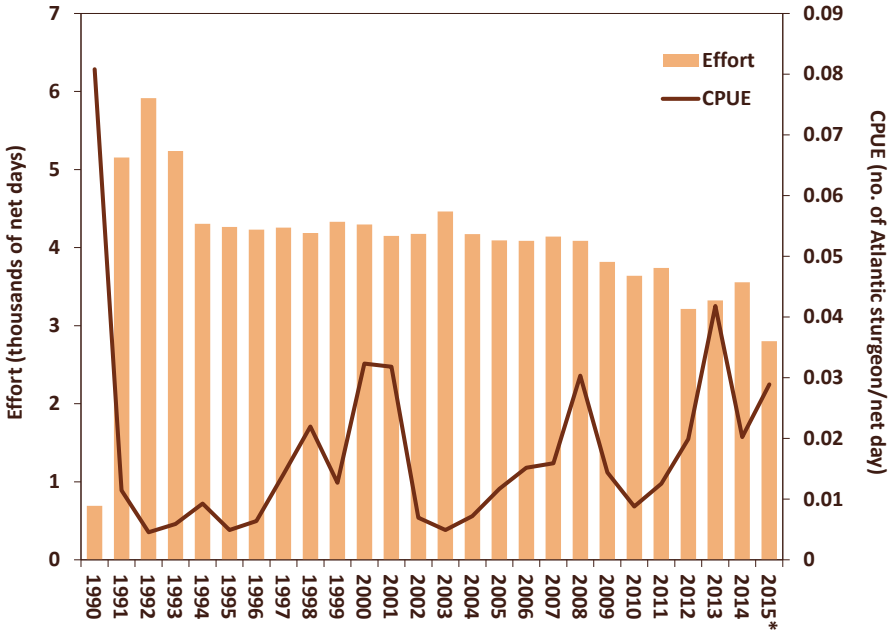
Atlantic sturgeon are one of the oldest fish species in the world, dating back to the Cretaceous period over 120 million years ago, and can be found along the entire Atlantic coast from Florida to Labrador, Canada. Atlantic sturgeon may live up to 70 years and utilize a wide range of habitats throughout their lifetime. They are an anadromous species that undergo extensive coastal migrations which take them from the ocean into coastal estuaries and rivers to spawn every two to five years. Females typically reach sexual maturity between the ages of seven to 30, and males between the ages of five to 24. These life history characteristics, coupled with excessive overfishing from the late 1800s to the mid-1900s and impediments to fish passage, have challenged species' rebuilding efforts. The Commission implemented a 40-year coastwide moratorium on harvest in 1998 to protect and rebuild this ancient species. Additionally, states have invested considerable resources to increase understanding of sturgeon biology and life history through research and fishery-independent surveys.

Very little is known about Atlantic sturgeon's stock status. Reliable data are difficult to obtain because many river systems have few fish, and rivers

with more fish are often not easily sampled. The last benchmark stock assessment, conducted in 1998, found the resource to be overfished coastwide. Several states have been conducting long-term monitoring of Atlantic sturgeon. Data from two of these efforts are provided in the accompanying graphs, which depict catch and effort data for fishery-independent surveys conducted by North Carolina and New Jersey. North Carolina has surveyed for juvenile Atlantic sturgeon in the Albemarle Sound since 1990. Although catch rates have fluctuated considerably over the time series, catch per unit effort (CPUE) in 2013 was the highest observed value since 1990. New Jersey has conducted trawl surveys in their coastal waters since 1989. Although Atlantic sturgeon catch has been below average in recent years, the survey has seen a steady increase over the years following the 1998 coastwide moratorium. Additionally, catch in 2015 looks promising for Atlantic sturgeon considering the data is preliminary and catch is already the third highest on record.

Fishery-independent Catch Rates of Juvenile Atlantic Sturgeon in Albemarle Sound

Source: NC Division of Marine Fisheries, 2015



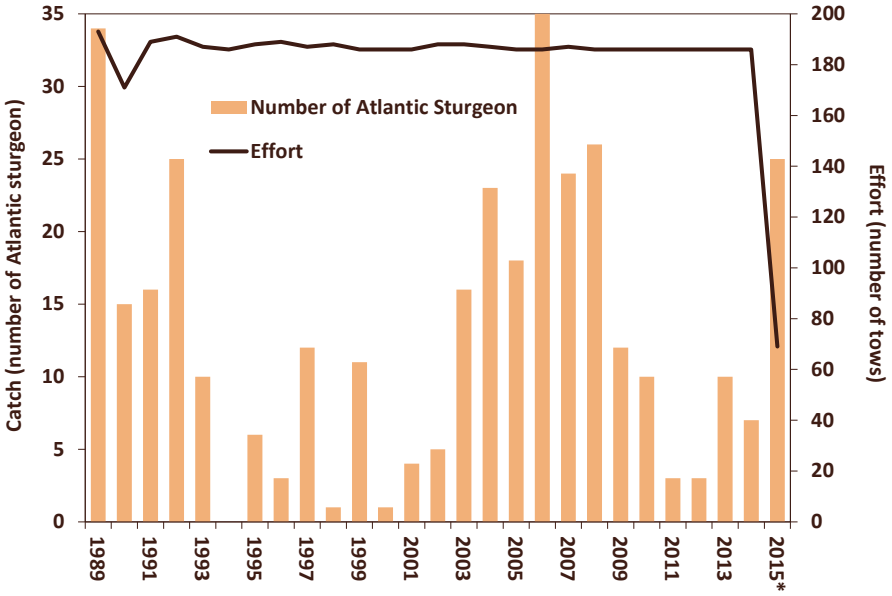
*2015 data are preliminary

NOAA Fisheries investigated the status of Atlantic sturgeon with regard to its listing under the ESA three times since the Commission's implementation of Amendment 1 in 1998. The 1998 and 2005 reviews concluded listing was not warranted. In 2012, NOAA Fisheries published a final rule declaring the Gulf of Maine distinct population segment (DPS) as threatened and the remaining four DPSs (New York Bight, Chesapeake Bay, Carolina and South Atlantic) as endangered (effective April 2012). The status review determined the most significant threats to all of the DPSs are bycatch mortality, poor water quality, lack of adequate state and federal regulatory mechanisms, and dredging activities. Additional stressors include habitat impediments and ship strikes. In 2013, NOAA Fisheries published an Interim Final Rule for the threatened Gulf of Maine DPS which essentially provides the same protection as an endangered listing.

In response to the ESA listing, the Atlantic Sturgeon Management Board initiated the development of a coastwide benchmark stock assessment for Atlantic sturgeon to evaluate stock status, stock delineation, and bycatch. In order to allow for the most comprehensive

Effort and Number of Atlantic Sturgeon Caught in New Jersey's Coastal Waters

Source: NJ Division of Fish and Wildlife Ocean Trawl Survey, 2015



*2015 data are preliminary

Timeline of Management Actions: FMP ('90); Amendment 1 ('98); Addendum I ('01); Addendum II ('05); Addendum III ('06)

assessment, the Board set a 2017 completion date so the most recent data from studies currently underway can be incorporated. For example, several assessment approaches at the DPS or stock-level would become possible from the analysis of genetic samples currently underway at the U.S. Geological Survey's Leetown Science Center in West Virginia. In May 2015, the Stock Assessment Subcommittee (SAS) identified each task of the assessment from data needs to modeling approaches, and the time it will take to complete each task to ensure the benchmark assessment is completed on schedule. Currently, the Bycatch and Tagging Working Groups are developing methodologies for their respective parts of the assessment, while each state actively updates its data through the terminal year of the assessment.

Black Drum

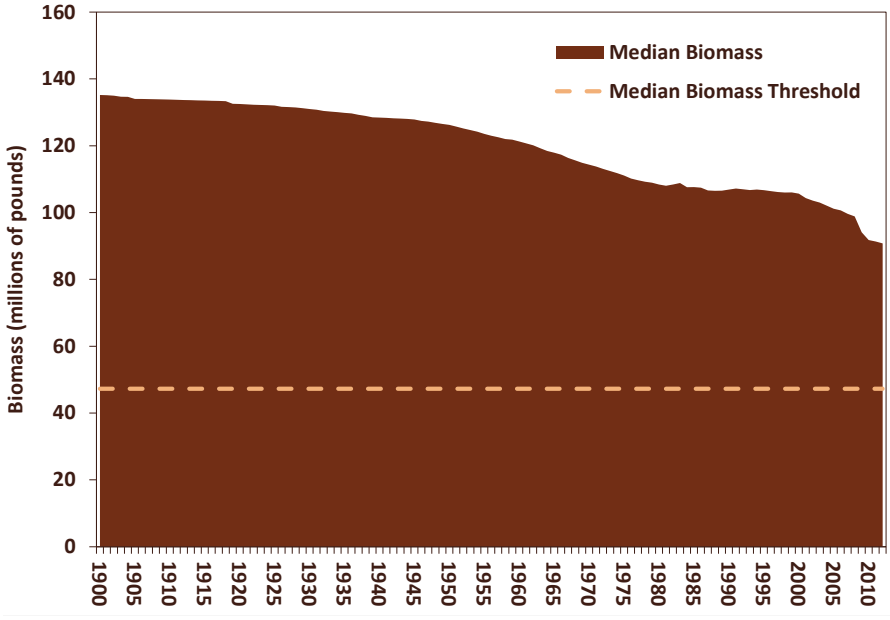
In 2015, the South Atlantic Board approved the Black Drum Benchmark Stock Assessment and Peer Review Report for management use. The assessment, which is the first coastwide assessment of this species, determined black drum are not overfished and not experiencing overfishing. Median biomass was estimated to have declined slowly and steadily from 135.2 million pounds in 1900 to 90.78 million pounds in 2012; however, the median biomass estimate in 2012 is still well above the median biomass that produces maximum sustainable yield (B_{MSY}; 47.26 million pounds). Given the assessment findings, the Board choose to not make any additional changes to the management program at this time.

The Black Drum FMP was adopted in 2013 to address a number of concerns, including increased harvest on juvenile fish and a lack of consistent coastwide regulations for the stock. In 2014, all the states within the management unit (New Jersey to Florida) implemented a minimum size limit of at least 12" and a maximum possession limit which varies by state. The FMP requires all states to further increase the minimum size limit to at least 14" by January 1, 2016.

The black drum fishery is predominantly recreational, with anglers landing about three times the fish (by weight) than the commercial fishery. From 2000-2008, recreational harvest trended upward with harvest peaking at 5.4 million pounds in 2008. Harvest has been on the decline since then with an estimated 1.15 million pounds harvested in 2014. Florida and South Carolina fisheries comprised the majority of recreational harvest in 2014.

Black Drum Biomass

Source: ASMFC Black Drum Benchmark Stock Assessment, 2015



Timeline of Management Actions: FMP ('13)

Historically, commercial landings averaged approximately 368,000 pounds in the 1950s and 1960s and then declined to an average of approximately 211,000 pounds in the 1970s and 1980s. The commercial fishery landed about 262,000 pounds in 2014. Since 2000, the majority of commercial landings have occurred in Virginia, North Carolina, and Florida, while a smaller portion is landed in New Jersey, Maryland, and Delaware.

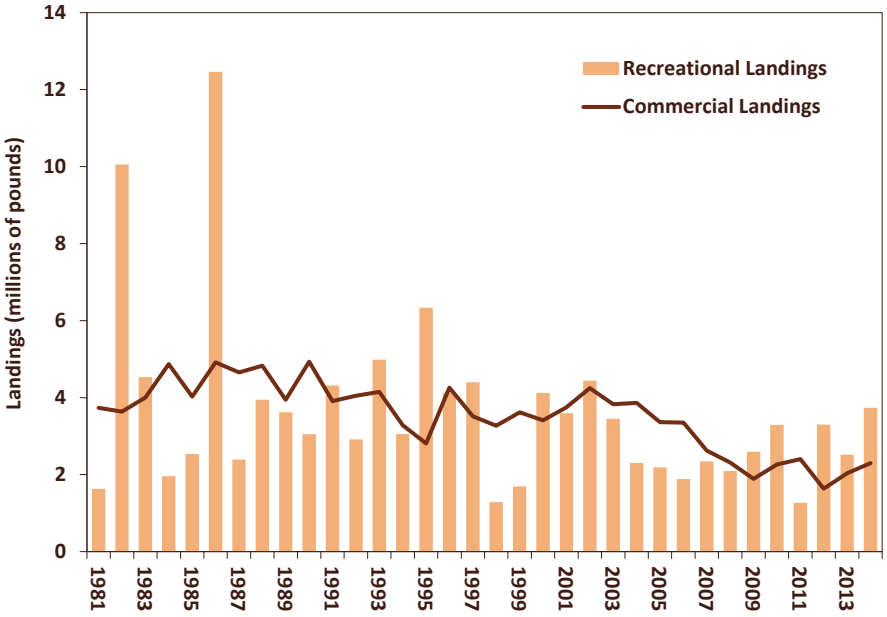
Black Sea Bass

For nearly two decades, the Commission and the Mid-Atlantic Fishery Management Council (MAFMC) have jointly managed the black sea bass stock north of Cape Hatteras, NC. The latest stock assessment update, completed in 2012, indicates black sea bass are not overfished and not experiencing overfishing, with biomass estimated to be 102% of the biomass target. Although the black sea bass resource was declared rebuilt in 2009, the unique life history characteristics of the species (e.g., it is a protogynous hermaphrodite, which means it changes sex from female to male) contributes to some level of uncertainty about the size of the stock. The response of this species, as well as other hermaphroditic species, to exploitation is not fully understood; therefore, management of the fishery has been conservative.

In the absence of a new benchmark stock assessment to address life history uncertainties, data limited methods were used to determine a new fishing level for the 2016 fishing season. Based on analysis undertaken in 2015, there is evidence that an increase in the quota could be done without jeopardizing conservation of the stock. As a result, the acceptable biological catch (ABC) for 2016 was increased to 6.67 million pounds, a 21% increase from 2015.

Black Sea Commercial and Recreational Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('96); Amendment 10 ('97); Amendment 11 ('98); Amendment 12 ('99); Amendment 13 ('03); Addenda II & III ('04); Addendum XVI ('05); Addendum XIX ('07); Addendum XX ('09); Addendum XXI ('11); Addendum XXIII ('13); Addendum XXV ('14)

This ABC was further divided into a 2.71 million pound commercial quota and a 2.88 million pound recreational harvest limit (RHL). Management measures include quotas to restrict the commercial fishery and possession limits, seasons, and minimum sizes to control recreational landings.

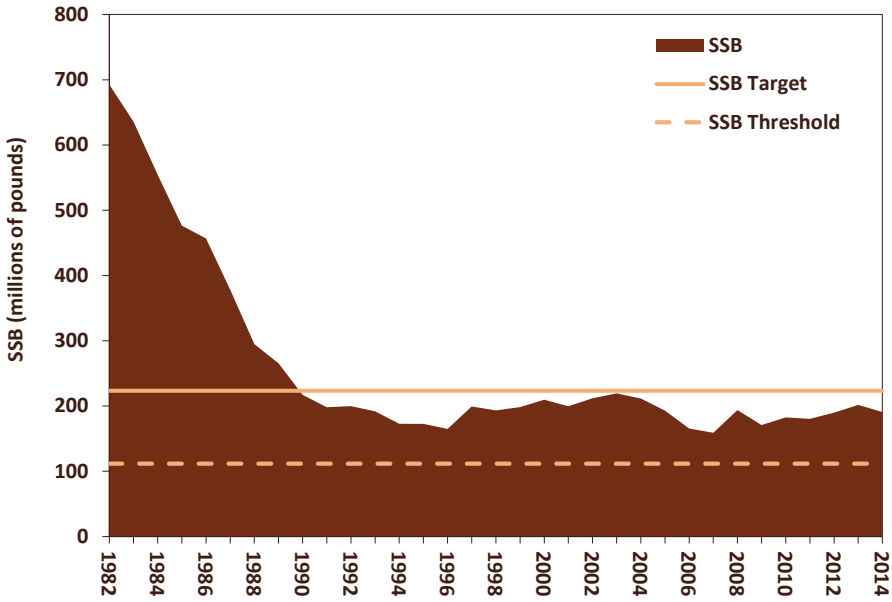
The 2015 black sea bass recreational fishery continued to be managed under regional and state-by-state approaches in order to mitigate potential disproportionate impacts to individual states that coastwide measures may cause. Since the 2014 regulations resulted in a harvest of 3.61 million pounds, approximately 1.35 million pounds over the 2014 RHL, 2015 regulations were modified to reduce harvest by 33% to achieve the 2015 RHL. The Board approved Draft Addendum XXVII for public comment to consider extending the current ad hoc regional management for recreational fisheries into 2016. Board action on final management measures is expected to occur in early 2016.

Recreational harvest peaked in 1985 at 12.35 million pounds, and then averaged 3.75 million pounds annually from 1988 to 1997. Since the implementation of recreational harvest limits in 1998, harvest has ranged from 1.1 to 4.4 million pounds from 1998-2012.

After peaking at 22 million pounds in 1952, commercial landings markedly decreased in the 1960s and have since ranged from 1.3 to 4.4 million pounds. In 1998, a quota system was incorporated into the management program and state-by-state commercial shares were introduced in 2003. Since 1998, landings have ranged from 2.86 to 3.53 million pounds, with 2014 landings estimated at 3.73 million pounds. The principal gears used in the fishery are pots, otter trawl, and handline.

The Board and MAFMC also initiated an amendment to address management strategies for commercial and recreational fisheries. Scoping for this amendment will occur in 2016. A benchmark stock assessment is underway for completion in December 2016.

Bluefish Spawning Stock Biomass (SSB)
Source: Northeast Regional Stock Assessment Workshop, 2015



Timeline of Management Actions: FMP ('80); Amendment 1 ('98); Addendum I ('12)

Bluefish

Jointly managed by the Commission and MAFMC since 1998 through state-specific quotas for the commercial fishery and a maximum possession limit to constrain the recreational fishery, bluefish were declared rebuilt in 2009. The 2015 benchmark stock assessment finds the resource to be in good condition; it is neither overfished nor experiencing overfishing relative to the biological reference points defined in the 2015 assessment. SSB is estimated at 191 million pounds, approximately 85% of its target. Fishing mortality is estimated to be 0.157, below the fishing mortality threshold (0.19). The Commission and MAFMC approved an ABC of 19.45 million pounds for the 2016 fishing season, an approximate 10% decrease from 2015 levels due to the updated SSB estimate and SSB target defined in the 2015 assessment. These changes in the SSB estimate and target are due to improvements in the assessment model. The 2016 commercial quota and recreational harvest limit will be set once final recreational harvest estimates for 2015 have been released in 2016.

Since reaching a low of 8.2 million pounds in 1999, recreational harvest has averaged approximately 15.9 million pounds annually. In 2014, anglers harvested a total of 10.5 million pounds of bluefish, a 32% decrease from 2013. Landings from the commercial fishery have been consistently lower than the recreational harvest. Commercial landings decreased from 16.5 million pounds in 1981 to 7.3 million pounds in 1999. The commercial fishery has been regulated by a quota (allocated to the States through the state shares) since implementation of Amendment 1 in 2000, and has since averaged around 6.7 million pounds annually. In 2014, landings were 4.8 million pounds, three-quarters of which were harvested in New York, New Jersey, and North Carolina.

Coastal Sharks

Sharks are a vital part of the ocean ecosystem. As apex predators, sharks reside at the top of the food chain and keep food webs in balance. Not only do they target healthy fish, but also old, sick, or slower fish in a population.

Relative to other marine fish, sharks have very low reproductive potential. The low reproductive rate is due to sharks' slow growth, late sexual maturity, one to two-year reproductive cycles, a small number of young per brood, and selective nursery areas. Frequently, the nursery areas are in highly productive coastal or estuarine waters where abundant small fish and crustaceans provide food for the growing pups. These shallow areas have fewer large predators than deeper waters, thus enhancing the chances of survival of the young sharks.

Forty species of Atlantic coastal sharks are managed cooperatively throughout their range by the Commission's Interstate Atlantic Coastal Sharks FMP and NOAA Fisheries' 2006 Consolidated Highly Migratory Species (HMS) FMP for Coastal Sharks. The Interstate FMP establishes management measures for recreational and commercial shark fisheries in state waters. The FMP, approved in 2008 and fully implemented by the states in 2010, was developed to complement federal shark management and ensure consistency between state and federal management measures.

In 2015, the Board approved a fishery opening date of January 1, 2016 and a variable possession limit, which will start at 36 fish per vessel per trip for those species within the aggregated large coastal sharks (LCS) species group (silky, tiger, blacktip, spinner, bull, lemon, nurse) and the hammerhead species group (scalloped hammerhead, great hammerhead, and smooth hammerhead sharks) for 2016. The Commission will follow NOAA Fisheries for in-season changes in the possession limit.

Stock status is assessed by species complex or by species group for species without enough data for an individual assessment. In summary, 14 species have been assessed domestically, three species have been assessed internationally, and 28 species have not yet been assessed. Most of the species that have been assessed and all of those that have not been assessed require a 'benchmark' stock assessment due to new data, changing information on stocks, and improved assessment methodologies. The accompanying table outlines the stock status of each species or species group. In 2015,

Stock Status Information by Species and Species Group

Species or Complex Name	Stock Status		References/Comments
	Overfished	Overfishing is Occurring	
Pelagic			
Porbeagle	Yes	No	Porbeagle Stock Assessment, ICCAT Standing Committee on Research and Statistics Report ('09); Rebuilding ends in 2108 (HMS Am. 2)
Blue	No	No	ICCAT Standing Committee on Research and Statistics Report ('08)
Shortfin mako	No	No	ICCAT Standing Committee on Research and Statistics Report ('12)
All other pelagic sharks	Unknown	Unknown	
Large Coastal Sharks (LCS)			
Blacktip	Unknown	Unknown	SEDAR 11 ('06)
Aggregated Large Coastal Sharks - Atlantic Region	Unknown	Unknown	SEDAR 11 ('06); difficult to assess as a species complex due to various life history characteristics/ lack of available data
Non-Blacknose Small Coastal Sharks (SCS)			
Atlantic Sharpnose	No	No	SEDAR 34 ('13)
Bonnethead	Unknown	Unknown	SEDAR 34 ('13)
Finetooth	No	No	SEDAR 13 ('07)
Hammerhead			
Scalloped	Yes	Yes	SEFSC Scientific Review ('09): Rebuilding ends in 2023 (HMS Am. 5a)
Blacknose			
Blacknose	Yes	Yes	SEDAR 21 ('10); Rebuilding ends in 2043 (HMS Am. 5a)
Smoothhound			
Smooth Dogfish	No	No	SEDAR 39 ('15)
Research			
Sandbar	Yes	No	SEDAR 21 ('10)
Prohibited			
Dusky	Yes	Yes	SEDAR 21 ('10); Rebuilding ends in 2108 (HMS Am. 2)
All other prohibited sharks	Unknown	Unknown	

the smoothhound shark complex was assessed, results indicate the two distinct stocks within the complex (smooth dogfish and Florida smoothhound) are not overfished and overfishing is not occurring.

In December 2015, the final rule for Amendment 9 to the 2006 Consolidated HMS FMP, which is specific to smoothhound sharks, was released. The Amendment brings smoothhound sharks (which in the Atlantic means smooth dogfish) under federal management effective March 15, 2016. Since this action initiates a commercial quota, the Commission will implement the allocation of smooth dogfish state shares as described in Addendum II of the FMP.

Commercial LCS landings in 2014 were approximately 503,594 pounds dressed weight (dw), a 14% increase from 2013, while landings of SCS species in 2014 were approximately 269,252 pounds dw, a 3% increase from 2013. Total U.S. landings of Atlantic pelagic species of sharks were 358,549 pounds dw in 2014, a 49% increase from 2013, which is largely attributed to increased thresher shark landings as well as blue, porbeagle and shortfin mako.

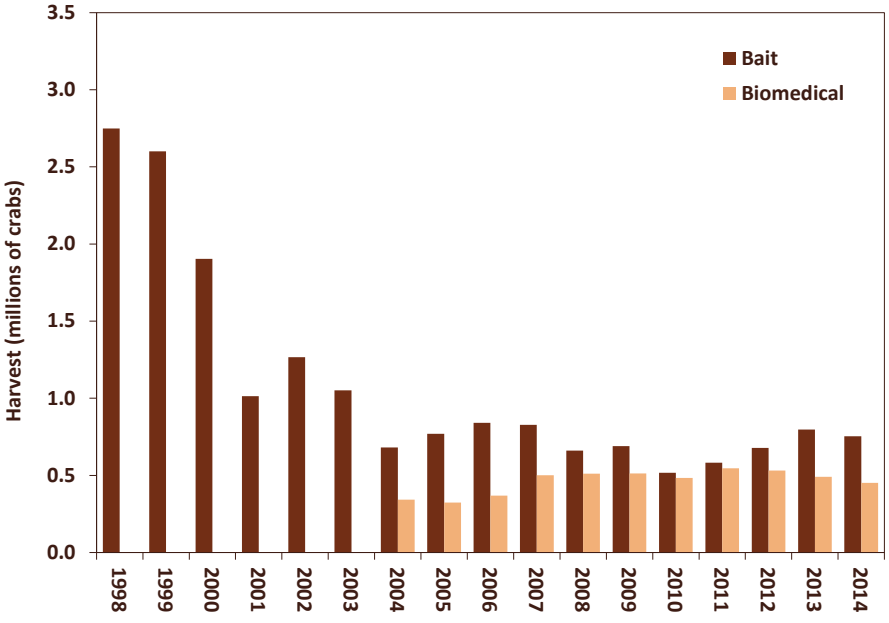
Approximately 102,000 sharks were harvested during the 2014 recreational fishing season in the Atlantic region, compared to 70,000 and 44,007 sharks in the 2013 and 2014 season. The SCS complex largely dominates the recreational fishery for sharks. In 2014, approximately 91,627 fish from the SCS complex were recreationally harvested, which represents the largest harvest over a six-year timeframe (2009-2014). Sharpnose sharks represents 61 percent of the 2014 SCS harvest. The LCS complex, including hammerheads, had 10,785 fish harvested in 2014.

Horseshoe Crab

With its eggs playing an important ecological role in the food web of migrating shorebirds, horseshoe crab is the first Commission managed species to incorporate ecosystem principles into its management program. The Delaware Bay not only supports the largest spawning population in the world, it is also the largest staging area for shorebirds in the Atlantic Flyway, with an estimated 425,000 to one million migratory shorebirds converging on the Delaware Bay to feed and rebuild energy reserves prior to completing their northward migration.

To address this food web dynamic, the species is managed under the Adaptive Resource Management (ARM) Framework, which incorporates both shorebird and horseshoe abundance levels into the horseshoe crab specifications for

Horseshoe Crab Bait Landings and Biomedical Harvest
Source: ASMFC State Reports, 2015



Note: 2014 harvest numbers for both bait and biomedical are preliminary

Please note the following details regarding biomedical harvest numbers:

- Harvest numbers include all horseshoe crabs brought to bleeding facilities, including those that were harvested as bait and counted against state quotas.
- Most of the biomedical crabs harvested are returned to the water after bleeding; a 15% mortality rate is estimated for all bled crabs.

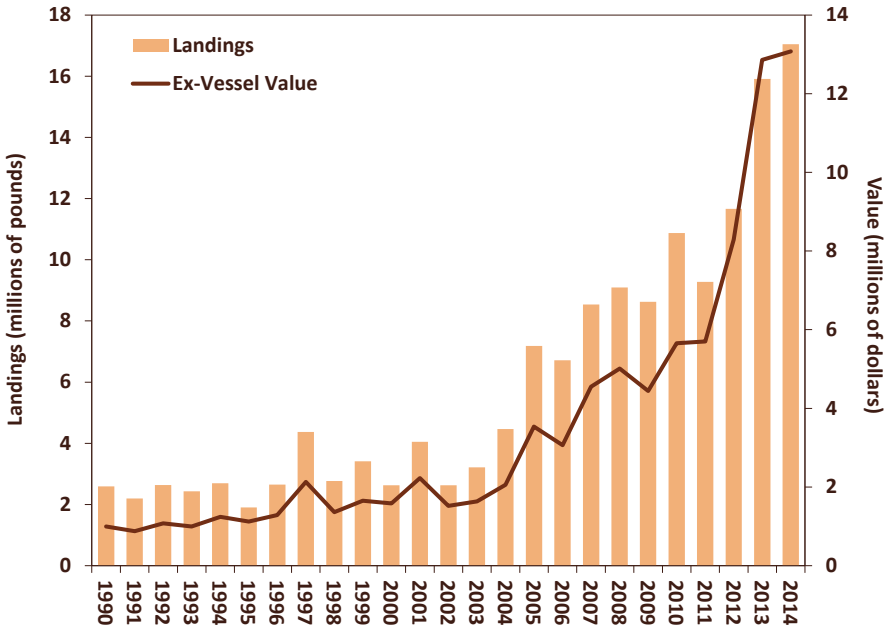
Timeline of Management Actions: FMP ('99); Addendum I ('00); Addendum II ('01); Addendum III ('04); Addendum IV ('06); Addendum V ('08); Addendum VI ('10); Addendum VII ('12)

the Delaware Bay states. Red knots, the shorebird that most relies on horseshoe crab eggs for food, was listed as threatened under the ESA in 2014. The ARM Framework was cited as one of the main reasons the species was not listed as endangered (due to adequate management in place). Funding for surveys that contribute abundance data on horseshoe crabs for us in the ARM Framework has been inconsistent in recent years. The Commission has secured funding for 2016 and will continue working with state and federal partners to secure long-term funding for this important survey.

For the 2015 and 2016 fishing seasons, harvest in the Delaware Bay area was limited to 500,000 male horseshoe crab. The ARM Framework will be evaluated in 2016 with particular attention paid to the recent change to red knots' status as threatened under the ESA, current monitoring programs, and model configuration based on the recommendation of the ARM Subcommittee and Horseshoe Crab Technical Committee. Horseshoe crab are also valuable to the conch and American eel fisheries and the pharmaceutical industry. A chemical in the horseshoe crab tissue makes it an ideal bait to catch conch and eel. Horseshoe crab blood is used by the biomedical industry to produce Limulus Amoebocyte Lysate, an important tool in the detection of contaminants in patients, drugs, and medical supplies.

Reported coastwide bait landings in 2014 remained well below the coastwide quota at 729,869 crabs. Biomedical harvest in 2014 was estimated at 452,014 crabs, with 15% of those harvested assumed to die as part of the harvesting and post-bleeding release process. As required by the FMP, bled crabs are returned to the water from where they were harvested except in some states where bled crabs are sold to the bait industry to minimize the impact on the population.

Jonah Crab Landings and Value
Source: NMFS Fisheries Statistics Division, 2015



Jonah Crab

In August 2015, the Commission approved the Interstate FMP for Jonah Crab. The FMP seeks to cap effort and protect spawning stock biomass in the absence of a range-wide stock assessment. The Plan was initiated in response to concern about increasing targeted fishing pressure for Jonah crab, which has long been considered a bycatch in the American lobster fishery. Since the early 2000s, landings of Jonah crab have increased 650% creating a mixed crustacean fishery that can target lobster or crab at different times of the year based on slight legal modifications to the gear and small shifts in the areas in which traps are fished. This rapid and recent increase in demand can be attributed to an increase in the price of other crabs (such as Dungeness), creating a substitute market for Jonah crab, as well as a decrease in the abundance of lobster in Southern New England, causing fishermen to supplement their income with Jonah crab. In response to this growing demand, the Commission approved an FMP for Jonah crab to support the implementation of a unified coastal management program which promotes the conservation and full

utilization of the Jonah crab resource. The FMP establishes commercial, recreational, and fishery-dependent monitoring measures for the Jonah crab fishery. The Plan limits participation in the trap fishery to only those vessels and permit holders that already hold an American lobster permit or can prove prior participation in the crab fishery. All other harvesters using nontrap gear must obtain an incidental permit. It also establishes a 4.75" coastwide minimum size and requires the landing of whole crab, except individuals from New Jersey, Delaware, Maryland, and Virginia who can prove a history of claw landings before June 2, 2015. The Plan also establishes a nontrap incidental bycatch limit of 200 crab per calendar day, 500 crab per trip for trips three days or longer, and prohibits the retention of egg-bearing females. For fishery-dependent sampling, the plan requires 100% harvester reporting and 100% dealer reporting with port and sea sampling. Jurisdictions that currently require less than 100% harvester reporter are required to, at a minimum, maintain their current programs and extend them to Jonah crab. In the recreational sector, the FMP establishes a possession limit of 50 whole crabs per person per day. Finally, the FMP specifies that states whose commercial landings are less than 1% of the three-year coastwide average may qualify for *de minimis* status. *De minimis* states are not required to implement fishery-independent or port/sea sampling.

In November 2015, the American Lobster Management Board discussed three aspects of the Jonah Crab FMP: effort control measures for Jonah crab only trap fishermen; claw exemptions; and the incidental bycatch limit for non-trap gear. In order to understand the scale of the Jonah crab only trap fishery, the Board tasked the Plan Development Team (PDT) to examine catch and landings records to characterize participants in this segment of the fishery. Similarly, the PDT was asked to review Jonah crab claw landings given the number of claw fishermen is greater than expected and the current claw exemption may no longer be appropriate.

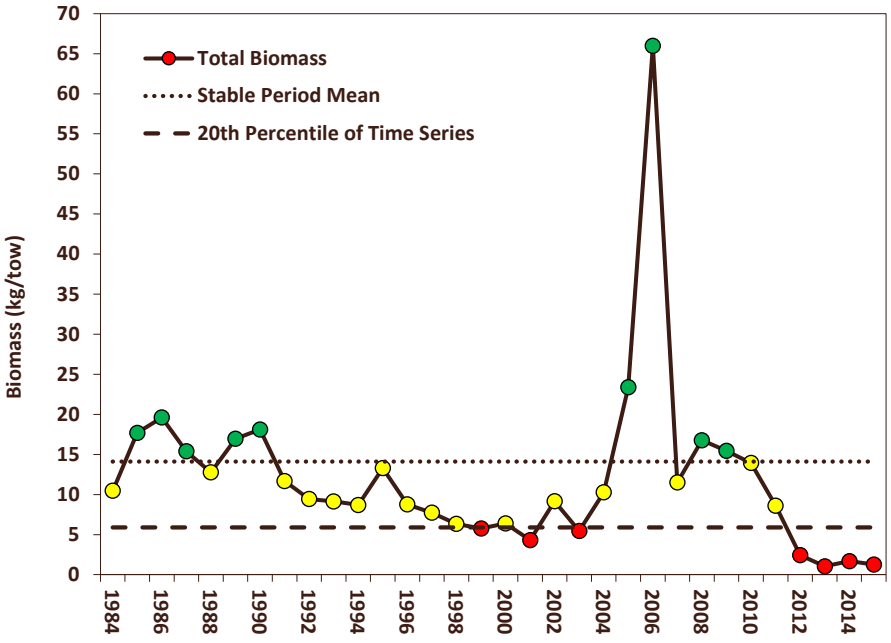
Finally, in response to concerns that the incidental bycatch limit does not capture all current participants in the fishery, the Board initiated Draft Addendum I to consider changes to the incidental bycatch limit for non-trap gear. Data submitted by the NEFMC and NOAA Fisheries illustrated that while 97-99% of trips from 2010 through 2014 were within the current limit, there were a number of trips above the limit. Given a goal of the Jonah Crab FMP is to prevent expansion of the fishery while including all current participants, the Board initiated an addendum to consider altering the incidental bycatch limit with options to increase the limit to 1,000 crab per trip or eliminate the bycatch limit for non-trap gear. Draft Addendum I will be presented to the Board in February 2016. If approved, the Board will release the Draft Addendum for public comment and consider its final approval in May 2016.

Northern Shrimp

In response to the depleted condition of the northern shrimp resource, the Northern Shrimp Section extended the moratorium on commercial fishing for the 2016 fishing season, continuing the closure of the fishery which began in 2014. The 2015 Stock Status Report for GOM Northern Shrimp indicates abundance and biomass indices for 2012 to 2015 were the lowest on record of the 32-year time series. Recruitment indices for the 2010 to 2014 year classes were also well below average, and included the three smallest year classes on record. As a result, the

Total Biomass of Northern Shrimp from the Gulf of Maine Northern Shrimp Trawl Survey

Source: Stock Status Report for Gulf of Maine Northern Shrimp, 2015



The graph represents the annual biomass index relative to the reference period (dotted line) and to the 20th percentile of the time series (dashed line). The reference period (1985-1994) is the time period during which the fishery experienced stable landings and value. Green dots are values that are equal to or above the stable period mean (SPM); red dots are values that are equal to or below the 20th percentile of the time series; yellow dots are values between the SPM and the 20th percentile.

Timeline of Management Actions: FMP ('86); Amendment 1 ('04); Amendment 2 ('11); Addendum I ('12)

index of current fishable biomass is the lowest on record. The recruitment index increased slightly in the 2014 survey, however in 2015, the index dropped to the lowest in the time series. Recruits from the 2013 and 2014 year classes are not expected to reach exploitable size until 2017 and 2018, respectively. Despite the marginal increase in the recruitment index in 2014, the population continues to meet the criteria defining a collapsed stock.

In an effort to maintain the time series of data collected from northern shrimp commercial fishery catches in the absence of an open season, a cooperative winter sampling program was implemented beginning in 2015 and for continuation in 2016. The goal of the program is to continue the winter time series of biological data (e.g. size composition, egg hatch timing) collected from GOM northern shrimp fishery catches when a moratorium is in place. For 2016, the Section approved a 22mt research set aside quota for the program. Four trawl vessels will be contracted to fish four regions with a maximum trip limit of 1,800 pounds, and two trappers with a weekly trap limit of 40 traps and a 600 pound per week limit. Participating trawlers and trappers will be able to sell their catch. Trawlers will also be compensated $500/trip. The states have issued a solicitation for participants. Participants will be selected by early January to allow for sampling to begin in mid-January.

Recruitment of northern shrimp is related to both spawning biomass and ocean temperatures, with higher spawning biomass and colder temperatures producing stronger recruitment. Ocean temperatures in western Gulf of Maine shrimp habitat have increased over the past decade and reached unprecedented highs in the past several years. While 2014 and 2015 temperatures were cooler, temperatures are predicted to continue rising as a result of climate change. This suggests an increasingly inhospitable environment for northern shrimp and the need for strong conservation efforts to help restore the stock.

Since the implementation of Amendment 2, the GOM northern shrimp fishery and population has experienced significant changes. Also, there have been substantial changes in other Northeast fisheries resulting in increased effort in the northern shrimp fishery. This increased fishing pressure, paired with failed recruitment, the lowest abundance indices on record, and unfavorable environmental conditions, has resulted in uncertainties in the future of the resource. To address these uncertainties, the Section initiated development of Draft Amendment 3 which considers management measures to control effort and stabilize the fishery. The Public Information Document for Draft Amendment 3 sought public comment on the direction of the northern shrimp fishery in 2015. Based on public comment and the Advisory Panel's recommendations, the Section directed the PDT to develop limited entry and state-by-state allocation programs for consideration in Draft Amendment 3. However, given the collapsed status of the stock and the fact that the fishery is under a moratorium, the Section postponed further action on Draft Amendment 3 to allow for the continued development of options to address over-capacity in the fishery.

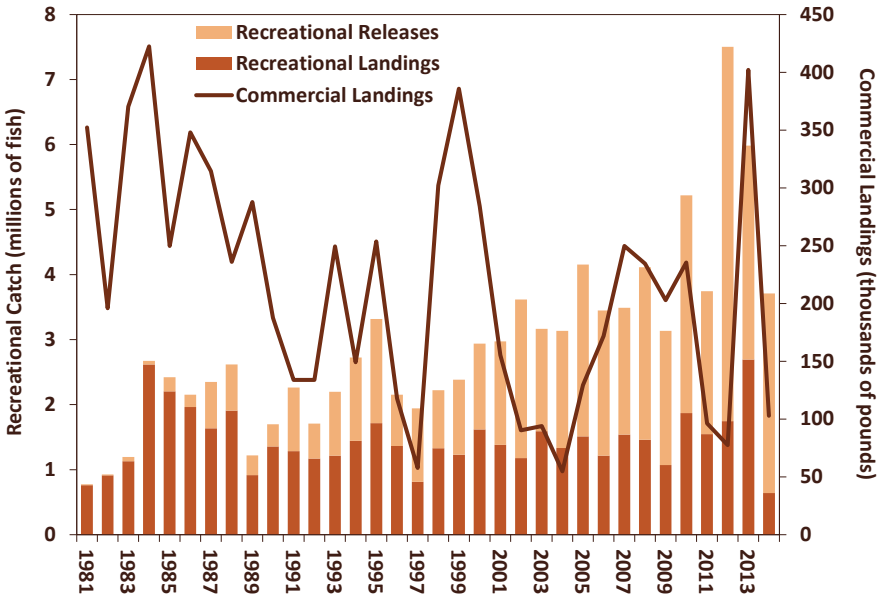
Red Drum

Red drum are one of the most recreationally sought-after fish throughout the South Atlantic. Juveniles are most abundant in estuarine waters and inlets, while fish older than age four inhabit deeper waters. As a result, the fishery is primarily nearshore with small red drum targeted in shallow waters and large trophy fish targeted along the Mid- and South Atlantic barrier islands. The 2014 recreational landings of 2.34 million pounds was well above the ten year average of 1.7 million pounds. Florida anglers landed the largest share of recreational harvest in numbers (43%) followed by North Carolina (18%).

The commercial fishery is largely dominated by North Carolina, which was responsible for 88% of commercial harvest in 2014. Commercial landings have declined since the 1980s. In 2014, coastwide

Red Drum Commercial Landings and Recreational Catch

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('84); Amendment 1 ('91); and Amendment 2 ('02); Addendum I ('13)

commercial landings were roughly 103,000 pounds, a nearly 300,000 pound decrease from 2013.

Throughout 2015, the Red Drum Stock Assessment Subcommittee (SAS) worked on a new benchmark stock assessment for red drum. A primary goal of the assessment was to provide greater clarity as to the status of the stock's northern and southern components. While the previous assessment was able to determine that overfishing was not occurring, it was not able to determine whether either stock component was overfished. To this end, SAS decided to develop a new stock synthesis model (SS3) for red drum. SS3 was chosen because it allows for the incorporation of additional data which can provide a reliable estimate of fishing mortality and biomass for both the northern and southern stocks.

During the transition to SS3, the SAS encountered several challenges in developing a model to estimate plausible stock conditions and dynamics. A specific concern was the lack of stability in both the northern and southern models. Given that these issues persisted after the assessment workshop in June, the SAS determined the most beneficial function of the Review Workshop was to draw from the Peer Review Panel's experience to make model improvements during and following the workshop.

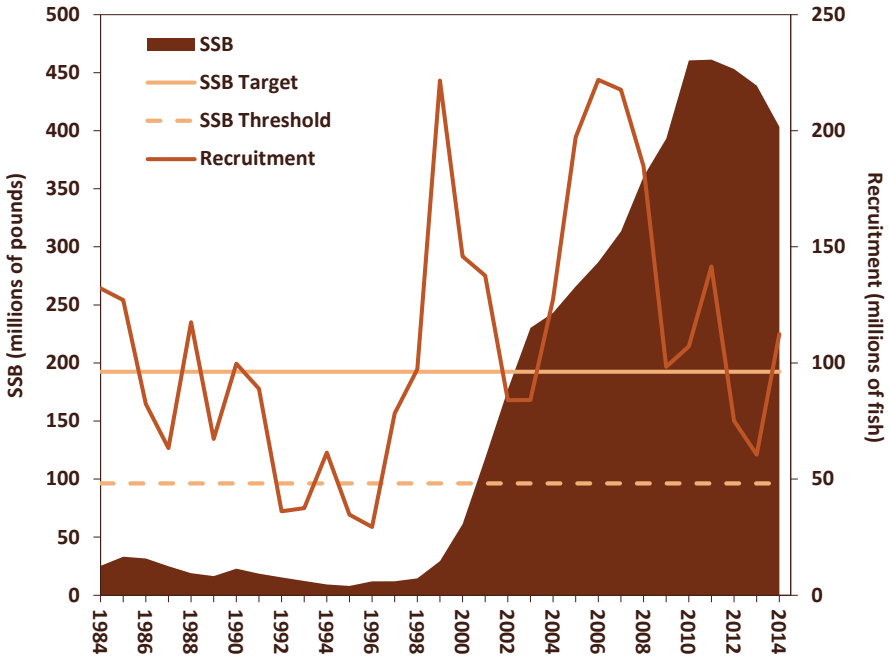
The SEDAR 44 workshop was a collaborative effort focusing on model development, where panelists reviewed the assessment work to date and provided constructive comments on modifications to SS3 for both the southern and northern stock models. SAS continued work on the stock assessment following the Review Workshop and was able to make significant improvements to the model. Work by the SAS will be completed and reviewed in 2016.

Red drum are managed through Amendment 2 to the Interstate FMP. The Amendment requires states to implement recreational creel and size limits to achieve the fishing mortality target, including a maximum size limit of 27". It also requires states to maintain their existing commercial regulations. A harvest moratorium and Presidential Executive Order enacted in 2007 prevents any harvest or sale of red drum from federal waters.

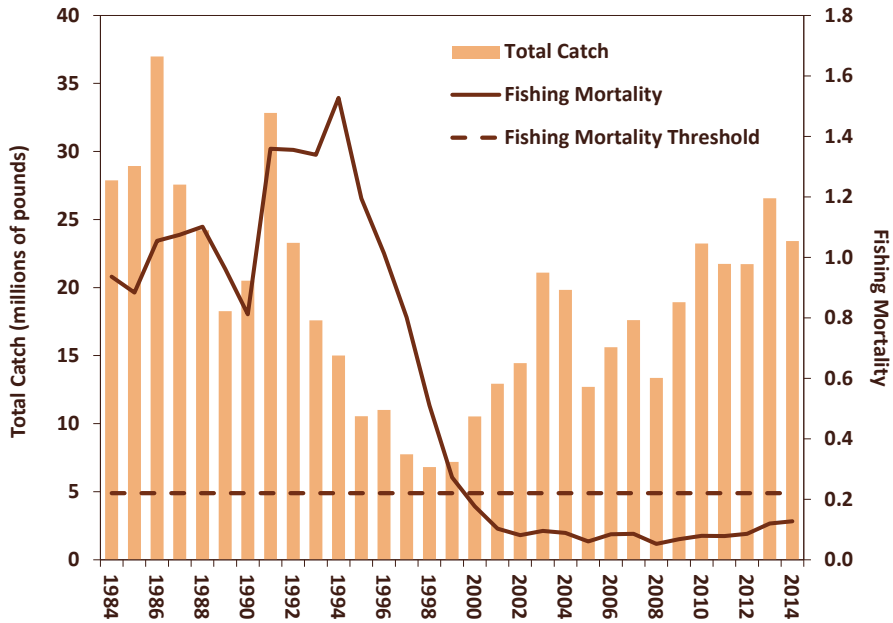
Scup

Scup are one of four species jointly managed by the Commission and MAFMC. Scup are considered rebuilt and not experiencing overfishing. The 2015 scup benchmark stock assessment estimates SSB at 403 million pounds, about two times the SSB target of 192 million pounds. Fishing mortality on age 3 fish and older in 2014 was estimated at 0.127, below the new fishing mortality

Scup Spawning Stock Biomass & Recruitment
Source: Northeast Regional Stock Assessment Workshop, 2015



Scup Total Catch and Fishing Mortality
Source: Northeast Regional Stock Assessment Workshop, 2015



Timeline of Management Actions: FMP ('96); Amendment 13 ('02); Addendum IX ('03); Addenda XI & XIII ('04); Addendum XVI ('05); Amendment 14 ('07); Addendum XX ('09)

threshold of 0.22. Following two years of below average recruitment in 2012 and 2013, the 2014 year class is estimated to be above average at 112 million age 0 fish. Using these findings and 2014 landings, both the Commission and MAFMC set the commercial quota at 20.47 million pounds and the RHL at 6.09 million pounds for the 2016 fishery. This represents a decrease from 2015 levels due to a slight decrease in the SSB.

For decades, scup have been eagerly pursued by commercial, recreational, and subsistence fishermen throughout SNE and the Mid-Atlantic, largely due to their fine flavor and avid pursuit of baited hooks. A migratory schooling species found on the continental shelf of the Northwest Atlantic, scup commonly inhabit waters from Cape Cod, Massachusetts to Cape Hatteras, North Carolina, with area-specific abundance largely influenced by water temperature.

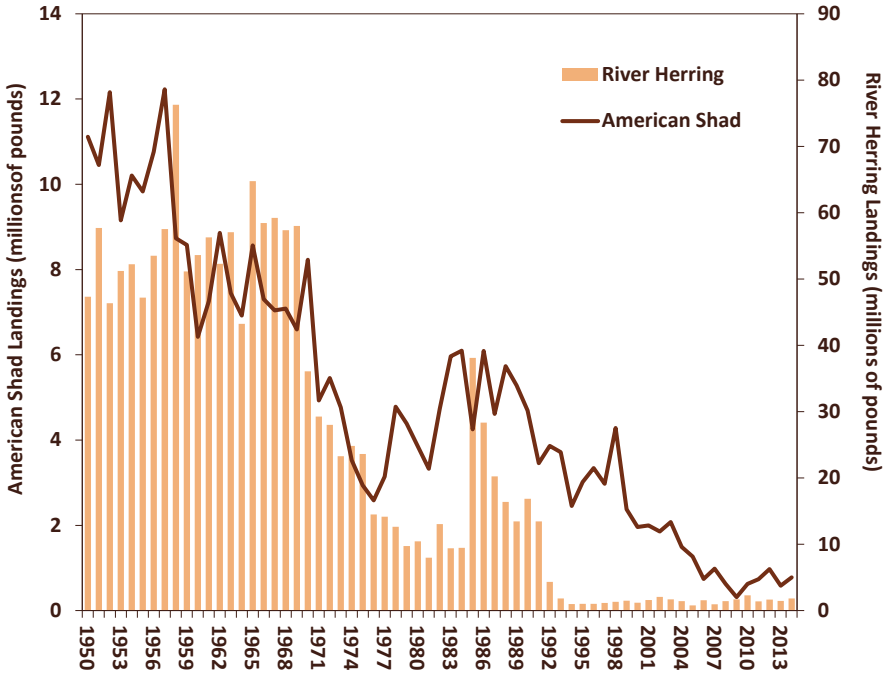
The scup resource is currently allocated 78%/22% to the commercial and recreational fisheries, respectively. Commercial landings peaked in 1960 at 48.5 million pounds. In recent years, landings have fluctuated from 15.6 million pounds in 1991 to a time series low of 2.7 million pounds in 2000. The commercial fishery landed 15.8 million pounds in 2014. For the past several years, Rhode Island and New Jersey have harvested the largest share of the commercial landings. Scup are primarily caught in otter trawls but are also caught using floating fish traps and hand lines. Recreational landings declined steadily from 11.6 million pounds in 1986 to 0.9 million pounds in 1998, the lowest value in the time series. In 2014, recreational anglers harvested 4.4 million pounds, with the majority of harvest occurring in Massachusetts, New York, Rhode Island, and Connecticut.

Shad & River Herring

With the passage and implementation of Amendments 2 and 3 to the Shad and River Herring FMP, the Commission and its member states affirmed their commitment to the rebuilding of American shad and river herring populations along the coast. Both Amendments require states and jurisdictions to close their shad and river herring fisheries unless they develop and implement sustainable fishery management plans (SFMPs). Plans must clearly demonstrate that the state's or jurisdiction's shad and river herring fisheries will not diminish the potential future stock reproduction and recruitment

American Shad & River Herring Commercial Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('85); Amendment 1 ('95); Amendment 2 – River Herring ('09); Amendment 3 – American Shad ('10)

through the development of sustainability targets which must be monitored, achieved, and maintained.

The Commission also continues to collaborate with NEFMC and MAFMC to address the bycatch of these species in federal fisheries. In 2015, NEFMC increased the catch cap for shad and river herring in the Atlantic herring fishery from 687,960 pounds to 796,005 pounds. In 2015, the MAFMC lowered the bycatch cap from 520,380 pounds to 196,245 pounds in the Atlantic mackerel fishery. For 2016, the bycatch cap will be lowered from 196,245 pounds to 180,810 pounds.

Benchmark assessments or assessment updates for American shad and river herring will be conducted by 2018.

American Shad

American shad stocks are currently at all-time lows and do not appear to be recovering. The primary causes for the continued stock declines are a combination of excessive total mortality, habitat loss and degradation, and migration and habitat access impediments. Although improvement has been seen in a few stocks, many remain severely depressed compared to historic levels. Coastwide landings for American shad were 776,586 pounds in 2014, up from 583,076 pounds in 2013.

The following states/jurisdictions are operating under approved SFMPs for American shad: Connecticut, the Delaware River Basin Fish and Wildlife Management Cooperative (representing New York, New Jersey, Delaware, and Pennsylvania), the Potomac River Fisheries Commission, North Carolina, South Carolina, Georgia, and Florida. The remaining states with no SFMPs maintained closures of their shad fisheries in 2015.

River Herring

In 2015, the River Herring Technical Expert Working Group (TEWG), a group of scientists, industry representatives, conservation groups, tribal leaders, and government officials with expertise in river herring conservation, convened to provide input and information on the River Herring Conservation Plan. The Plan, which was released by the Commission and NOAA Fisheries in May 2015, seeks to increase public awareness about river herring, alewife (*Alosa pseudoharengus*) and blueback herring (*A. aestivalis*), and foster cooperative research and conservation efforts to restore river herring along the Atlantic coast. The Plan is meant to be dynamic and will be refined over time with public input. It builds upon past and current river herring conservation projects, and coordinates ongoing activities.

The Plan pursues the following goals:

- Increase coordination of river herring data collection, research, and conservation

- Identify and undertake key research projects related to assessment and conservation
- Identify any further conservation actions to address threats
- Cultivate and engage research groups to address key topics in protecting or restoring herring populations
- Identify funding sources and secure funds for river herring research and conservation
- Improve information to be used in conservation efforts and incorporated into the next assessment
- Increase public outreach about river herring and the need for addressing impacts to these resources

The Plan can be found online at *www.greateratlantic.fisheries.noaa.gov/protected/riverherring/conserv/index.html.*

As part of their joint conservation efforts, the Commission and NOAA Fisheries also awarded funding for two research projects to provide insights into what is happening to river herring when they are at sea and in their riverine nursery and spawning areas. The projects will also help to fill in critical gaps in our understanding of the status of river herring populations.

The 2012 benchmark stock assessment found of the 52 stocks of alewife and blueback herring for which data were available for use in the assessment, 23 were depleted relative to historic levels, one stock was increasing, and the status of 28 stocks could not be determined because the time-series of available data was too short. Estimates of abundance and fishing mortality could not be developed because of the lack of adequate data. The depleted determination was used instead of overfished because of the many factors that have contributed to the declining abundance of river herring, which include not just directed and incidental fishing, but also habitat loss, barriers to migration, predation, and climate change.

In order to improve future stock assessments, the benchmark assessment placed as a high priority the standardization of river herring data collection methods and datasets. To begin to address this need, the Commission conducted a River Herring Data Collection Standardization Workshop in 2015. The Workshop brought together researchers from state and federal marine fishery agencies, Tribal Nations, and Canada Department of Fisheries and Oceans to evaluate current fishery-independent surveys for river herring and develop recommendations to standardize survey methodologies, as well as data collected by these surveys for use in future stock assessments. Workshop participants also considered some fishery-dependent sampling that collect river herring along the Atlantic coast. The report of recommendations regarding survey design, data collection, and considerations will be made available on the Commission and NOAA TEWG websites in early 2016.

Approved River Herring SFMPs remained in effect for the states of Maine, New Hampshire, New York, North Carolina, and South Carolina. The remaining states and jurisdictions closed their commercial and recreational fisheries starting in 2012. In 2014, 1.8 million pounds of river herring were landed in states with SFMPs.

Status of Select Alewife and Blueback Herring Stocks along the Atlantic Coast

Source: ASMFC River Herring Benchmark Assessment, 2012

State	River	Status Relative to Historic Levels/Recent Trends
ME	Damariscotta	Depleted[A], Stable[A]
	Union	Increasing[A], Stable[A]
NH	Cocheco	Unknown[A,B], Stable[A,B]
	Exeter	Depleted[A], Increasing[A]
	Lamprey	Depleted[A], Increasing[A]
	Oyster	Depleted[B], Decreasing[B]
	Taylor	Depleted[B], Decreasing[B]
	Winnicut	Depleted[A,B], Unknown[A,B]
MA	Mattapoisett	Depleted[A], Unknown[A]
	Monument	Depleted[A], Unknown[A]
	Parker	Depleted[A], Unknown[A]
	Stony Brook	Depleted[A], Unknown[A]
RI	Buckeye	Depleted[A], Unknown[A]
	Gilbert	Depleted[A], Decreasing[A]
	Nonquit	Depleted[A], Decreasing[A]
CT	Connecticut	Depleted[B], Decreasing[B]
NY	Hudson	Depleted[A,B], Stable[A,B]
MD, DE	Nanticoke	Depleted[A,B], Decreasing[A,B]
VA, MD, DC	Potomac	Depleted[A,B], Unknown[A,B]
NC	Chowan	Depleted[A,B], Stable[A,B]
SC	Santee-Cooper	Depleted[B], Increasing[B]

Status relative to historic levels is pre-1970. Recent trends reflect the last ten years of data. A= alewife only; B = blueback herring only; A,B = alewife and blueback herring by species

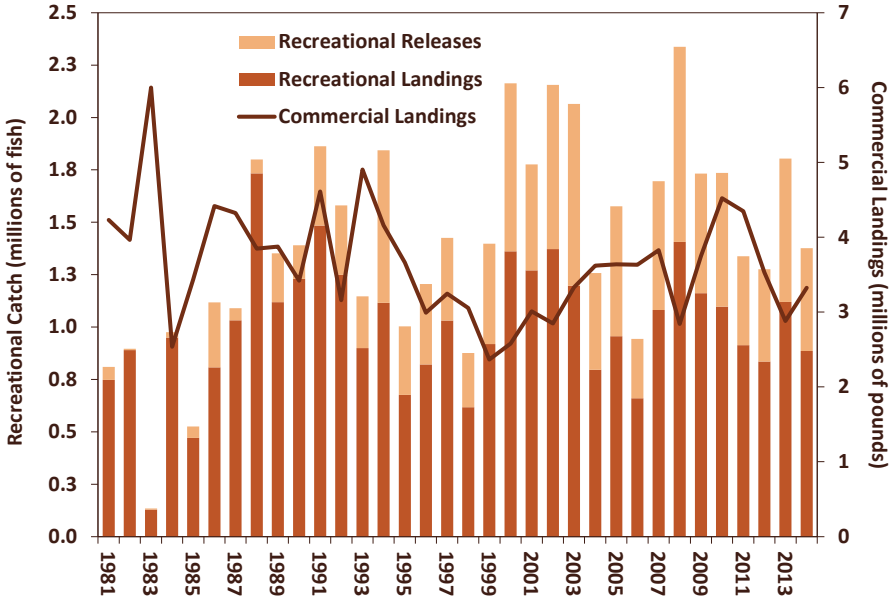
Spanish Mackerel

Spanish mackerel are an important recreational and commercial fishery in South Atlantic waters. Cooperative management by the Commission and the South Atlantic Fishery Management Council (SAFMC) has successfully rebuilt Spanish mackerel stocks after years of overfishing. The latest benchmark stock assessment, conducted in 2012, indicates Spanish mackerel are not overfished and not experiencing overfishing.

Total 2014 landings were 4.4 million pounds, with commercial and recreational fisheries harvesting approximately 70% and 30% of the resource, respectively.

Spanish Mackerel Commercial Landings and Recreational Catch (Landings and Releases)

Source: ACCSP Data Warehouse and NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('90); Omnibus Amendment ('11); Addendum I ('13)

Coastwide commercial landings have been consistently below four million pounds since 1995, with the exception of 2010 and 2011 when commercial landings increased to over 4.3 million pounds. 2014 commercial landings are estimated at 3.72 million pounds. Over two-thirds of the landings occur in Florida, with the remaining amount harvested in North Carolina.

Recreational anglers harvested approximately 886,000 Spanish mackerel (1.14 million pounds) in 2014. The number of recreationally-harvested fish appears to show a cyclical trend, with low harvests in the early to mid-1980s and mid- to late 1990s, interspersed with higher harvests. Florida (43%) and North Carolina (45%) continue to account for the majority of recreational landings. The number of recreational releases has generally increased over time with 490,000 fish released in 2014.

In 2015, the South Atlantic Board extended the provisions of Addendum I for the 2015 and 2016 fishing years. This Addendum allows states to use a reduced minimum size of 11.5" in the commercial pound net fishery for the months of July through September. The measure is intended to reduce waste of these shorter fish, which are discarded dead in the summer months, by converting them to landed fish that will be counted against the quota. North Carolina, the only state to implement the Addendum thus far, will provide annual reports to the Board on Spanish mackerel catch in the pound net fishery.

Spiny Dogfish

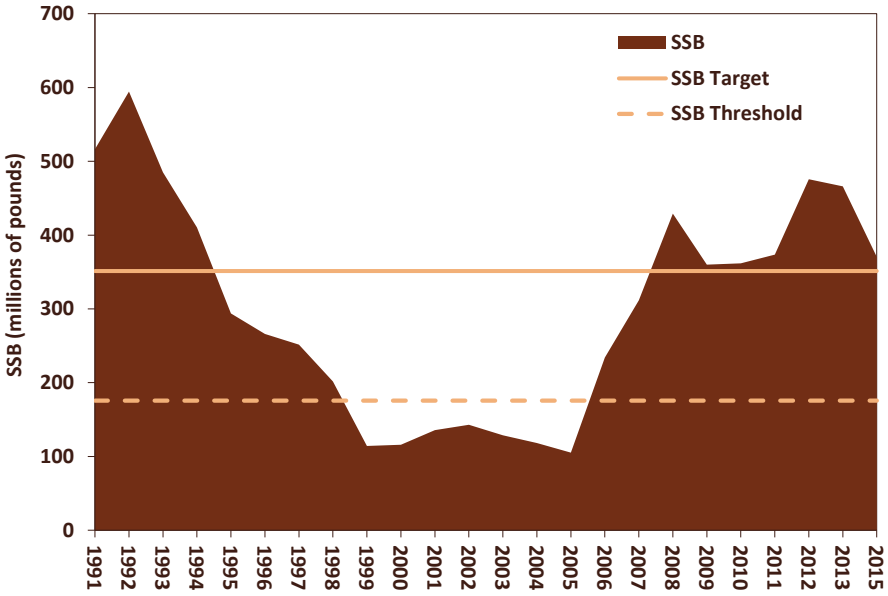
Spiny dogfish is a coastal shark with populations on the continental shelves of northern and southern temperate zones throughout the world. It is the most abundant shark in the Western North Atlantic and ranges from Labrador to Florida, but is prevalent from Nova Scotia to Cape Hatteras, North Carolina. Its major migrations on the Northwest Atlantic shelf are north and south, but it also migrates inshore and offshore seasonally in response to changes in water temperature.

The species is known for its relentless pursuit of prey. The name "dogfish" stems from the species' habit of feeding in packs. Juvenile spiny dogfish school by size until sexually mature and then aggregate by both size and sex. As the name suggests, the species has sharp, venomous spines in front of each dorsal fin.

Historically, the resource has been in demand as a food item on the international market, predominantly

Spiny Dogfish Spawning Stock Biomass (SSB) (>=80 cm)

Source: NEFSC Update on the Status of Spiny Dogfish in 2015 and Projected Harvests at the FMSY Proxy and PSTAR of 40%



Note: 2014 data unavailable due to incomplete survey.

Timeline of Management Actions: Emergency Action ('00); FMP ('03); Addendum I ('05); Addendum II ('08); Addendum III ('11); Addendum IV ('12)

in Europe. However, a downward shift in international market demand has motivated spiny dogfish fishermen and processors to work on creating a domestic market for the species. The limited markets for the species is not a related to abundance or availability—the resource has been rebuilt since 2008.

The Commission and MAFMC have jointly managed spiny dogfish since 2000. The revised 2015 stock assessment update indicates spiny dogfish are not overfished and not experiencing overfishing. Spawning stock biomass is estimated to be at 106% of the target. The assessment time period is 2013-2015, however the survey data from 2014 was not included in the 2015 update due to a mechanical breakdown in the Northeast Fisheries Science Center (NEFSC) trawl survey. In order to overcome the 2014 data gap, the MAFMC's Science and Statistical Committee applied a Kalman Filter for the update. This was the best approach because it provided the most stable estimates of survey abundance and hence catch advice.

The spiny dogfish fishing season is from May 1 through April 30. Landings have been half of the commercial quota for the last two full fishing years and appear to be on a similar trajectory for the 2015-2016 fishing year, which has a commercial quota of 50.6 million pounds. In recent years, the maximum possession limit has been 5,000 pounds per day for the northern states (Maine through Connecticut) and state-specific trip limits for the southern states.

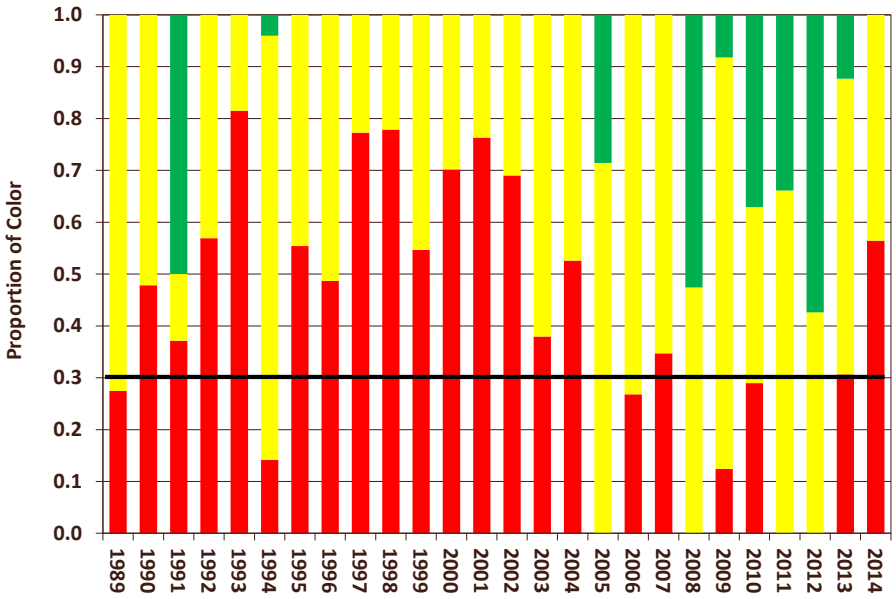
Spot

Spot is one of 275 sciaenid species worldwide. The Commission manages six sciaenid species, which are commonly called drums, croakers, or hardheads for the repetitive throbbing or drumming sounds they produce. Spot occur along the U.S. Atlantic coast in estuarine and coastal waters and are most abundant from the Chesapeake Bay to South Carolina. They are an important forage species for predators such as Atlantic striped bass, weakfish, summer flounder, bluefish, and sharks. They are also an excellent food and sport fish, supporting recreational and commercial fisheries in the Mid- and South Atlantic.

In 2015, the South Atlantic Board initiated the first coastwide

Traffic Light Analysis of Spot Fishery-independent Survey Indices (Abundance Metric)

Solid line represents 30% threshold

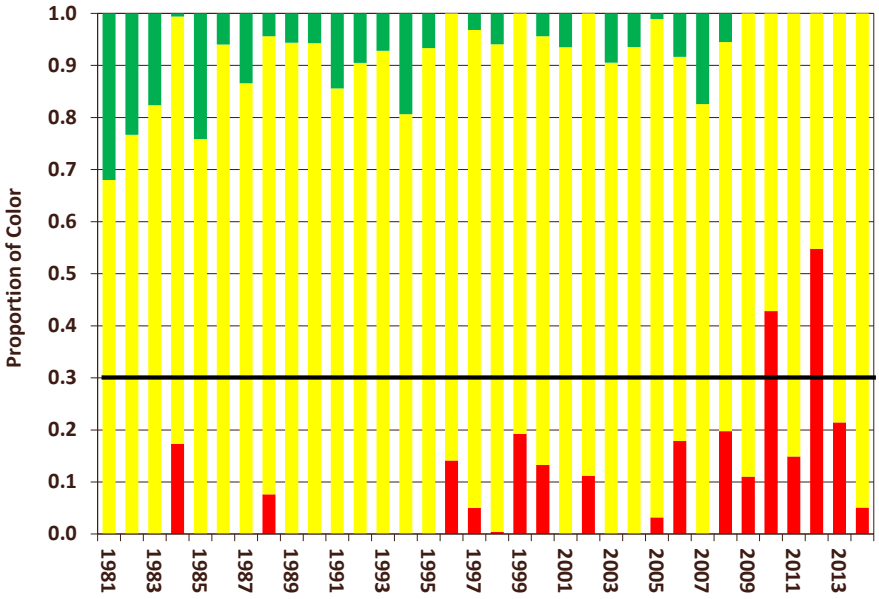


Management response is triggered when proportion of red exceeds the 30% threshold level for two consecutive years in both fishery characteristics (landings and fishery-independent survey indices).

Timeline of Management Actions: FMP ('87); Omnibus Amendment ('11); Addendum I ('14)

Traffic Light Analysis of Spot Commercial and Recreational Harvest (Harvest Metric)

Solid line represents 30% threshold



benchmark stock assessment for spot. The stock assessment seeks to estimate population parameters (e.g., stock status, natural mortality, discard rates and mortality) and biological reference points. A data workshop was held in September 2015 and the assessment is scheduled for completion in late 2016.

In order to evaluate the status of the stock in between stock assessments, the South Atlantic Board reviewed the TLA for spot. Established under Addendum I, the TLA is a precautionary management framework which evaluates fishery trends and develops management actions. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of population indicators. When a population characteristic improves, the proportion of green in the given year increases. Harvest and abundance thresholds of 30% and 60% (proportion of red) were established in Addendum I, representing moderate and significant concern for the fishery. The TLA improves the management approach as it illustrates long-term trends in the stock and includes specific management recommendations in response to declines in the stock or fishery.

The TLA showed a significant decrease in spot harvest in both the commercial and recreational sectors. Data from fishery-independent surveys also showed a decrease in the abundance of spot coastwide. Reviewing 2014 data, management measures were not tripped in 2015 since the abundance index was just below the management threshold; however, the TLA does show a declining trend in the fishery which warrants close monitoring in the future.

Total landings in 2014 were 8.37 million pounds, with 65% harvested by the commercial sector and 35% by the recreational fishery. Commercial harvest in 2014 was estimated at 5.4 million pounds, a two million pound increase from 2013. Small spot are also a major component of the bycatch in haul seine and pound net fisheries in Chesapeake Bay and North Carolina, as well as a significant part of the bycatch of the South Atlantic shrimp trawl fishery. However, substantial reductions in the magnitude of bycatch have occurred in the latter fishery in recent years.

For the past three decades, recreational harvest along the Atlantic coast has varied between 1.7 and 6.9 million pounds. In 2014, recreational harvest was 2.9 million pounds.

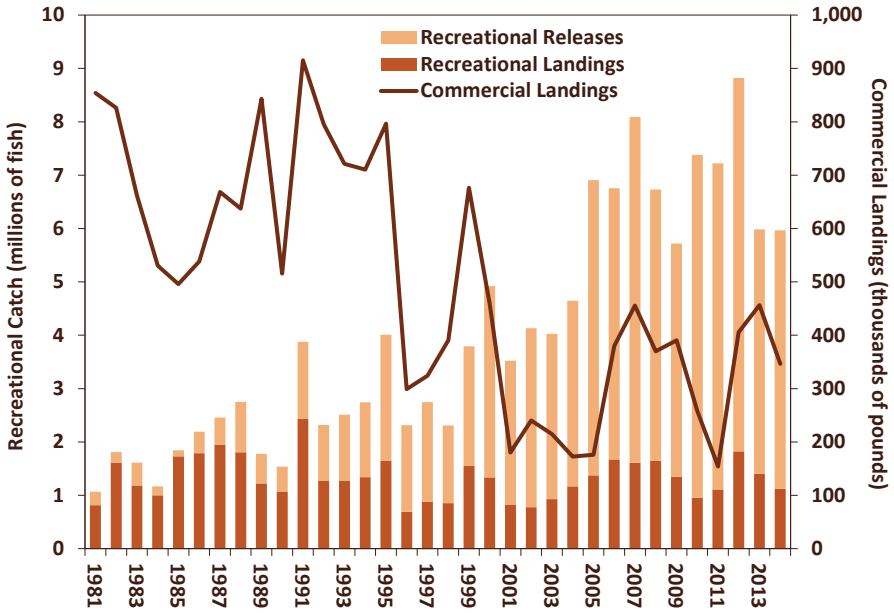
Spotted Seatrout

Spotted seatrout, a member of the drum family, are managed under the Commission's Omnibus Amendment for Spot, Spotted Seatrout, and Spanish Mackerel, which includes recommended measures to protect the spawning stock, as well as a required coast-wide minimum size of 12".

A coastwide stock assessment for spotted seatrout has not been conducted given the largely non-migratory nature of the species and the lack of data on migration where it does occur. Instead, states conduct their own age-structured analyses of local stocks. These regional

Spotted Seatrout Recreational Catch & Commercial Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('85); Amendment 1 ('91); Omnibus Amendment ('11)

assessments are important given that spotted seatrout are susceptible to inshore events such as winter freezes, excessive fresh water, hurricanes, and red tide conditions.

Over the past three decades, recreational catch (kept and released fish) has shown a strong upward trend, increasing from 1.8 million fish in 1982 to a peak of 8.8 million fish in 2012. Recreational catch in 2014 was 5.9 million fish. In contrast, recreational harvest (kept fish) has remained relatively stable throughout the times series with an average of 1.3 million fish. This is due, in part, to recreational size and creel limits as well as the encouragement of catch and releases practices. In 2014, nearly 81% of recreational catch was released.

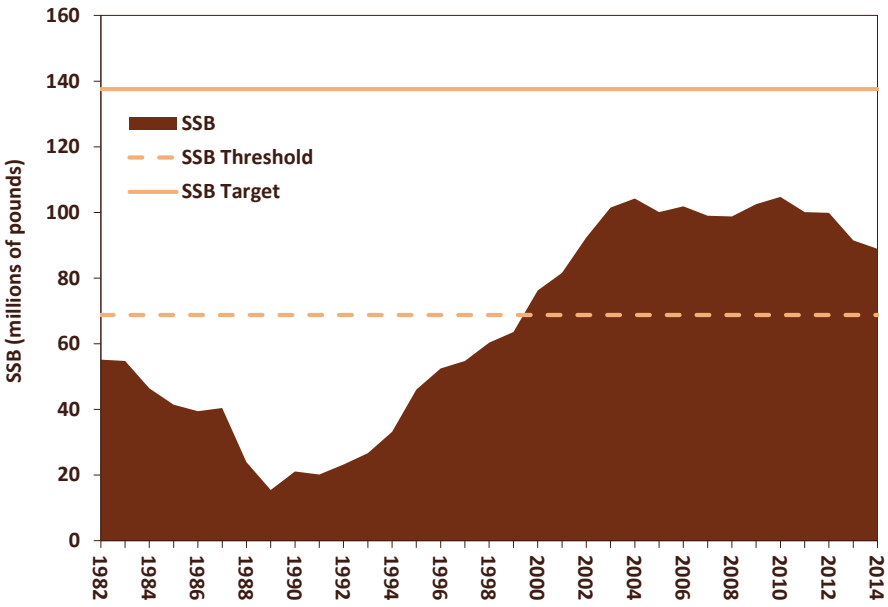
Summer Flounder

Jointly managed by the Commission and MAFMC for more than two decades, the summer flounder population was declared rebuilt in 2012. The latest stock assessment update (2015) found the stock not overfished but experiencing overfishing, with the SSB estimated at 88.91 million pounds, below the target of 137.55 million pounds. These results appear to be driven largely by below average recruitment, with the stock having experienced four below average year classes from 2010 to 2013. The update also showed the annual recruitment estimate has been overestimated by a range of 22% to 49% for five of the last seven year classes (through 2013), which has contributed to an overestimation of stock size in recent years. Taking these findings and the 2014 landings into account, the Commission and MAFMC established an RHL of 5.42 million pounds and a commercial quota of 8.12 million pounds for the 2016 fishing season, a decrease from 2015.

Summer flounder are one of the most sought after commercial and recreational fish along the Atlantic coast, with landings at approximately 18.7 million pounds in 2014. Since 1981, both commercial and recreational landings have undergone significant fluctuations. Commercial landings peaked at 38 million pounds in 1984 before declining to a low of 9.4 million pounds in 1990. Landings showed an increasing trend through 1995, but have varied without trend through 2010. For the past six years, commercial landings have been above 10 million pounds, with 2014 landings at 11.3 million pounds. Otter trawl is the principal commercial gear. After reaching a low of 3.2 million

Summer Flounder Spawning Stock Biomass (SSB)

Source: Northeast Fisheries Science Center Stock Assessment Update, 2015



Timeline of Management Actions: FMP ('88); Amendment 1 ('91); Amendments 2 -5 ('93); Amendment 6 ('94); Amendment 7 ('95); Amendments 8 & 9 ('96); Amendment 10 ('97); Amendment 11 ('98); Amendment 12 ('99); Amendment 13 ('03): Addenda (VIII & XV ('04); Addenda XVI & XVII ('05); Addendum XVIII ('06); Addendum XIX ('07); Addendum XXV ('14); Addendum XXVI ('15)

pounds in 1989, recreational landings increased to 11.9 million pounds in 1997 and 16.5 million pounds in 2000. Since 2009, landings have averaged approximately five million pounds per year, with 7.4 million pounds landed in 2014.

In 2015, the states continued to use the adaptive regional management approach, first used in 2014, for their summer flounder recreational fisheries, with the intent of providing more equity in harvest opportunities along the coast. In early 2016, the Board will consider whether to continue to use the adaptive regional management approach for 2016 fisheries.

The Commission and MAFMC also continued work on the comprehensive summer flounder amendment, which will consider modifications to the current management program's goals, objectives, and management strategies for summer flounder. The Board and Council will continue to develop the Draft Amendment in 2016, with the anticipated draft document available for public comment in 2017.

Tautog

Tautog are a stout fish that becomes darker in color with age, and is commonly known by fishermen as "blackfish". The species is slow growing and can live 35 to 40 years throughout its distribution from Nova Scotia to Georgia, although greatest abundance occurs between Cape Cod, Massachusetts and the Chesapeake Bay.

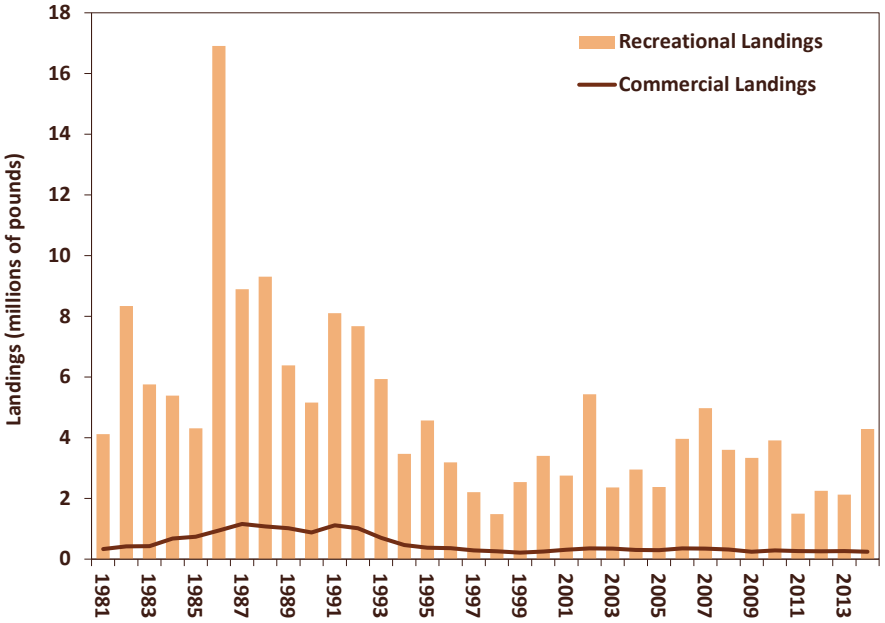
Tagging data suggest strong site fidelity across years with limited north-south movement and some seasonal inshore-offshore migrations. In the northern part of their range, adult tautog move from offshore wintering grounds in the spring to nearshore spawning and feeding areas, where they remain until late fall, when the reverse migration occurs as water temperatures drop. Populations in the southern region may undergo shorter distance seasonal migrations, while in the southern-most part of the range they may not undergo seasonal migrations at all.

The 2015 benchmark stock assessment indicates tautog continues to be overfished and experiencing overfishing on a coastwide scale (Massachusetts to Virginia). The estimated three-year (2011-2013) fishing mortality of F=0.30 is well above the FMP's fishing mortality target of 0.15, despite the implementation of Addendum VI management measures in 2012, which sought to reduce exploitation.

The benchmark assessment explored alternative regional groupings to account for the limited north-south migration and regional harvest patterns instead of a coastwide assessment. In May 2015, the Tautog Board initiated the development of Draft Amendment 1 to consider the

Tautog Commercial and Recreational Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('86); Addendum I ('97); Addendum II ('99); Addendum III ('02); Addenda IV & V ('07); Addendum VI ('11)

use of regional management areas and evaluate the illegal harvest of undersized and unreported tautog, which has become an increasingly pervasive issue. Draft Amendment 1 development is underway with an expected 2017 implementation date.

While tautog are targeted by both commercial and recreational fisheries, approximately 90% of the total harvest is recreational. Between 2000 and 2014, the annual recreational harvest averaged 3.3 million pounds; on average, 90% was harvested within state waters. In 2014, recreational fishermen harvested approximately 970,000 fish weighing a total of 4.2 million pounds, an increase from the 2011-2013 average recreational harvest of approximately 500,000 fish per year across a three-year landing average of 1.96 million pounds.

In 1987, commercial landings peaked at nearly 1.16 million pounds and steadily declined to a low of 208,000 pounds in 1999. From 2000-2014, commercial landings varied without trend, ranging from approximately 241,000 to 351,000 pounds. Commercial landings have been dominated by Massachusetts, Rhode Island, and New York, each averaging more than 20% of coastwide harvest (1982-2014). Rod and reel are the predominant commercial gear; in addition to bottom otter trawls and fish pots and traps—collectively they represent the top three commercial gear types for the past two decades. The ex-vessel value for tautog has increased since the historic low of $0.03/pound in 1962, along with the increasing landings trend. In 2012 and 2013, the value surpassed $3/pound.

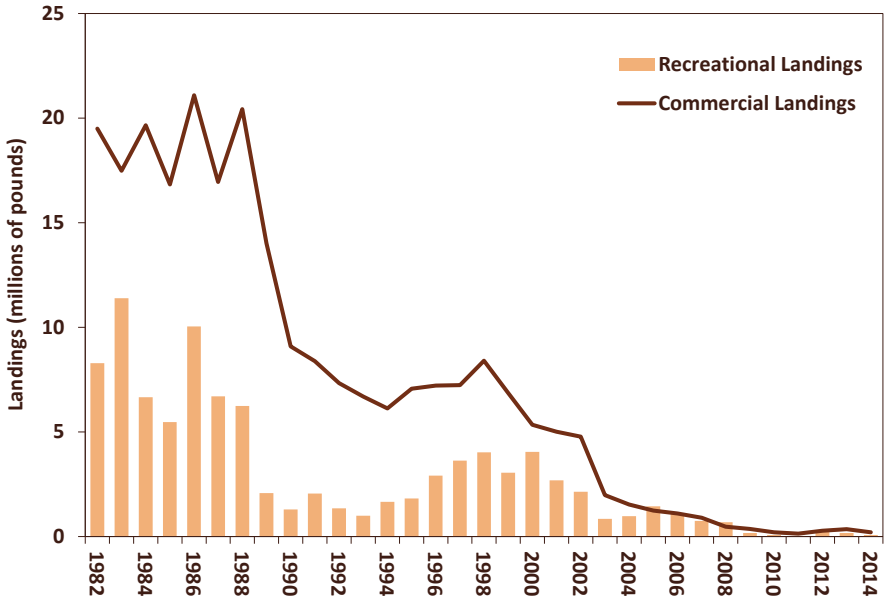
Weakfish

Weakfish have been one of the most important components of a mixed-stock fishery on the Atlantic coast since the 1800s. Beginning in 2000, however, weakfish biomass began to decline, reaching an all-time low of 2.9 million pounds in 2008 (compared to 30.8 million pounds in 1996).

Total landings in the weakfish fishery have continued to decline with 2014 landings estimated at 273,660 pounds, a noticeable decrease from the 2013 landings (519,000 pounds). At 196,000 pounds, the commercial fishery accounted for 72% of the total 2014 landings. North Carolina accounted for the largest share of this harvest at 53%. Recreational landings

Weakfish Recreational and Commercial Landings

Source: NMFS Fisheries Statistics Division, 2015



Timeline of Management Actions: FMP ('85); Amendment 1 ('91); Amendment 2 ('95); Amendment 3 ('96); Amendment 4 ('02); Addendum I ('05); Addenda II & III ('07); Addendum IV ('09)

in 2014 were 77,000 pounds and recreational releases were estimated at 553,000 fish.

In 2015, the Weakfish SAS began work on a new benchmark stock assessment to update these biomass trends. The previous stock assessment, which was completed in 2009, found natural mortality, rather than fishing mortality, was the source of the weakfish decline. However, given the small stock size, the assessment indicated that total fishery removals represented a significant proportion of the remaining biomass and were unsustainable. In response, the Weakfish Management Board approved Addendum IV to Amendment 4, which implemented a one fish recreational creel limit and a 100 pound commercial trip limit.

The new stock assessment seeks to evaluate the status of the stock and understand what impact the restrictive management measures have had on abundance. In July 2015, the SAS held an Assessment Workshop to review data inputs and develop potential models. It is expected the stock assessment will be peer reviewed in the spring of 2016, with final model results presented to the Board in the summer of 2016.

Winter Flounder

Winter flounder is a small-mouthed, right-eyed flounder distributed along the Atlantic coast. The species is managed as three separate stocks: GOM, Southern New England/Mid-Atlantic (SNE/MA) and GBK. Except

for the GBK population, adult winter flounder migrate inshore in the fall/early winter and spawn in late winter and early spring throughout most of their range. Winter flounder may grow up to 23" and attain 15 years of age. Growth varies among geographical areas, with slower growth in the north than the south.

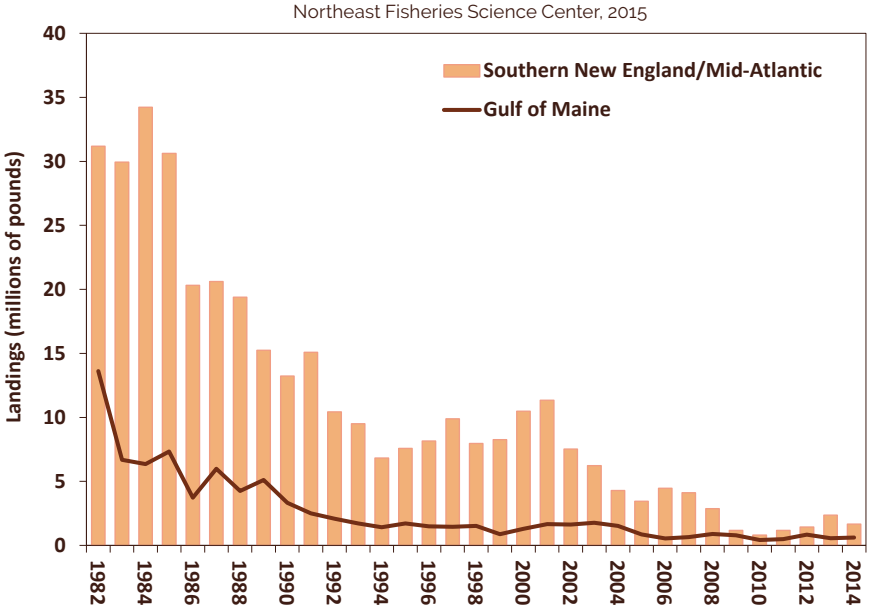
Winter flounder are managed by NEFMC in federal waters and the Commission in state waters, which includes the GOM and SNE/MA stocks. Information from the 2015 stock assessment indicates the SNE/MA stock is overfished and biomass estimates are at 23% of the target. While there have been some modest increases over the last decade, the SNE/MA stock has remained at approximately a quarter of the target since the early 2000s. Since 1981, recruitment has been declining. The 2013 value is the lowest in the time series, at approximately 4% of the estimated recruitment in 1981 (the highest in the time series). While the 2014 SNE/MA recruitment estimate increased slightly, the overall stock productivity continues to decline. The GOM stock does not have a recruitment estimate due to modeling restrictions. Overfishing is not occurring. The primary concern for the GOM and SNE/MA stocks is that the stocks are not responding to lower exploitation rates.

The winter flounder commercial fishery was once a highly productive industry with annual harvests of up to 40.3 million pounds. Since the early 1980s, landings have steadily declined. Total commercial landings for all stocks (GBK, GOM, and SNE/MA combined) dipped to 3.5 million pounds in 2010. Landings have risen since 2010 due to doubling of quotas in 2011 and again in 2012 for the GOM stock, and the lifting of the SNE/MA moratorium in 2013 by NOAA Fisheries in federal waters. The states, however, have maintained a very restrictive commercial bycatch limit of 50 pounds or 38 fish per trip and a recreational bag limit of two fish in state waters of SNE/MA. Landings have only increased slightly; the total commercial landings for all stocks (GBK, GOM, SNE/MA combined) reached 4.4 million pounds in 2014.

Recreational landings peaked in 1982 at 16.4 million pounds and have since maintained a declining trend. In 2013, only 77,000 pounds of winter flounder were harvested – the lowest amount ever recorded for the recreational fishery.

Winter Flounder Commercial Landings by Stock Unit

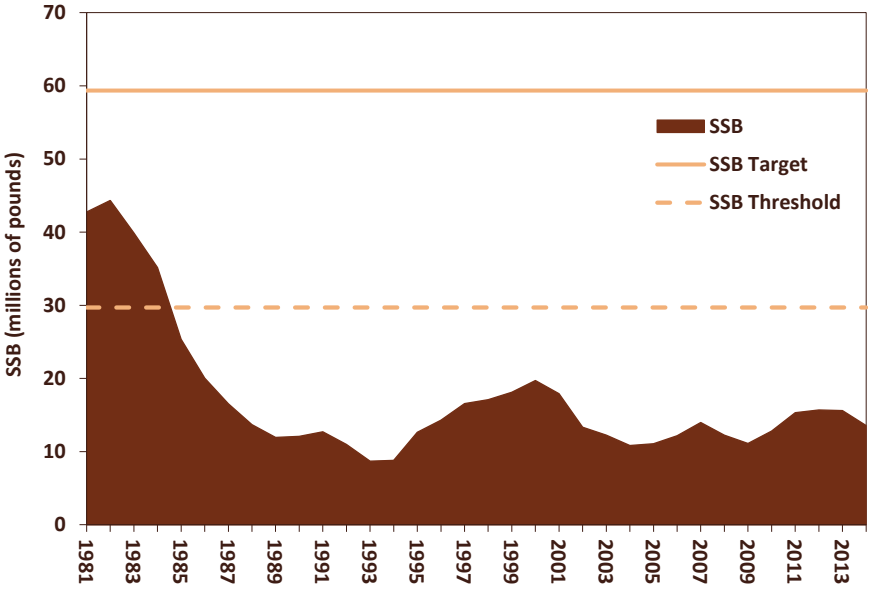
Northeast Fisheries Science Center, 2015



Timeline of Management Actions: FMP & Addendum I ('92); Addendum II ('98); Amendment 1 ('05); Addendum I ('09); Addendum II ('12); Addendum III ('13)

Southern New England/Mid-Atlantic Winter Flounder Spawning Stock Biomass

Source: Groundfish Assessment Review Meeting Update, 2015



Fishery-Independent Data Collection

Fishery-independent monitoring provides insight into the status of fish stocks without the biases inherent to commercial and recreational fisheries catch information. The data collected through monitoring programs are a critical component to the Commission's stock assessment and fisheries management processes. The Commission coordinates two primary Atlantic coast fishery-independent data collection programs – the South Atlantic component of the Southeast Area Monitoring and Assessment Program (SEAMAP) and the Northeast Area Monitoring and Assessment Program (NEAMAP).

SEAMAP

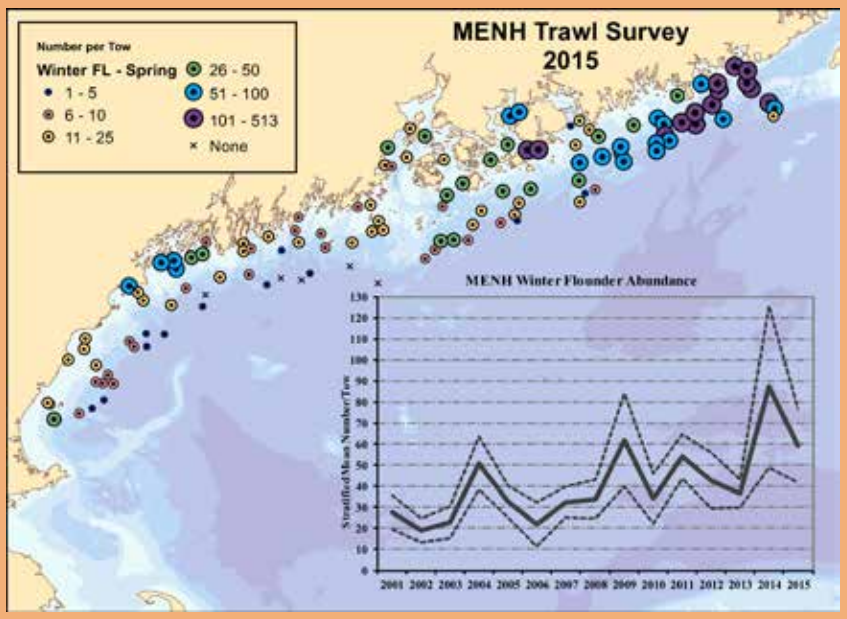
SEAMAP is a cooperative program among state and federal agencies, and universities to facilitate the collection, management, and dissemination of fishery-independent data in the Southeastern U.S. and Caribbean. Since 1982, SEAMAP has conducted long-term standardized surveys that have become the backbone of fisheries and habitat management for its three regions – South Atlantic, Gulf of Mexico, and Caribbean. Each SEAMAP component operates independently, planning and conducting surveys and information dissemination in accordance with administrative policies and guidelines of NOAA Fisheries Southeast Regional Office.

In 2015, SEAMAP-South Atlantic surveys (trawl, longline, and trap) continued to collect data on the distribution and abundance of a variety of important commercial and recreational species from North Carolina to Florida (e.g., red drum, Spanish mackerel, striped bass, snapper, and grouper). A total of 326 stations were sampled by the SEAMAP-South Atlantic Coastal Trawl Survey and the Pamlico Sound Survey completed a total of 108 stations during the 2015 funding cycle. The Coastal Longline Survey completed a total of 648 sets in 2015 with 1,007 red drum captured. Many of the drum were tagged and released as well as sampled for genetic material. Data collected from all SEAMAP-South Atlantic surveys provide long-term population metrics such as abundance trends, diet composition, and age structure for use in interstate, state, and federal stock assessments of recreationally and commercially important fish stocks.

In 2015, SEAMAP-South Atlantic finished the development of a web-based application to integrate and disseminate information among several SEAMAP-South Atlantic fishery-independent surveys and the fishery managers that use SEAMAP data. The compilation of datasets has been useful for management of several important commercial and recreational fish species that migrate between the states' coastal waters and estuaries. With these data, fisheries scientists and managers can determine annual population trends, set fishing regulations, and evaluate management strategies. Visual and spatial representations of SEAMAP and other South Atlantic fishery-independent data are available through a developing geographic information system *http://ocean.floridamarine.org/safmc_dashboard/*. Additionally, SEAMAP-South Atlantic continued to support bottom mapping and fish habitat characterization activities, which gather seabed mapping data for managers to use when considering the establishment of marine protected areas and other fish habitat conservation areas. The SEAMAP-South Atlantic database can be accessed through *www.seamap.org/index.html*.

NEAMAP

NEAMAP is a cooperative state/federal fishery-independent research and data collection program for the coastal waters from Maine to North Carolina. Its mission is to facilitate the collection and dissemination of fishery-independent information obtained in the Northeast for use by state and federal fisheries management agencies, commercial and recreational fishermen, researchers, and others requesting such information. The intent of NEAMAP is not to change existing programs, but to coordinate and standardize procedures and improve data quality and accessibility. The



program, which was initiated in 1997 and became operational in 2006, was developed to respond to the lack of adequate survey coverage and coordination in the coastal waters of the Mid-Atlantic Bight. Its primary tool to fill the gap in coverage has been the SNE/MA Nearshore Trawl Survey. The Nearshore Survey is conducted in the SNE/MA regions and has completed spring and fall surveys from 2007 to present. The survey samples inshore waters from Cape Hatteras, North Carolina northward to Martha's Vineyard, Massachusetts. NEAMAP also includes the Maine-New Hampshire Inshore Trawl Survey and the Massachusetts Inshore Trawl Survey. Survey data are used to complement data from NOAA Fisheries NEFSC Trawl Survey, which samples in deeper, offshore waters of the Mid-Atlantic and New England.

In 2015, the Nearshore Trawl Survey conducted tows at 150 locations in depths ranging from three to 25 fathoms. To date, over seven million individual fish and invertebrates, representing over 175 different species, have been collected by the survey. In 2015, the Maine-New Hampshire Inshore Trawl Spring and Fall Surveys, which have been in operation since 2000, conducted over 200 tows in five regions along the Maine/New Hampshire coast in depths ranging from five to 56 fathoms. The Massachusetts Inshore Trawl Survey, which has conducted spring and fall surveys since 1978, surveyed 200 stations in five geographic regions at depths up to 180 feet in 2015.

Data collected by both the Maine/New Hampshire and Massachusetts Surveys included information on length, sex and maturity, age, and food habits of dozens of fish and crustacean species, as well as ocean bottom temperatures. Data from all three surveys – catch numbers, and individual fish and invertebrate lengths, weights, ages, and diets – are being used in stock assessments and are vital to improving our ability to track annual changes in population sizes and age structures. For further information about NEAMAP and its partner surveys, please visit *www.neamap.net/.*

In 2015, NOAA Fisheries provided funding to support the SNE/MA Nearshore Trawl Survey, which had previously been funded through the MAFMC's Research Set-Aside Program. In 2017, NOAA Fisheries will also begin funding the Maine-New Hampshire Trawl Survey, which is partially funded by NOAA Fisheries Northeast Cooperative Research Program.

In January 2015, a collaborative workshop focusing on fishery-independent trawl survey catch processing was held. Representatives from NEAMAP, SEAMAP-SA, the states, and the U.S. Geological Survey attended the workshop. The Workshop was designed to improve communication and collaboration among Atlantic coastal fishery-independent surveys and personnel, and discuss methodologies used in catch-processing for each individual survey. Workshop outcomes include identifying future sampling needs and areas where standardization among surveys is feasible.

Research Initiatives

The Commission conducted several fisheries research initiatives in 2015 to address high priority issues for the Atlantic states and their stakeholders. Information gathered from research initiatives provides the scientific basis for Commission stock assessments and is fundamental to advising fisheries managers on the health of fish and shellfish populations.

Atlantic Menhaden

In response to the positive findings of the 2015 Atlantic menhaden benchmark assessment, which found the resource is not overfished nor experiencing overfishing, the Atlantic Menhaden Management Board approved a 10% increase to the TAC for the 2015 and 2016 fishing seasons. As part of this action, the Board also committed to moving forward with the development of an amendment to establish ERPs that reflect Atlantic menhaden's role as a forage species, as well as consider changes to the current state-by-state allocation scheme. To help inform allocation decisions, the Commission solicited proposals to conduct a socioeconomic analysis of the Atlantic menhaden fishery. The study, expected to begin in early 2016, is intended to characterize the coastwide commercial fisheries, including bait and reduction sectors and the fishing communities they support. The analysis will be

conducted throughout 2016 and will rely on stakeholder engagement to obtain socioeconomic data to conduct the analysis. The results are expected to assist fishery managers, industry, and stakeholders as they contemplate difficult allocation decisions in the future.

Horseshoe Crab

From 2002 to 2011, the Horseshoe Crab Trawl Survey, conducted by Virginia Tech University's Horseshoe Crab Research Center, has been the only fishery-independent survey designed to sample horseshoe crab populations in Atlantic coastal waters. The survey's data have been a critical component of the Commission's coastwide stock assessment and ARM Framework, which incorporates both shorebird and horseshoe crab abundance levels to set optimized horseshoe crab harvest levels for the Delaware Bay area. The ARM Framework was used to set specifications for the 2013 to 2015 fishing seasons.

Due to funding shortfalls, the Horseshoe Crab Trawl Survey has not been conducted since 2012. The temporary break in the survey and its data present challenges for use of the ARM Framework, which depends on the adult abundance indices derived from the Horseshoe Crab Trawl Survey data. In 2015, the Commission received funds to conduct the Trawl Survey in 2016. While this is a positive development, it is a one-time funding appropriation/allocation. The Commission will continue to seek long-term funding for this important survey.

Jonah Crab

Jonah crab commercial fishing has gained popularity on the Atlantic coast in recent years. Historically, Jonah crab was considered bycatch in the New England lobster fishery. However, over the past 15 years market demand has more than quadrupled, increasing targeted fishing pressure on Jonah crab. Size at maturity is a key information gap toward understanding Jonah crab population dynamics. In areas where most of the U.S. Jonah crab fishery is conducted, no information exists on the size at maturity for male and female crab. The absence of maturity data makes it impossible to estimate spawning stock size and the stock's reproductive potential, which undermines our ability to set biological reference points and conduct a stock assessment. A new study was initiated in 2015 to assess the size at maturity for both female and male Jonah crab. Anticipated results will improve our understanding of stock dynamics and more fully inform the new FMP established in 2015.

Northern Shrimp

The 32nd Gulf of Maine Northern Shrimp Trawl Survey was conducted in 2015 by NEFSC in cooperation with the Commission's Northern Shrimp Technical Committee. A total of 84 stations were sampled in the offshore waters of the Gulf, with information on shrimp numbers, sizes, gender, and maturity collected to provide data for annual stock assessments and related analyses. The survey is a valuable tool for consistently evaluating the shrimp stock's condition. Results show shrimp abundance and biomass have declined steadily since 2008, with 2014 and 2015 catches at the lowest levels ever recorded in the survey's history. A notable decline in shrimp sizes across life stages and genders was also detected in the 2015 survey.

Red Drum

The Commission identified red drum as a priority species in need of additional research because the status of the adult portion of the population is not well known. Information on adult red drum is a

major deficiency, which limits the stock assessment to characterizing only age 1-4 fish before they migrate offshore and reach a maximum age of up to 60 years. With federally dedicated research funds, state scientists from North Carolina, South Carolina, and Georgia conduct bottom longline surveys to provide a fishery-independent index of adult red drum abundance. Many red drum encountered in the survey are tagged to provide information on survival rates, migratory behavior, and stock identification. Information is also collected on the presence of hatchery-origin fish in the offshore adult population, as well as sex ratios, maturity, and age structure of the population. All of the information is critical for evaluating the status of the red drum population, including use in the newest stock assessment, and developing a successful red drum management program. Data on coastal shark distributions and abundances are also recorded in the long line surveys.

Fish Ageing

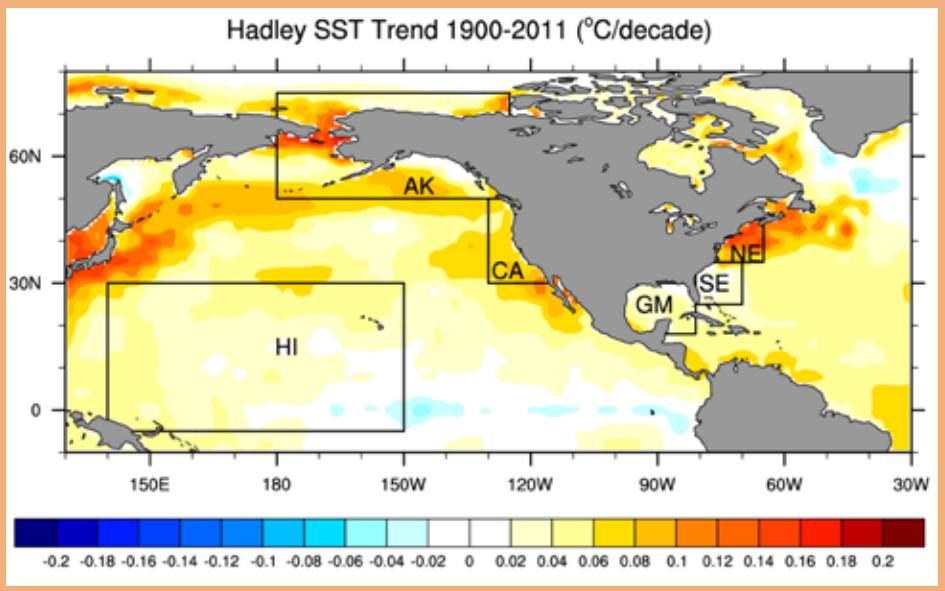
Fish age and growth information are key components of stock assessments that improve our understanding of species' population dynamics. With age samples being collected, processed, and read by scientists at several institutions every year, it is important to ensure all ageing labs follow consistent protocols. In 2015, the Commission facilitated fish ageing consistency and data sharing among different Atlantic coast laboratories through the development of standardized ageing protocols, the exchange of ageing samples, and a fish ageing workshop for Atlantic menhaden. Results from the ageing workshop will be included in the next benchmark assessment of menhaden. Workshop results and ageing protocols can also be found on the Commission website at www.asmfc.org/fisheries-science/research. American eel and spot age sample exchanges and workshops are planned for 2016. The Commission will also be initiating in 2016 a new black drum age sample collection program among the Mid-Atlantic states to obtain better age data on larger, older individuals in order to work toward developing an age-based stock assessment model.

Climate Change

Climate change can have significant impacts on the behavior and geographic distribution of fishery resources. With warming waters, the availability of habitat for fish stocks may change and species may shift their range to seek out more suitable conditions. With stocks that are on the move, there is a need to reassess current management plans and fishery allocations. However, it is important to first fully evaluate the environmental and regulatory drivers that control stock distributions before revising management strategies.

In 2015, the Commission investigated whether climate change and warming coastal water temperatures are causing shifts in the geographic distributions of populations as part of the benchmark stock assessments for American lobster, scup, and bluefish. In addition, based on previous analysis by the Commission's Management and Science Committee on climate-induced shifts in black sea bass, scup, and summer flounder stocks, the Summer Flounder Management Board continued regional allocation approaches for the summer flounder recreational fishery to account for changes in stock availability along the coast.

In anticipation of future climate impacts to fish and crustacean stocks, the Commission is adding evaluations of climate-induced distribution shifts to upcoming stock assessments for black sea bass, weakfish, spot, croaker, and northern shrimp. The Commission is also incorporating the latest science and analytical tools to evaluate climate impacts to fish habitat through its Habitat Program and the Atlantic Coastal Fish Habitat Partnership (ACFHP). The Commission will continue to track developing scientific tools and management issues related to climate and fisheries, including a new fish stock climate vulnerability tool developed by NOAA Fisheries *(www.st.nmfs.noaa.gov/ecosystems/climate/activities/assessing-vulnerability-of-fish-stocks).*



Rate of change in global sea surface temperatures/decade from 1900-2011. Note the high rate of change in waters off New England. Image (c) NOAA

Cooperative Tagging

Tag and recapture data are valuable inputs to the stock assessments of several Commission-managed species, including Atlantic striped bass, red drum, Atlantic sturgeon, weakfish, spiny dogfish, and coastal sharks. The Interstate Tagging Committee (ITC) seeks to improve the quality and utility of fish tagging data through the development and promotion of protocols for effective tagging programs. ITC maintains a Cooperative Tagging Website and Registry, providing information on coastwide tagging programs. Anglers can search the database by fish species, tag type, and tag color in order to identify recovered tags. Recent ITC activities include certification of state tagging programs in Massachusetts, Virginia, and South Carolina and development of online tagging videos to guide anglers on proper tagging techniques. The cooperative tagging website can be found at *www.fishtag.info.*

Since the early 1980s, the Commission has been a partner to the Cooperative Winter Tagging Program led by USFWS. The Program organizes annual field tagging of Atlantic striped bass, Atlantic sturgeon, spiny dogfish, and other species that aggregate each winter in the coastal waters off Virginia and North Carolina. In 2015, trawling was conducted aboard a research vessel to catch, tag, and release striped bass and other target species. To supplement the trawl sampling, scientists and captains aboard recreational charter vessels caught, tagged, and released approximately 1,000 striped bass. Information from recaptured fish with tags provides scientists with data to better understand fish survival and growth, habitat preferences, seasonal movements and migrations, and stock boundaries.

Multispecies Models and Assessments

The Commission recognizes the importance of ecological interactions, such as predator-prey relationships, in understanding the population dynamics of fishery resources. The Commission's Multispecies Technical Committee (MSTC), a group of state, federal, and university scientists, is responsible for evaluating relationships among species via a multispecies analytical framework that utilizes a suite of predator-prey models.

The MSTC periodically performs updates to the models and works with the Commission's Assessment Science Committee to consider and evaluate alternative single-species stock assessment models that incorporate ecosystem factors. In addition, a new ERPs Work Group continues to develop multispecies models and ecosystem-based approaches that may be used to develop ERPs for Atlantic menhaden. The reference points would be based on the forage needs of menhaden's primary predators (e.g., Atlantic striped bass, weakfish, bluefish). In 2015, the committees updated the traditional multispecies model and provided new multispecies models to complement the results of the 2015 Atlantic menhaden benchmark stock assessment.

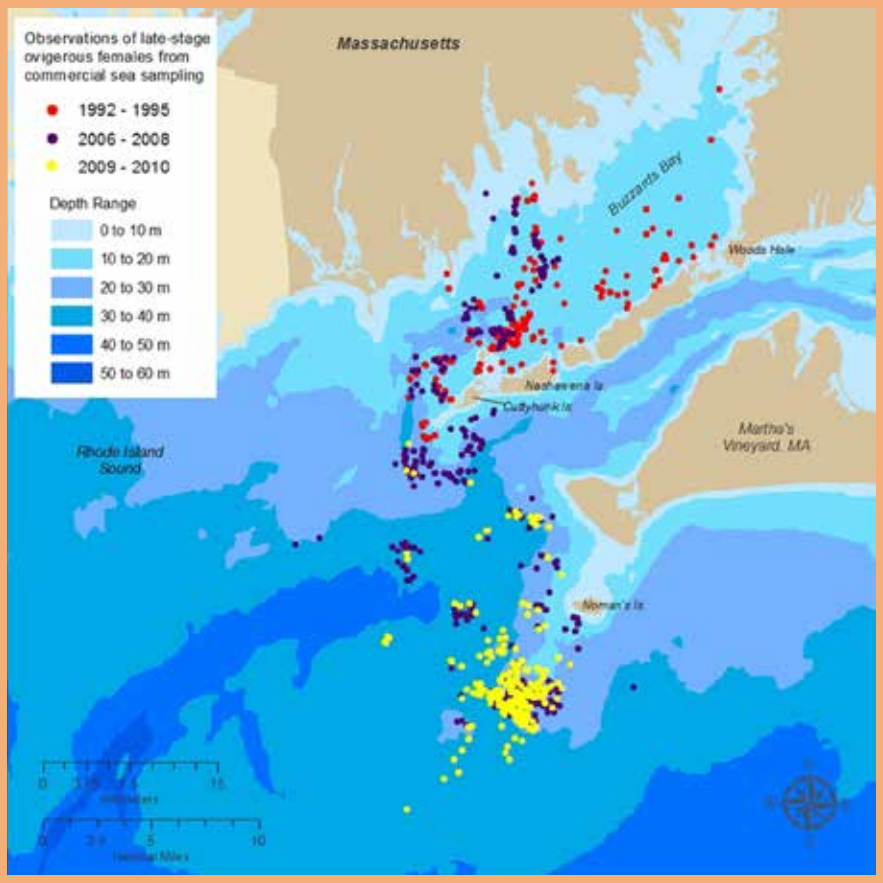
Stock Assessment Peer Review

The Commission's species management boards rely on the scientific and technical information provided by independent peer reviews of stock assessments to evaluate stock status and develop fisheries regulations using the best available science. In 2015, four stock assessments were evaluated through various peer review processes. The bluefish and scup assessment reviews were conducted through the Northeast Regional Stock Assessment Review Committee. The red drum stock assessment was evaluated through the SouthEast Data and Assessment Review process. The American lobster, tautog, and black drum stock assessments were reviewed through the Commission's external peer review process. Each assessment was presented to the respective species management boards to inform management decisions for the stocks.

Stock Assessment Training

The Commission organizes stock assessment training courses to provide instruction to fisheries professionals on the most progressive analytical methods available for use in stock assessments. Courses are provided each year to meet the specific training needs identified as critical to supporting coastwide assessments and to provide managers with a better understanding of assessment results. The courses are designed to provide state scientists with hands-on experience in developing stock assessments, using fishery-independent and -dependent data in a variety of analytical methods and models. In 2015, the Commission held two stock assessment training courses. The first was a weekly webinar designed to introduce fisheries scientists to basic population dynamics and stock assessment theory in preparation for future participation on Commission technical committees. The second was an advanced training course for more experienced stock assessment scientists to enhance their knowledge, skills, and use of Bayesian statistics in stock assessment modeling and related technical analysis. The Commission anticipates holding an intermediate level training course in 2016.

The Commission has created a dedicated page on Fisheries Science 101 at *www.asmfc.org/fisheries-science/fisheries-science-101.* The webpage explains the basic concepts of fisheries science to give stakeholders a better understanding of the types of information scientists provide to fisheries managers. It also includes links to stock assessment seminars, such as *Understanding the Science Behind Northern Shrimp Management.* Additional seminars will be posted as they become available.



Habitat Bottlenecks: Map of distribution shift in late-stage egg bearing female lobsters in Southern New England that has been related to changes in temperature. Image (c) MA DMF

Habitat Protection, Restoration, and Enhancement

The Commission recognizes that protection, restoration, and enhancement of fish habitats are essential to promoting the sustainability of fisheries along the Atlantic coast. The Habitat Committee's goal is to identify, enhance, and cooperatively manage vital fish habitat for conservation, restoration, and protection, and to support cooperative management of fisheries activities. The Committee successfully performed this role through several activities in 2015.

The Habitat Committee released its annual issue of the ***Habitat Hotline Atlantic***. The issue focused on the impacts of energy development on fish habitats and included four articles from the Bureau of Ocean Energy Management, as well as an article on the importance of sounds to fish communities and their habitats. The Hotline also included updates from ACFHP and state and governmental agencies.

The Habitat Committee finalized, and the Commission approved, the latest installment of the Commission's Habitat Management Series, *Habitat Bottlenecks and Fisheries Management.* The report provides examples of environmental

and physical bottlenecks facing managed species along the Atlantic coast, including American lobster, horseshoe crab, summer and winter flounder, and Atlantic sturgeon. The report is available at *www.asmfc.org/habitat/hot-topics.*

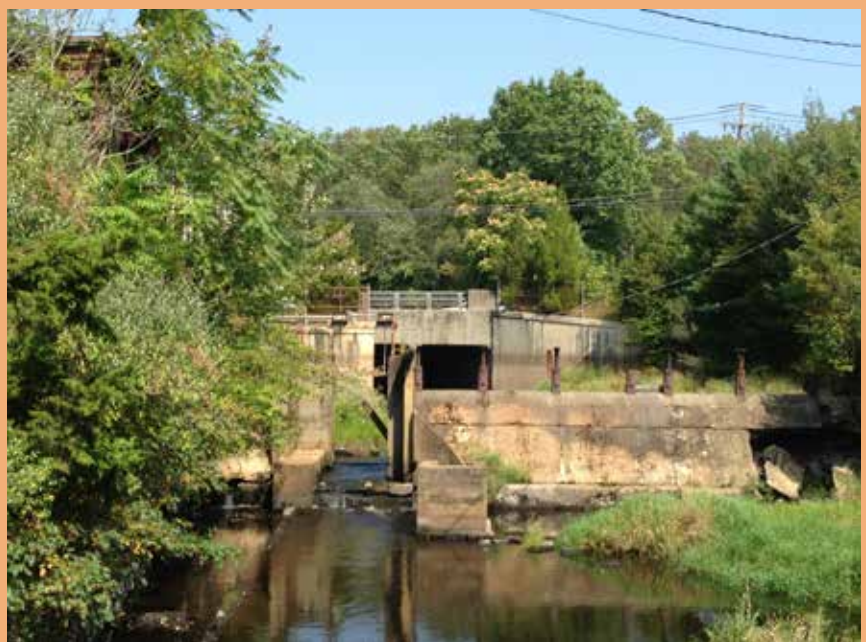
As part of its responsibility to provide the most up-to-date information on the habitat needs and ecosystem functions of Commission-managed species, the Habitat Committee continues to update habitat sections of the Commission FMPs. In 2015, the Commission began updates to the habitat sections for upcoming plan amendments for Atlantic menhaden and tautog. The Habitat Committee also updated the habitat factsheets for 25 Commission-managed species. The factsheets include the latest science on species migratory behavior, environmental and habitat requirements, as well as threats to habitat and species restoration efforts. The factsheets can be found on the website at *www.asmfc.org/habitat/program-overview* as well as on each species page.

Throughout 2015, the Habitat Committee continued the development of a sciaenid species habitat source document, similar to the Atlantic Coast Diadromous Fish Habitat document published in 2009. Information from the source document will be used to develop new habitat sections for the Commission-managed sciaenid species, such as Atlantic croaker, black drum, and weakfish. The document is close to completion, and will presented to the Commission for approval in early 2016.

Atlantic Coastal Fish Habitat Partnership

Beginning in 2006, the Commission contributed to the establishment and growth of ACFHP, an assembly of state, federal, tribal, and non-governmental groups whose mission is to conserve habitat for Atlantic coast diadromous, estuarine-dependent, and coastal fish species. The Partnership addresses habitat threats with a broad and coordinated approach, leveraging resources from many agencies, organizations, and corporations to make a difference for fish habitat. ACFHP operates under the purview of the National Fish Habitat Partnership (NFHP).

2015 was the sixth year of ACFHP's successful partnership with USFWS in funding on-the-ground fish habitat conservation projects. Three new projects were funded, each aiming to improve fish habitat in rivers and streams along the Atlantic coast. The first project is led by the Town of Surry and will restore fish passage in Patten Stream, Maine. The second, led by The Nature Conservancy, will remove a dam on the Satucket River



in East Bridgewater, Massachusetts. The third project is focused on restoring spawning habitat for shad and sturgeon in the Cape Fear River in North Carolina, and is being led by the Cape Fear River Watch. For more information on all ACFHP-USFWS funded projects, please visit *www.atlanticfishhabitat.org/projects/fundedprojects/.*

In cooperation with its state partners, and with funding from NOAA Fisheries, ACFHP successfully installed four conservation moorings near Jamestown, Rhode Island. Conservation mooring is a system designed to avoid contact with the seafloor and reduce physical damage to the seagrasses that provide valuable habitat for young fish. The system uses an elastic connection, akin to a bungee cord, to connect the surface buoy with the anchoring device. This eliminates chain sweep that physically damages or eliminates vegetation growing on the seafloor. An interpretive sign will be installed at nearby marinas to inform the public on the benefits of conservation moorings and submerged aquatic vegetation. Post-installation monitoring will occur throughout 2016 to measure success.

ACFHP was awarded a grant from MAFMC to solicit projects that promote restoration or research on offshore black sea bass habitat in

the Mid-Atlantic. A subcommittee of habitat experts developed the request for proposals, which was released in late 2015. Project evaluation and selection will occur in early 2016.

In 2015, significant progress was made in the development of a Decision Support Tool to Assess Aquatic Habitats and Threats in North Atlantic Watersheds and Estuaries. ACFHP and its partners worked with Downstream Strategies, LLC to compile and analyze the threats to inland, estuarine, and coastal aquatic species across the Northeast Atlantic. The data were used to model habitat and species distributions, which will yield two products: distribution maps, and a multi-criteria decision support tool for resource managers when planning habitat restoration projects. The work was funded by the North Atlantic Landscape Conservation Cooperative. Eastern brook trout and winter flounder models have been completed, and river herring analyses are underway. To view the tool, please visit *www.fishhabitattool.org*.

ACFHP and The Nature Conservancy successfully completed their final report on river herring habitat restoration needs in select watersheds along the U.S. Atlantic coast, with funding from the National Fish and Wildlife Foundation's River Herring Initiative. The project involved collaboration with river herring experts from state and federal agencies and non-governmental organizations via in-person workshops, meetings, and webinars. The project resulted in multiple reports on river herring habitat needs, advanced the cooperation among stakeholders in each region, and will aid ACFHP in prioritizing river herring restoration needs for future ACFHP-USFWS project funding. To find out more, please visit *www.atlanticfishhabitat.org/planningresources/publications/*.

ACFHP continued the Whitewater to Bluewater project in 2015 with its Fish Habitat Partnership neighbors, the Southeast Aquatic Resources Partnership (SARP) and the Eastern Brook Trout Joint Venture *(www.easternbrooktrout.org/groups/whitewater-to-bluewater/)*. The initiative promotes a collaborative approach to protecting and restoring habitat from the headwaters of small streams, to downstream estuaries, and out to the continental shelf by implementing the shared goals of the three partnerships and the National Fish Habitat Action Plan. ACFHP and SARP also collaborated on submitting a joint mangrove restoration proposal to NOAA's Coastal Resiliency Program. The three partnerships have continued to work on a fish passage barrier removal factsheet to assist conservation groups and agencies in developing outreach products to enhance public understanding and support for fish passage projects.

In August, ACFHP attended the 145th Annual American Fisheries Society Meeting to display outreach materials at the NFHP booth and present at the conference during the NFHP Symposium. The NFHP Symposium highlighted science and data, on the ground restoration, and collaborative successes of many of the 19 Fish Habitat Partnerships from around the country. For more information on the meeting, please visit the American Fisheries Society website at www.*2015.fisheries.org*.

Two new partners joined ACFHP in 2015: the International Federation of Fly Fishers (IFFF), and the North Carolina Coastal Federation (NCCF). The IFFF is a 46-year old international non-profit organization dedicated to the betterment of the sport of fly fishing through conservation, restoration, and education. The NCCF is a 33- year old non-profit organization dedicated exclusively to protecting and restoring the coast of North Carolina through education, advocacy, and habitat preservation and restoration. ACFHP is excited to have both of these well-respected organizations join the Partnership.

Dependable and Timely Fisheries Statistics

The Atlantic Coastal Cooperative Statistics Program (ACCSP) is a cooperative state-federal program that designs, implements, and conducts marine fisheries statistics data collection programs and integrates those data into a single data management system to meet the needs of fishery managers, scientists, and fishermen. Its mission is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all Program Partners, who include the 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 USFWS.

Fisheries-Dependent Data Collection

ACCSP's primary objective is the collection and management of fisheries-dependent data to provide necessary information to its program partners for near-term fisheries management activities (quota and compliance monitoring) and for longer-term processes such as stock assessment. ACCSP standardizes methods and systems through collaboration among its partners. Using these standards, ACCSP developed and manages an online data collection program, the Standard Atlantic Fisheries Information System (SAFIS) and a consolidated fisheries-dependent data storage and dissemination system, the Data Warehouse.

SAFIS

SAFIS is currently deployed as a web-based system to collect dealer and trip data in many Atlantic states and NOAA Fisheries Northeast and Southeast Regional Offices. Dealer reporting systems that use swipe cards to uniquely identify harvesters were developed for use in Massachusetts and Maine. These new systems will initially be deployed for American eel and sea urchin dealers in Maine, and shellfish dealers in Massachusetts. The Program received requests to expand this tool into Rhode Island in 2016 and expects to develop and deploy a standard version that could be used for all fisheries during 2016-2017.

Throughout 2014 and 2015, staff continued development of tablet-based systems for both dealer and

ACCSP
Good Data, Good Decisions

trip reporting. Tablet systems have the advantage of not requiring a full time connection to the internet and are increasing in popularity. The first project was developed for the for-hire fishery in Rhode Island, followed by a collaborative project in the Northeast with the Northeast Regional Ocean Council and SeaPlan to track ocean use. Working with volunteers, the latter project tested the feasibility of using the built in GPS capabilities of most tablets to track vessel location providing data needed to assess ocean use. The system is currently in the process of being approved for use in federal fisheries.

In 2015, 143,507 trips were entered into SAFIS using the on-line eTrips application. Over 650,000 dealer reports were entered into the SAFIS dealer reporting module. There were 1,893 commercial dealers and 6,890 commercial fishermen using the system.

Data Warehouse

The Data Warehouse contains fisheries-dependent landings and catch data back to 1950 and is used for stock assessment and other data intensive research. Data are loaded twice yearly with preliminary data for the prior year being made available by mid-April and final data in November. Minor updates are made on an as-needed basis. The Data Warehouse provides an access controlled online user interface that utilizes Oracle Discoverer. Staff are in the process of developing a new interface that will be more intuitive and easier to use. In addition, a new biological module has been designed and will be deployed in early 2016.

In 2015, 89 data users (commercial fishermen, dealers, state and federal staff, fishery managers, scientists, and stakeholders) accessed the Data Warehouse to run 12,047 data queries for stock assessments, management purposes, industry research, and other needs. Users of the public version of the Data Warehouse ran an additional 1,590 queries.

Website

In 2015, ACCSP launched its newly revised website, highlighting the program and its major tools, products, and partner projects. To learn more about ACCSP, visit us at *www.accsp.org/*

During 2015, the Commission had the privilege of presenting awards to several deserving individuals who have directly contributed to furthering the Commission's Vision of Sustainably Managing Atlantic Coastal Fisheries.

Captain David H. Hart Award

The Commission presented **Willard "Bill" Cole,** formerly with the USFWS, the Captain David H. Hart Award, its highest annual award, at the Commission's 74th Annual Meeting in St. Augustine, Florida.

Throughout his nearly 40-year career as a state, university, and federal fishery manager and scientist, Mr. Cole worked to protect, restore, and conserve fisheries resources and their habitats along the Atlantic coast. Mr. Cole graduated from North Carolina State University in 1966, and moved to Lake City, Florida, where he began his career with the Florida Game and Freshwater Fish Commission. Shortly after, he joined USFWS, where he stayed for the remainder of his career. At USFWS, Mr. Cole served in different capacities and numerous offices from North Carolina, to New York, D.C., Texas, and even New Mexico. In each place he left an indelible mark; serving on review teams for the first Everglades study; developing the Navigable Waters Handbook; protecting riverine, wetland, and coastal habitats in Long Island Sound, the Hudson River, and St. Lawrence Seaway; and establishing what ultimately would become USFWS' South Atlantic Fish and Wildlife Conservation Office. While with the South Atlantic Office, he worked closely with the State of North Carolina to restore anadromous fishery resources throughout the Albemarle and Pamlico Sounds, once the site of the largest commercial American shad and river herring fisheries on the entire East Coast.

With his customary vision, Mr. Cole understood early on that management of fishery resources in North Carolina required participation in regional fishery management institutions as well. As such, he became involved with both the SAFMC and the Commission as the Southeast Regional Director's designee for both institutions. He served in that capacity continuously for 19 years. Mr. Cole served on numerous committees and management boards for both groups and, prior to his retirement, served as Chair of the Commission's South Atlantic State-Federal Fisheries Management Board.

Along with several colleagues, Mr. Cole conceived the Cooperative Winter Tagging Cruise off the coasts of North Carolina and Virginia. The Cruise was designed to tag striped bass in a mixed stock of migratory fish wintering off North Carolina's Outer Banks and southern Virginia as a part of the Commission's Atlantic migratory striped bass management program. The Cruise began in 1988 and has been conducted annually with few interruptions. It is one of the longest time series of any such coastal tagging program, as well as one of the most effective federal, state, and academic partnerships. Mr. Cole served as Chief Scientist on all but two of the cruises during an 18 year period and annually coordinated scheduling, equipment acquisition, and recruitment of all Scientific Party members. Through the years, tagging of additional Commission and Council managed species was added to the Cruise protocol. To date, the Cruise has tagged 252 Atlantic sturgeon and over 47,000 striped bass, with a tag return rate approaching 20 percent.

Mr. Cole is a charter member of the Atlantic Coastal Cooperative Statistics Program Operations Committee. He has been an ardent supporter of the Program since its inception, providing staff to serve as the initial Program Coordinator, and working tirelessly with federal and state partners to move the program forward.

Finally, during his last year with USFWS, Mr. Cole was detailed to the NOAA Fisheries where he served as Special Assistant to the Assistant Administrator for Fisheries, Dr. William Hogarth. Mr. Cole was a key element in planning several national-level meetings that brought together fisheries professionals from Regional Fishery Management Councils and Interstate Commissions to consider the future direction of fisheries management.

Mr. Cole has characterized himself as a "biopolitician," but his contribution to the management of U.S. East Coast fisheries goes well beyond his many notable accomplishments. Mr. Cole has been a true friend and mentor to many in the fisheries management community.

The Commission instituted the Award in 1991 to recognize individuals who have made outstanding efforts to improve Atlantic coastal marine fisheries. The Hart Award is named for one of the Commission's longest serving members, who dedicated himself to the advancement and protection of marine fishery resources.

Awards of Excellence

Management & Policy Contributions

Steven Heins

New York State Department of Environmental Conservation (NYS DEC)

Steven Heins has been dedicated to state, interstate, and federal management issues for nearly three decades, providing leadership, innovation, and technical excellence that represents the core mission and values of the Commission. From 1988 to 2000, Mr. Heins oversaw New York's species monitoring programs, playing an important role in helping to inform management decisions at the Commission and MAFMC. He developed and implemented New York's Artificial Reef and Access Program, authoring the original Reef Management Plan and environmental impact statement that made the program a reality. He is also a longstanding member and past chair of the Commission's Artificial Reef Committee, which has been providing guidance on and coordinating artificial reef development activities along the Atlantic coast since the mid-1980s.

Since 2006, with his promotion to Chief of Finfish and Crustaceans Section, Mr. Heins has represented NYS DEC on MAFMC and a number of its committees including Atlantic mackerel, squid, and butterfish; surf clam, ocean quahog, and tilefish; and demersal and coastal migratory species. He is the lead for management and compliance information for all Commission-managed species in New York and has been a longstanding member and active participant on the Management and Science Committee. He is also a member and chair of the NEAMAP Board, which oversees three fishery-independent data collection surveys for the coastal waters of Maine to North Carolina. When other funding was unavailable to support the program, Mr. Heins played a pivotal role in securing over $500,000 to support NEAMAP. Recently, he helped craft the current summer flounder regional management approach and he continues to work to find solutions to current management challenges with striped bass, black sea bass, tautog, and Atlantic sturgeon.

Scientific & Technical Contributions

Matthew Cieri, Ph.D.

Maine Department of Marine Resources (ME DMR)

Throughout his career, Dr. Matthew Cieri has provided critical assessment expertise to aid in the management of marine resources in Maine, New England, and along the Atlantic coast. Since 2001 as a marine resource scientist, Dr. Cieri has led Maine's Atlantic herring monitoring and stock assessment activities, providing technical advice and data analysis for resource assessment and management purposes. The monitoring program encompasses the collection and verification of landings data and biological information, as well as management of the herring ageing program and portside bycatch sampling program. On the regional front, Dr. Cieri has helped formulate herring "days out" options for managers and industry decision making, and worked closely with the NEFMC's Atlantic Herring Plan Development Team to develop river herring and shad catch cap options for use in the Council's Framework 3.

Dr. Cieri is also a member and important contributor on numerous Commission and Council committees, including technical/stock assessment committees for Atlantic menhaden, spiny dogfish, American eel, and Atlantic herring, which he chaired for many years. He chaired the Commission's Multispecies VPA (MSVPA-X) Subcommittee and the American Eel Stock Assessment Committee. His efforts led to the successful review of the MSVPA-X, as well the timely and successful completion of the first coastwide benchmark stock assessment for American eel. The findings of the American eel benchmark assessment led to the current American eel management program.

Jeffrey Brust

New Jersey Division of Fish and Wildlife (NJ DFW), Marine Fisheries Administration

For the past 16 years, Jeffrey Brust's hard work, dedication, and innovative approaches to assessment science has made significant improvements to the Commission's stock assessment process and modeling techniques. For the last decade, Mr. Brust has either chaired or been one of the lead scientists for a number of species assessments, including weakfish, American eel, and tautog, developing innovative modeling approaches and successfully navigating them through peer review for their use in management. He is one of the lead

scientists for assessing data poor species by employing methods traditionally used on the West Coast and applying those techniques to Commission species, such as American eel. Even when not serving on the stock assessment subcommittee, Mr. Brust has a way of making an impact on the success and utility of an assessment. As a member of the Atlantic Menhaden Technical Committee, which he also chaired through the development and implementation of Amendment 2, Mr. Brust conducted a review and analysis of the historical menhaden fecundity studies, where he found an error in the interpretation of those results which led to new fecundity at age/size estimates and a significantly improved stock assessment.

Dedicated to increasing the stock assessment capabilities of state biologists, Mr. Brust has taught a number of beginner and intermediate stock assessment training courses. He also created, through the Assessment Science Committee, a stock assessment mentoring program to help technical committee members become exposed to the assessment process in an effort to develop future lead assessment scientists.

Michael Hendricks

Pennsylvania Fish & Boat Commission, Retired

Michael Hendricks dedicated his 32-year career to restoring American shad to Pennsylvania's Susquehanna, Delaware, Lehigh, and Schuykill Rivers. As a past member and chair of the Commission's Shad and River Herring Technical Committee, he pioneered the use of oxytetracycline (OTC) for marking American shad. He chaired the OTC Tagging Task Force which coordinates otolith tagging of hatchery produced American shad among the Commission member states. He developed and implemented culture techniques for American and hickory shad, and led research activities at the Van Dyke hatchery, located on the Juniata River, for over 25 years. The Van Dyke hatchery was constructed in 1976 and was the first modern American shad hatchery in the nation. Under Mr. Hendricks' direction, approximately 237 million American shad fry have been reared and stocked in Pennsylvania's rivers. Mr. Hendricks has also chaired the Technical Committee of the Susquehanna River Anadromous Fish Restoration Cooperative, playing a lead role in drafting the current comprehensive Susquehanna River Anadromous Fish Restoration Plan. He has served on the Delaware River Fish and Wildlife Cooperative Committee.

Dedicated to improving the passage of anadromous fish both up and downstream, Mr. Hendricks provided consultation on fishway development and implementation on the Schuylkill and Lehigh Rivers and served on various Chesapeake Bay Commission fish passage and fisheries management plan committees. He was an active participant on fish passage technical committees for four Susquehanna River hydroelectric dams and was a key player in the ongoing Federal Energy Regulatory Commission relicensing of four hydroelectric facilities on the Susquehanna River from 2004 to 2013 to ensure that anadromous fish protection and restoration are in the forefront in the negotiations.

Law Enforcement Contributions

Sergeant Jim Kane

Connecticut State Environmental Conservation Police

Sergeant Jim Kane's dedication, knowledge of fishing practices and laws, and ability to work well with other law enforcement agencies throughout the region has earned him the respect and admiration of his law enforcement colleagues. For a decade, he has worked to ensure fishery management regulations within Rhode Island and neighboring states are being upheld, consistently performing a high level of at-sea and dockside inspections of commercial and recreational fishing vessels in his state, as well as numerous recreational shoreside fisherman inspections. Sergeant Kane has worked with New York, Rhode Island, and Massachusetts Law Enforcement as well as NOAA Office of Law Enforcement (OLE) on a number of fisheries investigations and enforcement initiatives. Several of these multi-state investigations involved commercial and recreational lobster, scallop, striped bass, scup, American eel, and winter and summer flounder fisheries. A couple of the investigations have been high level, such as one case which involved the illegal possession and sale of striped bass taken from Rhode Island and offloaded in Connecticut. Another case involved the successful prosecution of a Rhode Island commercial lobster fishing investigation, which involved New York and NOAA OLE; several hundred illegal lobster traps were seized as part of the investigation. During the past several years, Sergeant Kane has also been involved with numerous violations and federal referrals to NOAA OLE for commercial fishing vessels landing over the legal limits or possessing illegal species.

Outreach & Advocacy Contributions

Janice Plante

Former writer and associate editor for Commercial Fisheries News (CFN) and Fish Farming News

Through her diligent reporting on fisheries issues, Janice Plante has significantly advanced stakeholder understanding of fisheries management and scientific activities along the Atlantic coast. No writer or journalist has done more to bridge the gap between fisheries managers/scientists and commercial fishermen than Ms. Plante. For the past three decades, Ms. Plante has not only been committed to, but also excelled at, breaking down complex fisheries management and science issues in clear, understandable, and accessible language that both inform and engage New England fishermen in the fisheries management process at all levels of government (state, interstate, regional and federal). Not an easy task given that she has had to digest complicated fishery stock assessments, gear requirements, and regulatory issues, translating the bottom line into terminology easily grasped by commercial fishermen and the public. She has covered a multitude issues ranging from American lobster to Atlantic herring, northern shrimp, spiny dogfish, and groundfish. Even though the news that she reported on has not always been favorable from the perspective of the commercial fishing industry, she has always done it in an unbiased way, presenting both the facts of matter and the full range of viewpoints, allowing her readership to come to their own opinions about the issue at hand. Throughout her career with CFN, Ms. Plante has worked closely with Commission staff to ensure that her stories correctly characterize the management issues and the science behind the Commission's management decisions, always with the intent to demystify and make more accessible the Commission's activities to the stakeholders it impacts the greatest. Ms. Plante's body of work is a true testament to her deep and abiding commitment to both the fisheries management process and the industries it seeks to support.

ACFHP Melissa Laser Fish Habitat Conservation Award

Deb Wilson was presented the 2015 Melissa Laser Fish Habitat Conservation Award by the ACFHP for her exemplary work in furthering the conservation, protection, restoration, and enhancement of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes. The award was presented at the 74th Atlantic States Marine Fisheries Commission Annual Meeting.

From left to right: Chris Powell (ACFHP Vice-Chair), Jake Kritzer (Habitat Committee Chair), Deb Wilson, Kent Smith (ACFHP Chair), Lisa Havel (ACFHP and Habitat Coordinator)

Through her tireless fundraising and project oversight to restore the Damariscotta Mills fishway in Nobleboro, Maine, Deb has been instrumental in the return of more than 1 million alewives accessing 4,700 spawning acres upstream. With too many depleted runs along the coast, the Damariscotta Mills fishway serves as a model of sustainable, community-based fisheries management and a beacon of possibility for other communities seeking to restore their diadromous fish runs. Deb spreads that message through education and outreach initiatives such as the annual Damariscotta Mills Fish Ladder Restoration Festival, which welcomes around 100,000 visitors each year. She brings her restoration experience to the whole coast through service on the Atlantic States Marine Fisheries Commission's Shad and River Herring Advisory Panel.

The award was established in memory of Dr. Melissa Laser, who was a biologist with the Maine Department of Marine Resources, where she worked tirelessly to protect, improve and restore aquatic ecosystems in Maine and along the entire Atlantic Coast. Dr. Laser brought her smiling dedication and enthusiasm to the Commission's Habitat Committee and Atlantic Coastal Fish Habitat Partnership's Steering Committee. Her contributions to these committees and to her home state were tremendous. Deb approaches her work with the same combination of warmth, humor, positivity, respectfulness, and quiet enthusiasm that Melissa exemplified, which has led to truly unique contributions to habitat conservation.

Atlantic States Marine Fisheries Commission

Robert E. Beal
Executive Director

Deke Tompkins
Legislative Executive Assistant

Tina L. Berger
Director of Communications

Patrick Campfield
Fisheries Science Director

Kristin Anstead, Ph.D.
Stock Assessment Scientist

Katie Drew, Ph.D.
Senior Stock Assessment Scientist

Lisa Havel, Ph.D.
ACFHP and Habitat Coordinator

Jeff J. Kipp
Stock Assessment Scientist

Shanna L. Madsen
Fisheries Science Coordinator

Laura C. Leach
Director of Finance & Administration

Cecilia Butler
Human Resources Administrator

Jayran Farzanegan
Accounting Manager

Rachel Foster
Human Resources Manager

Lisa Hartman
Staff Assistant

Amy Hirrlinger
Fisheries Specialist I

Ed Martino, Ph.D.
IT Manager and Programmer

Cynthia Robertson
Meetings Assistant

Toni Kerns
Director, Interstate Fisheries Management Program

Max Appelman
Fishery Management Plan Coordinator

Ashton Harp
Fishery Management Plan Coordinator

Kirby Rootes-Murdy
Fishery Management Plan Coordinator

Michael Waine
Senior Fishery Management Plan Coordinator

Megan Ware
Fishery Management Plan Coordinator

Atlantic Coastal Cooperative Statistics Program

Mike Cahall
Director

Julie DeFilippi
Data Team Leader

Karen Holmes
Software Team Leader

Ed Martino, Ph.D.
IT Manager and Programmer

Geoff White
Recreational Program Manager

Alex DiJohnson
Recreational Data Coordinator

Joseph Myers
Data Coordinator

Nicholas Mwai
Fisheries Programmer

Jennifer Ni
Fisheries Data Analyst

Sarah Rains
Scan Technician

Coleby Wilt
Recreational Data Coordinator

Elizabeth Wyatt
Program Assistant

The federal budget cycle continues to be uncertain which makes planning and budgeting challenging. However, the Commission was fortunate to receive adequate funding to conduct all fundamental programmatic activities and maintain current staffing. Of note, 2015 was the first year the Commission received funding from NOAA Fisheries to support NEAMAP. Following is a financial snapshot of the Commission for the years ended June 30, 2015 and 2014. Detailed financial statements audited by the firm Jones and McIntyre, PLLC, are available from the Commission office.

Atlantic States Marine Fisheries Commission

Condensed Statement of Financial Position Information

For the Years Ended June 30, 2015 and 2014

ASSETS

	2015	2014
CURRENT ASSETS:		
Cash and Investments	$ 865,572	$ 751,506
Grants and accounts receivable	1,390,510	506,897
Prepaid expenses	42,400	24,701
Total Current Assets	$ 2,298,482	$ 1,283,104
Property and Equipment, Net	$ 3,766,596	$ 3,933,076
TOTAL ASSETS	$ 6,065,078	$ 5,216,180

LIABILITIES AND NET ASSETS

CURRENT LIABILITIES:		
Accounts payable and accrued expenses	$ 1,079,965	$ 585,647
Deferred revenue and contract advances	337,466	161,804
Current maturities of long term debt	180,636	206,532
Total Current Liabilities	$ 1,598,067	$ 953,983
OTHER LIABILITIES:		
Long term debt	$ 791,454	$ 979,014
Obligation under interest rate swap	49,353	70,040
Total Other Liabilities	$ 840,807	$ 1,049,054
TOTAL LIABILITES	$ 2,438,874	$ 2,003,037
UNRESTRICTED NET ASSETS	3,626,204	3,213,143
TOTAL LIABILITIES AND NET ASSETS	$ 6,065,078	$ 5,216,180

Atlantic States Marine Fisheries Commission

Condensed Statement of Activities Information

For the Years Ended June 30, 2015 and 2014

	2015	2014
REVENUE:		
Contract reimbursements	$ 7,707,989	$ 5,720,578
Contributions from member states	665,241	633,579
Other	48,235	49,633
Total Revenue	$ 8,421,465	$ 6,403,790
EXPENSES:		
Salaries and fringe benefits	$ 3,695,869	$ 3,312,581
Subcontracts	2,663,955	1,036,827
Travel	986,842	921,172
Other	661,738	765,644
Total Expenses	$ 8,008,404	$ 6,036,224
CHANGE IN NET ASSETS	$ 413,061	$ 367,566
NET ASSETS, BEGINNING OF YEAR	3,213,143	2,845,577
NET ASSETS, END OF YEAR	$ 3,626,204	$ 3,213,143

Commission managed marine resources generate billions of dollars in economic activity annually and provide tens of thousands of jobs within our coastal communities

Acknowledgements

We would like to thank the following people and agencies for the use of their photographs throughout this report.

Cover

- Maine Lobstermen's Association

Title page

- flickr/Scania Group, http://tinyurl.com/hrxutkq

Page 3 (from top to bottom)

- Fishery Management Plan Coordinator Kirby Rootes-Murdy with an Atlantic striped bass captured as part of the SEAMAP Winter Cooperative Tagging Cruise © ASMFC
- Maine Lobstermen's Association
- Fishing gear at sunset © NEAMAP
- Rod and reel used as part of the SEAMAP Hook and Line Tagging Survey © Tom Crews, USFWS

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- Commercial brailing for black sea bass © MA DMF
- Angler with a red drum © Captain Walter Bateman, www.carolinaguide.com
- Fishing gear © ASMFC
- Students conducting habitat restoration © NOAA

Pages 9-11

- ASMFC fish illustrations by Dawn Witherington, http://www.drawnbydawn.com/

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- Glass eels © Chris Bowser, NYS DEC

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- Hattie Train with a commercially-caught American lobster © Stephen Train
- Atlantic croaker captured as part of the Delaware River Seine Survey © NJ DEP

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- Purse seining for Atlantic menhaden © John Surrick, Chesapeake Bay Foundation

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- Atlantic striped bass captured as part of the SEAMAP Hook and Line Tagging Survey © Tom Crews, USFWS

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- From Left: Matthew Breece and Dewayne Fox with a large female Atlantic sturgeon captured as part of Delaware State University's (DESU) Spring Sturgeon Sampling Program. The female measured 8.6 feet in total length and weighed 260 pounds. Photo © DESU.

Pages 22 & 23 (from left to right)

- Juvenile black drum © SC DNR
- New Jersey record black sea bass reeled in by Steve Singler of Philadelphia, PA on December 12, 2015. The fish weighed in at 9 pounds and measured 27.5" in length and had a girth of 18.5" © NJ DEP
- Bluefish close-up © ASMFC

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- Tiger shark © Bryan Frazier, SC DNR

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- Juvenile horseshoe crab © Derek Perry, MA DMF
- Jonah crab © Derek Perry, MA DMF

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- Northern shrimp captured as part of the GOM Northern Shrimp Survey © Elaine Brewer, MA DMF

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- Young angler with a red drum © Captain Walter Bateman, www.carolinaguide.com
- Angler with scup © Mark Terceiro, NEFSC

Page 31

- Senior FMP Coordinator Mike Waine with an American shad © Mike Waine

Page 33

- Spiny dogfish captured as part of NEAMAP SNE/MA Trawl Survey © NEAMAP

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- Anglers with spotted seatrout © Chris Kalinowsky, GA DNR

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- Juvenile summer flounder captured as part of Maryland's Coastal Bay Survey © ASMFC
- Angler with tautog © Chip Lynch

Page 38 and 39

- Juvenile winter flounder © CT DEEP

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- Atlantic striped bass captured as part of the SEAMAP Winter Cooperative Tagging Cruise © ASMFC

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- Graph of survey coverage and sampled winter flounder by number and weight as part of the Maine/New Hampshire Inshore Trawl Survey © Maine/New Hampshire Inshore Trawl Survey

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- Mating horseshoe crabs © Gregory Breese, USFWS
- Northern shrimp being sampled as part of the GOM Northern Shrimp Survey © Elaine Brewer, MA DMF

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- Atlantic striped bass captured as part of the SEAMAP Winter Cooperative Tagging Cruise © ASMFC

Page 45

- Scientists attending stock assessment training workshop © ASMFC

Pages 46 & 47 (from top to bottom)

- Alewifes © Jerry Prezioso, NOAA Fisheries
- Bottom left: Nature-like rock weirs will allow for fish passage at the undersized Route 172 crossing on Patten Stream © Town of Surry.
- Bottom right: Cotton Gin Mill Dam, looking upstream © Cathy Bozek, The Nature Conservancy.

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- Data entry Cooperative State/Federal/Industry Bycatch Survey © ASMFC

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- Rod and reel used as part of the SEAMAP Hook and Line Tagging Survey © Tom Crews, USFWS

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Volume 25 Issue 1
February/March 2016

ASMFC FISHERIES focus

Vision: Sustainably Managing Atlantic Coastal Fisheries

INSIDE THIS ISSUE

ASMFC Spring Meeting

May 2-5, 2016

The Westin Alexandria
400 Courthouse Square
Alexandria, VA
703.253.8600

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, MAY 2

9 AM - 3:30 PM **American Lobster Management Board**

- Discuss Future Management of Southern New England American Lobster Stock
  - Address Tabled Motion to Initiate an Addendum to Address the Declining Stock Conditions
  - Reports from the Technical Committee and Plan Development Team
- Discuss Future Management for Gulf of Maine/Georges Bank American Lobster Stock
- Consider Final Action on Draft Addendum I to the Jonah Crab FMP
- Discuss Possible Action to Create a Coastwide Standard for Claw Landings in the Jonah Crab Fishery
- Update on Effort Control Measures for Jonah Crab Only Trap Fishermen in Rhode Island
- Update on the New England Fishery Management Council Deep Sea Coral Habitat Amendment and ASMFC Survey to Area 3 Fishermen
- American Lobster Law Enforcement Subcommittee Update on Offshore Enforcement and Trap Reduction Enforcement

2:30 - 3:30 PM **Atlantic Coastal Cooperative Statistics Program (ACCSP) Executive Committee**

- Program Update
- Update on the MRIP APAIS Transition
- Review and Approve Standard Operating Procedures Written in Response to the Independent Program Review
- Develop a Program Governance Recommendation
- Review Request for Proposals for the Upcoming Funding Cycle

Upcoming Meetings

March 29 (10 AM - 12:30 PM)
Horseshoe Crab Adaptive Resource Management Subcommittee Conference Call; go to http://www.asmfc.org/calendar/ for more details.

March 30 (1 - 3 PM)
Horseshoe Crab Alternative Bait Analysis Work Group Conference Call; go to http://www.asmfc.org/calendar/ for more details.

April 5 (1 - 3:30 PM)
Shad and River Herring Technical Committee and River Herring Stock Assessment Subcommittee Conference Call; go to http://www.asmfc.org/calendar/ for more details.

April 5 (3 - 4 PM)
Jonah Crab Advisory Panel Conference Call; go to http://www.asmfc.org/calendar/ for more details.

April 6 (1 - 4 PM)
Horseshoe Crab Advisory Panel Conference Call; go to http://www.asmfc.org/calendar/ for more details.

April 11 & 12
ASMFC Management & Science Committee and Assessment Science Committee, Hotel Monaco Alexandria, 480 King Street Alexandria, VA.

April 12 - 14
Mid-Atlantic Fishery Management Council, Montauk Yacht Club, Montauk, NY.

April 19 - 21
New England Fishery Management Council, Hilton Hotel, Mystic, CT.

May 2 - 5
ASMFC Spring Meeting, The Westin Alexandria, 400 Courthouse Square, Alexandria, VA.

May 9 & 10
ACFHP Science and Data Working Group, The Grand Hotel, 1045 Beach Avenue, Cape May, NJ.

May 10 & 11
ACFHP Steering Committee, The Grand Hotel, 1045 Beach Avenue Cape May, NJ.

May 12 & 13
ASMFC Habitat Committee, The Grand Hotel, 1045 Beach Avenue Cape May, NJ.

June 13 - 17
South Atlantic Fishery Management Council, Hilton Cocoa Beach Oceanfront, 1550 N. Atlantic Avenue, Cocoa Beach, FL.

June 14 - 16
Mid-Atlantic Fishery Management Council, Courtyard Marriott, Newark, DE.

June 20 - 24
ASMFC Technical Committee Meeting Week, committees and location to be determined.

June 21 - 23
New England Fishery Management Council, Holiday Inn by the Bay, Portland, ME.

August 2 - 4
ASMFC Summer Meeting, The Westin Alexandria, 400 Courthouse Square, Alexandria, VA.

August 8 - 11
Mid-Atlantic Fishery Management Council, Hilton, Virginia Beach, VA.

August 20 - 24
American Fisheries Society 145th Annual Meeting, Kansas City, KS.

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.

A New Initiative: ASMFC Kicks-off Socioeconomic Study on Atlantic Menhaden Commercial Fisheries

If you have attended or webcasted any Commission meetings since December 2012, you know Atlantic menhaden has garnered its share of interest from commercial, recreational, and conservation sectors alike. From the first coastwide quotas in 2013 to the encouraging findings of the benchmark stock assessment in 2015, the small but ecologically important fish has pushed Commissioners to think outside traditional management regimes.

The most recent example is a first-of-its-kind socioeconomic study that will describe the economic importance of the coastwide commercial fisheries for Atlantic menhaden (both bait and reduction). In 2014, approximately 170,000 metric tons of menhaden were landed on the Atlantic coast with an estimated value of over $33 million. However, the true impact to fishing communities and other species that depend upon menhaden as a food source remains the missing chapter of Atlantic menhaden's story. The primary objective of this study is to provide socioeconomic information to assist the Atlantic Menhaden Management Board as it considers alternative menhaden allocations in Draft Amendment 3 to the Interstate Fishery Management Plan.

The study's research deliverables were identified by the Commission's Committee on Economics and Social Sciences (CESS) using the general framework from a previous menhaden socioeconomic study on the reduction fishery conducted in the Chesapeake Bay region in 2011. CESS also worked closely with the Atlantic Menhaden Board Allocation Workgroup to address research needs. The project will gather information from stakeholders and state agencies on the fisheries (e.g., landings, value, participation, capacity utilization, fixed costs) and market (e.g., retailers/wholesalers, clients/purchasers, number/types of employees) to more thoroughly evaluate the socioeconomic value of Atlantic menhaden. The research team is headed by Dr. John Whitehead of Appalachian State University and Dr. Jane Harrison from North Carolina Sea Grant, both of whom have conducted extensive socioeconomic research in fisheries.

The commercial menhaden fishery is comprised of two sectors – reduction and bait. In the reduction fishery, menhaden are 'reduced' to produce fish oil and fish meal which are used in wide array of human and animal nutritional products. The bait fishery supplies menhaden to important commercial trap fisheries such as American lobster, while the small oily fish is also a favorite bait among recreational finfish anglers.

One of the primary challenges for this study will be characterizing the bait fishery. Information on landings and the economic importance of the bait fishery has not been as robust as that from the reduction fishery. However, existing data indicate the bait fishery accounts for a growing share of coastwide landings.

We live in exciting times for fisheries management and this study is just one example. The Commission is also exploring how menhaden management decisions may affect other species higher up in the food web. Socioeconomic and ecological studies are very valuable, but also very expensive. The Commission is grateful to NOAA Fisheries for identifying funding within its agency to enable the Commission to take a deeper look into the socioeconomic importance of Atlantic menhaden. In the future, the Commission hopes to secure additional resources to complete studies on the economic and ecological importance of other fisheries.

To view the proposal, please visit: *http://www.asmfc.org/files/Science/MenhadenSocioeconomicAnalysisProposal_Addendum_March2016.pdf*

Species Profile: Northern Shrimp

Resource Struggles to Rebuild in the Face of Unfavorable Environmental Conditions

Introduction

Historically, northern shrimp, *Pandalus borealis*, have supported a small but important fishery in the Gulf of Maine (GOM), with average annual landings valued at six million dollars per year since 1980. In recent years, the fishery has been closed early when landings approached the total allowable catch (TAC). Currently, the northern shrimp stock is considered collapsed, and has led managers to close the fishery for the third straight season.

As one of the last open access fisheries in the region, the northern shrimp fishery has provided opportunities for fishermen to target an alternative species when other fishing is unavailable or not economically viable. Participation generally increases as the season length or price increases. Additionally, the number of participants in the fishery has increased because of limited entry programs in other Northeast fisheries. Unfortunately, shrimp biomass has remained at all-time lows in recent years, thus raising concern over the influx of effort into the fishery. This concern led to the suggestion that access to the shrimp fishery should be restricted. Limited entry has been used in a number of fisheries to control effort, as well as stabilize landings so that harvesters and processors are better able to make informed business decisions from year to year. To address these concerns, Amendment 3 was initiated in 2014 to consider management options for limiting effort in the fishery.

Life History

Northern shrimp are found in boreal waters of the North Atlantic, North Pacific and Arctic Oceans. On the U.S. Atlantic coast, the Gulf of Maine (GOM) is considered the southernmost extent of their range, and concentrations generally occur in the western part of the Gulf where temperatures are the coldest.

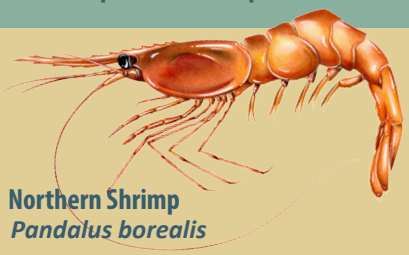
Northern shrimp are hermaphroditic, maturing first as males at roughly 2 ½ years of age and then transforming to females at about 3 ½ years. In the GOM, northern shrimp populations are part of a single stock. Spawning takes place in offshore waters during the late summer. Females extrude their eggs onto the abdomen and move into inshore waters in late fall and winter, where the eggs hatch. Larvae metamorphose to a juvenile state and remain in inshore waters for over a year before migrating to deeper waters where they mature as males and later transition to females. Females that survive their first egg hatch will repeat the process, living up to five years old and attaining a size of up to four inches in length. Northern shrimp are also an important link in the marine food web preying on both plankton and benthic invertebrates. In turn, northern shrimp are consumed by many commercially important fish species including cod, redfish, red and white hake, and pollock.

Northern shrimp abundance in the GOM appears to be closely correlated with ocean temperatures. Colder temperatures and higher spawning biomass tends to produce more recruits. Differences in size at age from year to year (and size at sex transition to some extent) have also been attributed to temperature effects, with more rapid growth rates at higher temperatures. Additionally, ocean temperatures appear to affect timing of the egg hatch, with the start of egg hatch occurring earlier in warmer years. This is of particular interest to managers because a better understanding of this relationship could allow them to set the start of the fishing season after majority of eggs have hatched, thus aiding rebuilding of the resource.

Commercial Fishery

For nearly four decades, the GOM northern shrimp have provided a small but valuable fishery to the New England states. In 2011, a year in which the TAC was exceeded, average price per pound was $0.75, with total landings valued at an estimated $10.6 million. The fishery has been characterized by drastic fluctuations in landings throughout its history and is seasonal in nature, peaking in late winter when egg-bearing females migrate inshore and ending in the spring under regulatory closure.

Species Snapshot



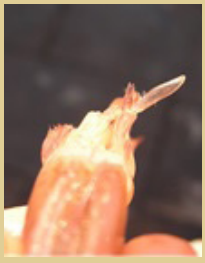
Northern Shrimp
Pandalus borealis

Stock Status: Collapsed and overfishing not occurring

Shrimp Facts:

- Northern shrimp first mature as males and metamorphose into females in their 3rd year.
- Most shrimp do not live more than 5 years.
- A spine located on the 3rd tail segment distinguishes northern shrimp from other pandalid species.
- The sex of a shrimp is easily determined by examining the first pleopod. A male has a characteristic spit with a serrated or two point top edge while a female has a single candle flame point.

Male: 2 points



Female: 1 point

The commercial fishery began in earnest in the late 1950s. By 1969, landings increased to a peak of 28.3 million pounds, of which 24.2 million pounds were landed by Maine vessels. New Hampshire vessels entered the fishery in 1966, but landings from New Hampshire were minor until the mid-80s. Landings by Massachusetts vessels were also insignificant in the 1960s, but the fishery developed rapidly in the early 1970s and by 1975 landings from Massachusetts vessels accounted for over 40% of the GOM total. Through the 1970s, total landings dropped precipitously to a low of 840,000 pounds in 1977. The fishery closed in 1978 due to stock collapse, and slowly reopened in 1979 at very low levels of harvest.

Landings fluctuated considerably throughout the next two decades, from a low of 734,000 pounds in 1980 to a high of 21 million pounds in 1996, then steadily declining again through 2002. In keeping with historic trends, the majority of the catch in those years had been taken by Maine vessels (76%), with Massachusetts vessels accounting for most of the remainder (17%). From 2003 to2006 landings were steady, averaging 4.6 million pounds. In 2007 and 2008, landings jumped to 10.8 and 10.9 million pounds, respectively, despite declining stock abundance since 2006. The 2010 to 2012 fishing seasons were closed early due to industry exceeding the TAC, and in 2013 landings were a mere 761,689 pounds. A complete moratorium was implemented in 2014, and again in 2015. This past December, the moratorium was extended through 2016.

The northern shrimp fleet is comprised of lobster vessels in the 30-45 foot range that re-rig for shrimping, as well as other trawlers well into the 55-80 foot range. The shrimp trap fishery has grown in recent years, accounting for over 45% of Maine's active vessels from 2006 to 2010. However, the otter trawl remains the primary gear deployed, and is typically chain or roller rigged depending on the type of bottom fished. There has been a recent trend towards the use of heavier and larger roller, or "rockhopper" gear. In addition to the introduction of electronic equipment (e.g., GPS, radars, and near real time data acquisition of sea surface temperatures and ocean bathymetry, among others), these innovations have substantially increased fishermen's ability to find and catch shrimp.

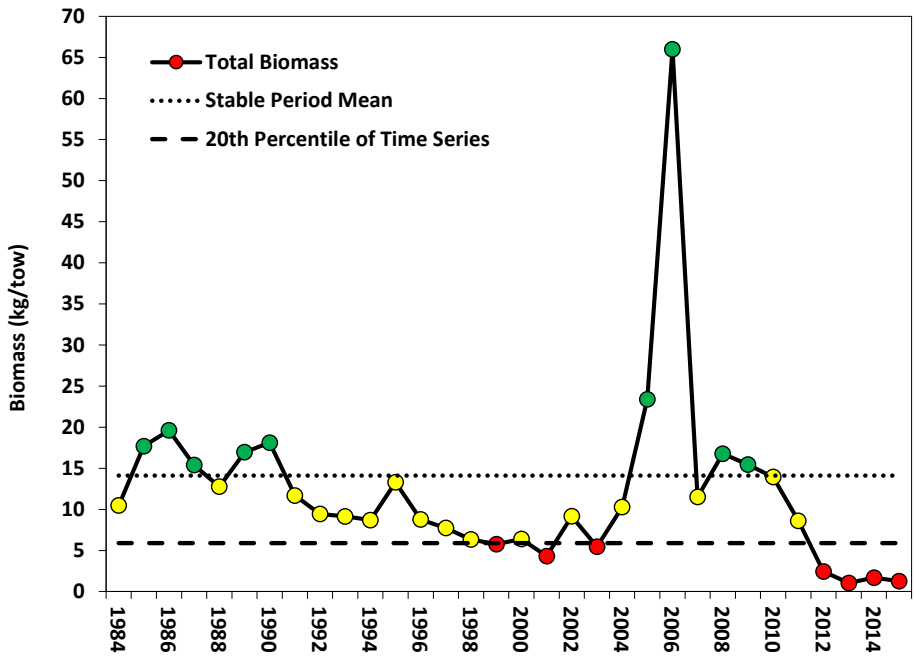
Status of the Stock

Historically, results of the catch-survey analysis (CSA) from the annual stock assessment for northern shrimp have guided management decisions for the fishery. In 2014, a benchmark assessment explored new analytic methods, including a new model and modifications to the existing CSA model. Due to extreme fluctuations in recent years, the models had difficulty fitting the data and thus were not approved for management use by the peer review panel. Therefore, all subsequent stock status reports do not present modeling results and instead use an index-based approach to evaluate stock status.

According to the 2015 stock status report, GOM northern shrimp populations continue to meet the criteria defining a collapsed stock. Abundance and biomass indices since 2012 are the lowest on record. The stock has also experienced failed recruitment for five consecutive years. As a result, the indices of fishable biomass from 2012 to 2015 are also the lowest on record. Recruitment of northern shrimp is related to both spawning biomass and ocean temperatures, with higher spawning biomass and colder temperatures producing stronger recruitment. Ocean temperatures in western GOM shrimp habitat have increased over the past decade and reached unprecedented highs in the past several years. While 2014 and 2015 temperatures were cooler, temperatures are predicted to continue rising as a result of climate change. This suggests an increasingly inhospitable environment for

continued, see NORTHERN SHRIMP on page 10

Total Biomass of Northern Shrimp from the Gulf of Maine Summer Shrimp Survey
Stock Status Report for Gulf of Maine Northern Shrimp, 2015



The graph represents the annual biomass index relative to the reference period (dotted line) and to the 20th percentile of the time series (dashed line). The reference period (1985-1994) is the time period during which the fishery experienced stable landings and value. Green dots are values that are equal to or above the stable period mean (SPM); red dots are values that are equal to or below the 20th percentile of the time series; yellow dots are values between the SPM and the 20th percentile.

Timeline of Management Actions: FMP ('86); Amendment 1 ('04); Amendment 2 ('11); Addendum I ('12)

Spring Meeting Preliminary Agenda (cont'd)

MONDAY, MAY 2

3:45 - 4:45 PM **ACCSP Coordinating Council**

- Program Update
- Update on the MRIP APAIS Transition
- Consider Approval of Standard Operating Procedures
- Review and Consider Approval of Governance Recommendations
- Review and Consider Approval of Request for Proposals for the Upcoming Funding Cycle

TUESDAY, MAY 3

8 - 10 AM **Executive Committee**

- Report of the Administrative Oversight Committee
- Presentation of the Fiscal Year 2017 Budget
- Discussion of ACCSP Governance
- Discussion of Plan Development Team Membership
- Future Annual Meetings Update

10:15 - 11:15 AM **Horseshoe Crab Management Board**

- Discuss Biomedical Data Confidentiality and Stock Assessment Planning
- Review of Alternative Bait Costs
- Update on Adaptive Resource Management Framework Review

11:30 AM - 12:15 PM **Shad and River Herring Management Board**

- Report from Data Standardization Workshop
- Update on Activities of the River Herring Technical Expert Work Group
- Stock Assessment Planning and Timetable for American Shad and River Herring Benchmark Assessments

Noon - 5 PM **Law Enforcement Committee**

- Update on Maine Lobster Trap Tag Transferability Program
- Discuss Lobster Offshore Enforcement Issues
- Review Tautog Tagging Program Options & Subcommittee Efforts
- Discuss Aerial Enforcement Issues and Subcommittee Efforts
- Review 2016 Action Plan Tasks for LEC
- Discuss Ongoing Enforcement Activities (Closed Session)
- Federal Agency Report Highlights
- State Agency Report Highlights
- Review and Discuss Additional ISFMP Species Issues (as needed)

1:15 - 3:45 PM **Climate Change Workshop**

4 - 5 PM **American Eel Management Board**

- Discuss Potential Options for Revisiting Yellow Eel Commercial Quota

6 - 8 PM **Annual Awards of Excellence Reception**

Public Comment Guidelines

In order to ensure a fair opportunity for public input, the ISFMP Policy Board has established the following guidelines for use at management board meetings:

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 26, 2016** 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 26th deadline, the commenter will be responsible for distributing the information to the management board prior to the board meeting or providing enough copies for the 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.

WEDNESDAY, MAY 4

8 - 10 AM — **Atlantic Menhaden Management Board**
- Consider Draft Addendum I for Public Comment
- Provide Guidance to the Technical Committee Regarding Stock Projections
- Consider 2015 FMP Review and State Compliance

8:30 AM - Noon — **Law Enforcement Committee (continued)**

10:15 - 11:45 AM — **Interstate Fisheries Management Program Policy Board**
- Executive Committee Report
- Management & Science Committee Report
- Assessment Science Committee Report and Approval of the Stock Assessment Schedule
- Atlantic Coastal Fish Habitat Partnership Report
- Law Enforcement Committee Report
- Consider Next Steps Relative to Climate Change and ASMFC Management
- Report on Commissioner Survey Follow-up
- Atlantic Sturgeon Benchmark Assessment Update
- Overview of the Sturgeon Research and Recovery Workshop Scheduled for May 16-19, 2016 (Coordinated by NOAA Fisheries)

1 - 5 PM — **Commissioner Parliamentary Workshop**

THURSDAY, MAY 5

8 - 10 AM — **Weakfish Management Board**
- Review and Consider Approval of the 2016 Weakfish Benchmark Stock Assessment for Management Use
- Discuss Next Steps for Management in Response to Assessment Results

10:15 - 11 AM — **Coastal Sharks Management Board**
- Review and Consider Approval of Draft Addendum IV (Smoothhound Dogfish) for Public Comment

10:15 - 11:45 AM — **South Atlantic State/Federal Fisheries Management Board**
- Review and Consider Approval of the 2016 Red Drum Benchmark Stock Assessment for Management Use
- Discuss Next Steps for Red Drum Management in Response to the Assessment Results
- Progress Update on Spot and Atlantic Croaker Benchmark Stock Assessments
- Review North Carolina Report on Spanish Mackerel Pound Net Landings as Required by Addendum I to the Omnibus Amendment for Spanish Mackerel, Spot, and Spotted Seatrout
- Elect Vice-Chair

2 - 2:30 PM — **Business Session**
- Review Noncompliance Findings (if necessary)

Larval Fish and Climate Change Research in National Estuarine Research Reserves

A team led by New Jersey's Jacques Cousteau National Estuarine Research Reserve (NERR) conducted a project to engage researchers and fisheries managers in a collaborative effort to share data about the impact of climate variations on fisheries and coastal ecosystems along the Atlantic coast.

In partnership with Rutgers University and NERR sites in NY, NJ, SC, NC, and ME, the project created an online portal for scientists and fisheries managers to share long-term data sets on larval fish recruitment and related environmental variables. The goal was to increase access to data that allows fisheries managers to evaluate climate change impacts when making management decisions.

Image of a larval left-eyed flounder. Photo (c) NOAA Fisheries.

Changes in environmental conditions can impact the spawning, growth, migration, behavior, and ultimately, survival of coastal fish. Some conditions, such as storm activity and salinity, may also be associated with a changing climate. Fisheries managers at the state, regional, and national levels need access to accurate long-term data sets to assess the impacts of climate variation on the sustainability of fish stocks. However, managers may be unaware of, or lack access to, the data they need. Conversely, fisheries scientists and oceanographers collecting these data may not know how best to provide the information to the decision makers who need it. For example, long-term environmental data on water quality, water chemistry, and atmospheric data are available through the NERR System-Wide Monitoring Program (SWMP), but in the past there has not been a portal for fisheries managers to link SWMP to larval fish recruitment data.

Image of a juvenile summer flounder. Photo (c) Jacques Cousteau NERR

This project addressed the data access gap by expanding an existing web-based data retrieval system provided by the Southeast Area Monitoring and Assessment Program (SEAMAP) to include larval fish data sets that previously were inaccessible to fisheries managers from the state agencies, ASMFC, and NOAA Fisheries. The project team used a collaborative process to ensure the online portal provides access to long-term regional trends in larval fish data, coupled with environmental changes.

The project sought to enhance fisheries management decisions by integrating long-term data sets on larval fish recruitment and related environmental variables, such as those provided by the NERR SWMP. These efforts are intended to increase our understanding of how environmental variation and climate change impact estuarine habitat and the early-life history of important fish stocks.

While the NERR project focuses on important recreational and commercial species, the team also evaluated the effectiveness of the portal approach for integrating data to support future ecosystem-scale fisheries management decisions. The team used a collaborative framework to facilitate information exchange between stock assessment scientists, fisheries managers, and data providers who work with NERRs. This framework included focus groups, online needs assessment surveys, and small group discussion.

Through the collaborative process, project partners established a better understanding of the data needs and output preferences for fisheries management. The project team also collected input on how to continue monitoring fish larva at four field sites in ME, NJ, NC, and SC, where they are recording environmental variables available from SWMP data. The team integrated the data on the SEAMAP website, overseen by SC DNR, into an online information system that facilitates sharing of fishery-independent data and other information. A beta version of the enhanced website was developed and tested by the team to evaluate the appeal and effectiveness of the online portal's design and usefulness of larval fish and environmental data content.

In collaboration with fisheries scientists at NJ DEP, NC DMF, SC DNR, NOAA Fisheries, and ASMFC, data from the long-term larval fish monitoring studies are being provided for potential use in stock assessments and ecosystem modeling applications. For more information on the project, please contact Patrick Campfield, Fisheries Science Director, at pcampfield@asmfc.org.

GARFO Authorizes eTrips/Mobile for Use in Electronic Trip Reporting

NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) announced that the Atlantic Coastal Cooperative Statistics Program's (ACCSP) eTrips/Mobile (eTrips/M), a mobile electronic vessel trip reporting (eVTR) application, has now been authorized for the purpose of eVTR submission in the Greater Atlantic Region (Maine through North Carolina).

Trip reports provide catch and effort data to state and federal agencies for use in fisheries management and stock assessments. eVTR allows fishermen to fulfill these reporting requirements electronically, expediting the reporting process, improving reporting accuracy, and producing near real-time landings and catch data that can be accessed by multiple state and federal agencies immediately.

ACCSP's eTrips/M takes eVTR a step further, enabling harvesters to work on and complete trip reports on a portable device that is capable of operating independently of a full-time internet connection, meaning fishermen can complete and submit reports while still at sea. Rick Bellavance, Captain of Priority Too and President of the Rhode Island Party and Charter Boat Association, describes the advantages of a mobile eVTR application, "Designed by fishermen and utilizing the latest technology, eTrips/M dramatically reduces our reporting burden while providing more accurate and timely industry data to the states, the ACCSP, and now GARFO. The eTrips/M application will increase data accuracy and make data available immediately to fisheries managers, improving their ability to respond to changes in the fishery in a more timely way."

eTrips/M is designed to work in both commercial and charter/headboat fisheries, and is free for anyone who wishes to use it in jurisdictions that have adopted electronic trip reporting through the Standard Atlantic Fisheries Information System (SAFIS). The app can be downloaded from the Apple, Android, and Microsoft app stores. eTrips/M training videos are available on the ACCSP website at www.accsp.org.

ACCSP Seeks Your Feedback on Ways to Improve SAFIS

The ACCSP is committed to delivering the best user experience for its SAFIS applications. In recent months, ACCSP has focused on enhancing user interface elements to make SAFIS easier to use on mobile devices. While these enhancements have been made to allow increased productivity, ACCSP still believes there is more room for improvement. Please help us enhance the application to improve the user experience by filling out the survey below for the SAFIS application you use; be sure to include any ideas for improvement or problems you have encountered have so ACCSP can provide its users with a better SAFIS experience.

eTRIPS: https://www.surveymonkey.com/r/SAFISeTRIPS
eDR: https://www.surveymonkey.com/r/SAFISeDR
e-1 Ticket: https://www.surveymonkey.com/r/SAFISe-1Ticket
SAFIS Managers: https://www.surveymonkey.com/r/SAFISManagers

If you are interested in testing the new interface after an initial prototype has been designed, please send an email to info@accsp.org or contact your partner agency.

ACCSP Happenings

Ali Schwaab

In March, the ACCSP welcomed Ali Schwaab as its new Outreach Coordinator. Ali will be responsible for overseeing the implementation of ACCSP's Outreach Strategic Plan, which includes producing the Program's annual reports and *Fisheries Files* quarterly newsletter, providing outreach to support partner applications, managing website content, and implementing the ACCSP social media strategy. Ali earned her Bachelor's degree in Environmental Science and Policy from the University of Maryland, College Park and her Master's degree in Coastal and Marine Resource Management at the University of Portsmouth in the United Kingdom. Ali is excited to begin her new role as ACCSP Outreach Coordinator, through which she hopes to communicate the value of ACCSP to stakeholders and strengthen relationships with ACCSP partners. Welcome to the Program, Ali!

Elizabeth Wyatt

In January, with the recent completion of her Master's in Marine Science from the University of New England and her proven track record as Program Assistant, Elizabeth Wyatt was promoted to ACCSP Program Coordinator. As Coordinator, Elizabeth provides staff support to ACCSP committees, including the Operations Committee and Coordinating Council, as well as help coordinate ACCSP's funding cycles from request for proposals, to proposal evaluation and ranking, to final proposal awards. Elizabeth is enthusiastic about her expanded role at the ACCSP and is committed to helping advance ACCSP's effort to be the principal source for fisheries-dependent information on the Atlantic coast. Congratulations, Elizabeth!

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.

NORTHERN SHRIMP continued from page 5

northern shrimp and the need for strong conservation efforts to help restore the stock.

Fortunately, the recruitment index increased slightly in the 2014 survey (2013 year class). Since landings are typically dominated by four and five year old shrimp, the 2013 year class could provide favorable conditions for a fishing season in the near future. Furthermore, the 2013 year class is comprised of uncharacteristically small females that are expected to spawn for the next three seasons, making them the primary contributors for rebuilding the stock in the long-term. Accordingly, a primary goal of the 2016 moratorium is to protect the 2013 year class and the future sustainability of the resource.

Northern shrimp being sampled on the Gulf of Maine Summer Shrimp Survey. Photo (c) Elaine Brewer, MA DMF

Atlantic Coastal Management

The GOM northern shrimp fishery has been managed by the Commission's Northern Shrimp Section (Section) since 1973, making it the longest running interstate management program on the U.S. Atlantic coast. The Section is comprised of the States of Maine, New Hampshire, and the Commonwealth of Massachusetts.

The first Fishery Management Plan (FMP) was implemented in 1986. The FMP established strict guidelines for a defined fishing season to be set annually by the Section and allowed for the use of gear limitations. Amendment 1, implemented in 2004, established biological reference points for the first time and expanded the tools available to manage the fishery. Amendment 1 resulted in a rebuilt stock and increased fishing opportunities. However, in the 2010 and 2011 fishing seasons, landings rates were far greater than expected, resulting in early seasonal closures and an overharvest of the recommended TAC.

Implemented in 2011, Amendment 2 responded to these issues and completely replaced the FMP. The Amendment provides management options to slow catch rates throughout the season, including trip limits, trap limits, and days out of the fishery. Additionally, Amendment 2 modifies the fishing mortality reference points to include a threshold level, includes a more timely and comprehensive reporting system, and allows for the initiation of a limited entry program to be pursued through the adaptive management process. Addendum 1 to Amendment 2, approved in 2012, further clarifies the annual specifications process, allocates the TAC with 87% for the trawl fishery and 13% for the trap fishery based on historical landings, and introduces a research set aside (RSA) provision which allows the section to "set aside" a percentage of the TAC to help support research on the northern shrimp stock and fishery.

A Cooperative Winter Sampling Program (program) was initiated during the 2014 moratorium. The intent of the program is to collect, in years of a moratorium, biological samples similar to those that might have been collected from commercial shrimp catches. These samples are used to estimate the winter size and sex-stage composition of the shrimp, and have informed annual stock assessments and subsequent management decisions for over thirty years. A handful of trawlers and trappers are selected at random and contracted to fish in the program. For the first time, the 2016 program, which is currently underway, permits the sale of shrimp as additional compensation. The Section approved the program with a 22 metric ton (~50,000 pounds) RSA quota, a 1,800 pound trip limit for trawlers, and a weekly trap limit of 40 traps and 600 pound limit per week for trappers.

The GOM northern shrimp population has experienced significant changes in recent years. Additionally, changes in other Northeast fisheries have resulted in increased effort in the northern shrimp fishery. This increased fishing pressure, paired with failed recruitment, the lowest abundance indices on record, and unfavorable environmental conditions, has resulted in uncertainties in the future of the resource. In 2014, to address these uncertainties, the Section initiated development of Amendment 3, which considers management measures to control effort and stabilize the fishery. Additionally, Amendment 3 seeks to improve the annual specifications process since current estimates of fishing mortality are not usable for establishing the TAC.

The Public Information Document for Draft Amendment 3 sought public comment throughout the winter and early spring of 2015. The Section reviewed public comment and the Advisory Panel's recommendations in June 2015, and further directed the Plan Development Team to develop limited entry and state-by-state allocation options for Draft Amendment 3. However, given the collapsed status of the stock and the fact that the fishery is currently under a moratorium, the Section decided to postpone further action on Amendment 3 so that additional management options can be explored. For more information, please contact Max Appelman, Fishery Management Plan Coordinator, at mappelman@asmfc.org.

President Obama's Fiscal Year 2017 NOAA Fisheries Budget Request

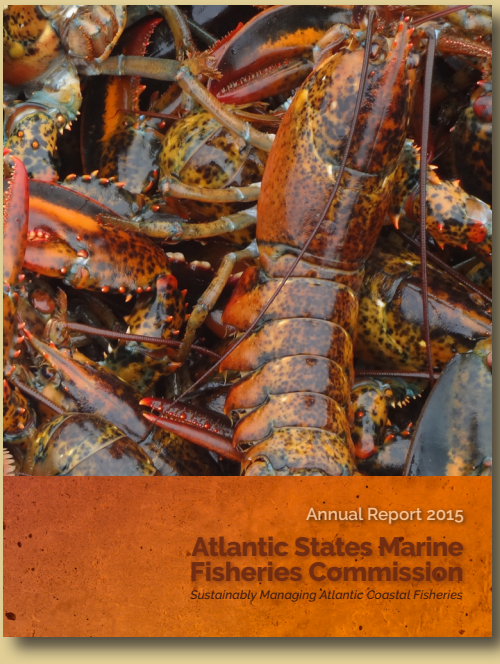
On February 9th, the President submitted his Fiscal Year 2017 Budget Request to Congress. It recommends slight increases for the "Regional Councils and Fishery Commissions" and "Interjurisdictional Fisheries Act." Fisheries Information Networks, Fisheries Statistics, and SEAMAP are funded through the "Fisheries Data Collections, Surveys and Assessments" line. Congress is currently negotiating a budget for Fiscal Year 2017 and will then move on to individual appropriations bills.

H.R. 3070 – The EEZ Clarification Act, Rep. Lee Zeldin (R-NY)

On March 16th, the House Natural Resources Committee held a markup for H.R. 3070. An amendment in the nature of a substitute was accepted that would "authorize the Secretary of Commerce, in consultation with the Commission, to allow and regulate recreational striped bass fishing in an area of the EEZ known as the Block Island Transit Zone." Possession of striped bass has been allowed, for the purposes of transit only, in the Block Island Transit Zone since 1996 but targeting stripers remains illegal.

For more information, please contact Deke Tompkins, Legislative Executive Assistant, at dtompkins@asmfc.org.

NOAA Fisheries Operations, Research, and Facilities (in $ thousands)		
	2017 Request	2016 Enacted
Protected Resources Science and Management		
Marine Mammals, Sea Turtles & Other Species	125,107	110,246
Species Recovery Grants	22,020	6,000
Atlantic Salmon	6,224	6,163
Pacific Salmon	63,420	60,000
Total, Protected Resources Science and Management	216,771	182,409
Fisheries Science and Management		
Fisheries and Ecosystem Science Programs and Services	150,169	139,489
Fisheries Data Collections, Surveys and Assessments	164,749	163,271
Observers and Training	45,153	43,655
Fisheries Management Programs and Services	121,895	115,995
Aquaculture	7,906	6,300
Salmon Management Activities	31,585	31,500
Regional Councils and Fisheries Commissions	34,254	33,470
Interjurisdictional Fisheries Grants	3,004	3,000
Total, Fisheries Science and Management	558,715	536,680
Enforcement	70,858	69,000
Habitat Conservation and Restoration	58,390	61,408
Total, National Marine Fisheries Service - ORF	904,734	849,497



2015 Annual Report Now Available

The Atlantic States Marine Fisheries Commission has released its 2015 Annual Report, which provides an overview of significant management actions and associated science activities the Commission and its member states took in 2015 to maintain and restore the abundance of Commission-managed species.

The Report reflects ASMFC Commissioners' commitment to accountability and transparency in all they do to manage and rebuild stocks under their care.

The report is available on the Commission website at www.asmfc.org under Quick Links or directly at http://www.asmfc.org/files/pub/2015AnnualReport_web.pdf

Atlantic States Marine Fisheries Commission
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Arlington, VA 22201

Return Service Requested

ASMFC Comings & Goings

Colonel James Kelley

In late February, Colonel James Kelley was named Acting Director of the North Carolina Division of Marine Fisheries, becoming the state's new Administrative Commissioner to the ASMFC. Colonel Kelley replaces Dr. Louis Daniel who served as Administrative Commissioner since 2007. Over his nine years as Commissioner, Dr. Daniel served as Commission Chair and Vice Chair, and as the chair of numerous species management boards including Weakfish, Atlantic Menhaden, Coastal Sharks, Horseshoe Crab and the South Atlantic Board. His passion and dedication to the Commission and marine fisheries management will be missed.

Colonel Kelley began his career with Marine Patrol in 1989 as a field officer patrolling the Belhaven area. He was promoted through the ranks to Sergeant, then Lieutenant, moving to Dare County, then the Wilmington Area. In 2008, Kelley was promoted to Captain of the Wilmington Marine Patrol District, and then to Marine Patrol Major in 2013. Colonel Kelley holds the distinction of being the only Marine Patrol Colonel in recent years to have held every Marine Patrol rank, rising from an Enforcement Officer 1 to Colonel. Welcome aboard, Colonel Kelley!

Leroy Young

This March, with his retirement from the Pennsylvania Fish and Boat Commission (PA FBC), Leroy Young stepped down as administrative proxy for PA FBC Executive Director John Arway. Mr. Young served as administrative proxy since 2004 and was an active member of all our diadromous species management boards. Mr. Young worked for PA FBC in various roles since 1981 and has served as Director of the Bureau of Fisheries since 2007. His work has included cold water, warm water, and diadromous fisheries management; and environmental protection related to hydropower development and water withdrawals. Besides serving on the ASMFC, Mr. Young represented the PA FBC on a number of interstate committees including the Mid-Atlantic Fishery Management Council, the Ohio River Fisheries Management Team, the Delaware River Fish and Wildlife Management Cooperative Policy Committee, and the Council of Great Lakes Fishery Agencies. We thank Mr. Young for his years of service to the Commission and wish him a healthy and happy retirement, filled with countless fishing opportunities.

NORTH CAROLINA'S COASTAL STRIPED BASS STOCKING PROGRAM
Frequently Asked Questions

Q: Why do we need to stock striped bass in coastal rivers?

A: Starting in the 1970s stocks of Atlantic striped bass in the Chesapeake Bay and the Roanoke River experienced unprecedented spawning failures. The cause of these annual spawning failures was overfishing, severely altered water flows during spawning time, and poor water quality caused by pollution from numerous sources. In an effort to support striped bass stocks and fisheries until successful natural reproduction could resume in the Roanoke, Tar/Pamlico, Neuse and Cape Fear rivers, the U.S. Fish and Wildlife Service, the N.C. Division of Marine Fisheries, and the N.C. Wildlife Resources Commission initiated striped bass stockings into these coastal systems in 1980.

Q: What are the goals of the striped bass stocking program?

A: The goal of the stocking program is to augment the striped bass spawning populations and fisheries in the Tar/Pamlico, Neuse and Cape Fear rivers until self-sustaining populations can re-establish themselves and stocking is no longer necessary. This goal has already been met in the Albemarle/Roanoke system. Estuarine striped bass in North Carolina are currently managed under Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan. Adopted in 2013, it is a joint plan between the N.C. Marine Fisheries Commission and the N.C. Wildlife Resources Commission. During the development of Amendment 1, the Central/Southern Striped Bass Advisory Committee developed the current goals and objectives of the stocking program. The advisory committee included scientists and citizens from all user groups. Public comment was also accepted. To read the North Carolina Estuarine Striped Bass Fishery Management Plan go to: http://portal.ncdenr.org/web/mf/fmps-under-development.

Q: Are the goals of the striped bass stocking program being met?

A: Yes and no. To evaluate if stocked fish contribute to the spawning population and fisheries, the N.C. Division of Marine Fisheries places internal anchor tags into 3,000 stocked fish in each river every year (total of 9,000 fish tagged annually). Tag returns have always indicated that stocked fish contribute to the spawning populations and to the fisheries, but the exact contribution of hatchery fish to the total striped bass population cannot be determined from tagging alone. Starting in 2010 genetic techniques were employed to better calculate the contribution of stocked fish to the total striped bass population in all three systems. The technique is very similar to the way scientists determine the biological parents of a child. Each year, a fin clip is taken from the fish that are used to produce the offspring that will be stocked later that year. The DNA of those parents is then sequenced. In subsequent years, biologists can compare the DNA of the parent fish to that of another fish and positively identify if it is of hatchery origin. Results so far indicate that nearly 100 percent of the fish returning to the spawning grounds are of hatchery origin. In 2016 and 2017 fin clips will be collected from fish harvested in the commercial and recreational fisheries. The results will show a more complete idea of the hatchery contribution to the total striped bass population in the Central/Southern systems. Things are different for the Albemarle/Roanoke stock. In 1980, the program began stocking in the Albemarle Sound to augment the Albemarle/Roanoke striped bass stock. In 1993, the Albemarle/Roanoke striped bass stock began successful natural reproduction again. After several years of successful spawns, stocking in the Albemarle Sound ended in 1996. In 1997, the Albemarle/Roanoke stock was declared recovered and stocking is no longer necessary.

Q: Why did the Albemarle/Roanoke striped bass stock recover and not the Central/Southern striped bass stocks?

A: The N.C. Wildlife Resources Commission, the U.S. Fish and Wildlife Service and the N.C. Division of Marine Fisheries coordinated with Dominion Power, the U.S. Army Corps of Engineers and other stakeholders to develop and implement a regime that provides water flow conditions as close to natural as possible in the Roanoke River during spawning season. Sufficient water flow is necessary to allow striped bass eggs to successfully hatch and be transported down the river to nursery areas in western Albemarle Sound. The flow regime also eliminated the large, daily fluctuations in water flow known as "hydropeaking" during spawning season. These changes increased the likelihood of successful reproduction of striped bass in the Roanoke River. The same flow regime agreements are not in place for the Tar/Pamlico, Neuse, and Cape Fear rivers.

Q: Would the Central/Southern striped bass stocks recover if harvest was not allowed?

A: Although harvest is a critical component in the abundance of any fish stock, it is often not the most important factor in the cause of stock declines and poor annual spawning success. This is especially true for fish like striped bass that rely on coastal rivers for spawning habitat and the estuaries for juvenile nursery habitat. There has been a harvest moratorium on striped bass in the Cape Fear River since 2008. While the total stock abundance and the abundance of older fish in the Cape Fear has increased, there have been no signs of improvement in annual spawning success. Important factors in the decline of Central/Southern striped bass stocks include loss of spawning habitat due to dams, poor water quality from residential pollution, industrial and agricultural development and severely altered water flow regimes during the spring spawning season. Learn more about the critical role of habitat in supporting sustainable fisheries in the Coastal Habitat Protection Plan: http://portal.ncdenr.org/web/mf/habitat/chpp/downloads.

Q: How many striped bass are stocked in which coastal rivers each year?

A: Striped bass have been stocked in North Carolina's coastal rivers at various sizes and numbers for decades. From 1980 to 2007, 200,000 Phase II (6 to 8 inches long) striped bass were stocked into the Tar/Pamlico, Neuse, and Cape Fear rivers each year. The fish were stocked on a rotating basis, so each year, two of the three coastal rivers would receive 100,000 hatchery reared striped bass. Beginning in 2008, the total number of fish stocked increased to 300,000, with each river receiving 100,000 hatchery reared fish each year.

Q: Are hybrid striped bass used in the coastal stocking program?

A: No, hybrid striped bass are not stocked into North Carolina's coastal rivers. In fact, hybrid striped bass have never been stocked into coastal rivers. However, hybrid striped bass often escape from striped bass aquaculture facilities located in the coastal plain, usually due to a hurricane or severe storm event. Sampling of striped bass from the commercial and recreational fisheries reveals that in the years following such an escape, hybrid striped bass compose a large portion of recreational and commercial harvest in the areas closest to where the escape occurred.

Q: Who is responsible for stocking striped bass in North Carolina's coastal rivers?

A: The U.S. Fish and Wildlife Service and the N.C. Division of Marine Fisheries entered into a cooperative agreement in 1980 to stock Phase II (6-8 inches long) striped bass in the Albemarle Sound and in the Tar/Pamlico, Neuse and Cape Fear rivers. Currently the striped bass stocking program is a cooperative agreement between the U.S. Fish and Wildlife Service, the N.C. Division of Marine Fisheries, and the N.C. Wildlife Resources Commission. The Watha State Fish Hatchery (operated by the N.C. Wildlife Resources Commission) provides fish for the Cape Fear River and the Edenton National Fish Hatchery (operated by the U.S. Fish and Wildlife Service) provides fish for the Tar/Pamlico and Neuse rivers.

Q: Who pays for the striped bass coastal stocking program?

A: Because the stocking program is a collaborative effort between the U.S. Fish and Wildlife Service, the N.C. Division of Marine Fisheries and the N.C. Wildlife Resources Commission, federal and state tax dollars from various sources help fund the stocking program. Striped bass that are raised at the Edenton National Hatchery are funded exclusively from the U.S. Fish and Wildlife Service's annual appropriated budget. Striped bass raised at the Watha State Hatchery are paid for primarily by the federal Wildlife and Sportfish Restoration Program and a smaller percentage from state recreational fishing license revenues. The tags and the monetary rewards given to people that return tags are paid by the N.C. Division of Marine Fisheries with federal Wildlife and Sportfish Restoration Fund money. Manufacturers, producers and importers pay an excise tax on many types of angling equipment and motorboats. A tax is also collected on boat engine fuel. This money then goes into the federal Wildlife and Sportfish Restoration Fund. The money is then divided among all the states based on the number of anglers in each state. To learn more about the program follow this link: http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SFR/SFR.htm

Q: How much does it cost to stock striped bass?

A: The cost varies annually, depending on the price of supplies, such as fuel and feed, and the total number of striped bass raised. In 2015 the estimated cost at the Edenton National Fish Hatchery to grow striped bass out to the Phase II (6 to 8 inches) size was $1.28 per fish.

Q: When will the striped bass stocking program in the Central/Southern river systems be reevaluated?

A: The most recent North Carolina Estuarine Striped Bass Fishery Management Plan was adopted by the N.C. Marine Fisheries Commission and the N.C. Wildlife Resources Commission in 2013. A review of the plan is scheduled to begin in 2018. Future striped bass management strategies in the Tar/Pamlico, Neuse and Cape Fear rivers, including the striped bass stocking program, will be a critical issue during the review process.

Q: Who should I contact if I have additional questions?

A:

N.C. Division of Marine Fisheries Charlton Godwin 1367 US 17 South Elizabeth City, NC 27909 252-264-3911 charlton.godwin@ncdenr.gov	N.C. Wildlife Resources Commission Kevin Dockendorf 252-335-9898 kevin.dockendorf@ncwildlife.org	U.S. Fish and Wildlife Service Stephen Jackson 1104 W Queen Street Edenton, NC 27932 252-482-4118 stephen_jackson@fws.gov

WRC Staff Recommendations for Management Actions in the CSMA - 2016

The goals of Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan (FMP) are to achieve sustainable harvest through science based decision-making processes that conserve adequate spawning stock, provide and maintain a broad age structure, and protect the integrity of critical habitats. The plan will consider biological, social, and economic factors in management of the fisheries. **The plan will be adaptive, involving regular reviews and responding to new information regarding any aspect of the plan** (FMP Section 12.1 Goals and Objectives, p 399)**.**

Given this stated commitment to an adaptive approach for management of North Carolina's estuarine striped bass fisheries, WRC staff encourages the Division of Marine Fisheries staff to initiate a formal and prompt review of the current management objectives for striped bass populations in the CSMA considering findings since FMP terminal year 2009 including:

1) Estimates of fishing mortality (F=0.71) from the 2014 Neuse River spawning grounds survey (Rachels and Ricks 2015) that continue to grossly exceed the CSMA recommended fishing mortality reference points of F_{TARGET}=0.25 and $F_{THRESHOLD}$=0.29 (FMP, 4.3.2). Total mortality (Z=0.86) also exceeds the 1994-2009 mean Z (0.59) as reported during estimation of catch curve exploitation rates for the Neuse and Tar rivers (FMP, Appendix 14.7). In addition, no improvements in mean daily CPUE or expansions of the age structure of spawning grounds samples in the Neuse River are apparent through the time series (1994-2015). Despite implementation of conservative harvest limits in 2008 as well as required distance from shore and tie-down modifications in the commercial fisheries, the lack of improvement in population characteristics suggests the management measures were largely ineffective at providing for self-sustaining populations and should be significantly modified.
2) Conclusive findings of hatchery contribution in the Neuse, Tar, and Cape Fear rivers that approach 100% for all cohorts stocked since 2010 based on a new genetic marking approach referred to as Parentage Based Tagging. Specific objectives for stocking striped bass into coastal river systems include attempts to increase spawning stock abundance while promoting self-sustaining population levels appropriate for various habitats and ecosystems (FMP, Striped Bass Stocking in Coastal Rivers, p 301). The likelihood that stockings were not augmenting populations but were instead sustaining them was not considered a possible outcome of the stocking program in Amendment 1. Barwick et al. (2008) in their evaluation of stocking contribution using oxytetracycline markers suggested "striped bass stocked in the Neuse and Tar river appeared to contribute little to the spawning stocks in these systems" (FMP, p 301); this conclusion has since been discounted due to poor mark efficacy. In addition, Rulifson (CRFL grant 2011-F-005) using otolith microchemistry to evaluate origin of striped bass cohorts primarily older than 2010 concluded striped bass populations in the Tar/Pamlico and Neuse rivers were predominantly of hatchery origin (88.4%).

Mortality rates that exceed management targets, significant contributions of hatchery fish, and the apparent absence of natural recruitment in CSMA rivers necessitate evaluation of management alternatives prior to the next scheduled amendment of the FMP (Fall 2018). Recent indications are that hatchery contributions are fully supporting a put-grow-take fishery in the Tar/Pamlico and Neuse rivers, and that self-sustainment is not an achievable goal as specified in Amendment 1 given the current level of excessive exploitation.

Division of Marine Fisheries Recommendations for
Estuarine Striped Bass Management Actions in the CSMA
April 19, 2016

The Division of Marine Fisheries (DMF) is charged with developing Fishery Management Plans (FMP) for adoption by the Marine Fisheries Commission for all commercially and recreationally significant species pursuant to General Statue 113-182.1. The FMPs are to be reviewed at least every five years. A supplement to a FMP may be initiated with approval of the Secretary of the Department of Environmental Quality if it is determined temporary management measures are needed to maintain the long-term viability of a fishery.

Amendment 1 to the North Carolina Estuarine Striped Bass FMP was approved by the Marine Fisheries Commission (MFC) and Wildlife Resources Commission (WRC) in 2013, and is scheduled for the comprehensive review of the FMP (including the Central Southern Management Area) to begin in 2018. Staff with the WRC have asked the DMF to consider an evaluation of management alternatives for the Central Southern Management Area (CSMA) prior to the next scheduled FMP amendment. The reasons given by WRC staff for the need of a supplement to the FMP are 1) estimates of fishing mortality from the 2014 Neuse River spawning grounds survey that exceed CSMA proxy fishing mortality reference points, 2) recent findings of hatchery contribution to the striped bass on the spawning grounds in the Tar/Pamlico, Neuse, and Cape Fear rivers that approach 100%, and 3) the apparent absence of natural recruitment in the CSMA. WRC staff indicated hatchery contributions are fully supporting a put-grow-take fishery in the Tar/Pamlico and Neuse rivers, and that self-sustainment is not an achievable goal as specified in Amendment 1 given the current level of excessive exploitation. DMF staff fully acknowledge the importance of the new information in future management of the CSMA but differ with WRC on the timeframe for action.

Staff with the DMF do not agree with the WRC's assessment of the urgency of these issues and the need for an immediate supplement, and feel the MFC schedule of an amendment to begin in 2018 is appropriate. Rationale follows:

- The stock assessment(s) conducted by the WRC on the Neuse River striped bass stock (Rachels and Ricks 2015) was not peer reviewed by external stock assessment scientists. This is outside of the normal operating procedure for DMF stock assessments used to guide fishery management decisions in the FMP process. The DMF stock assessments are required to pass peer reviews (minimum three reviewers) that accept the stock assessment results for management purposes.
- The 2015 WRC Neuse report (Rachels and Ricks 2015) identifies incorrect CSMA fishing mortality targets (F_{TARGET} 0.25 and $F_{THRESHOLD}$ 0.29). These values were changed with the adoption of the November 2014 Revision to Amendment 1, which documented the new Biological Reference Points derived from the Albemarle/Roanoke benchmark stock assessment. The current fishing mortality reference points are $F_{TARGET=}$0.33 and $F_{THRESHOLD=}$0.41.
- The 2015 WRC Neuse report (Rachels and Ricks 2015) identifies "cryptic mortality" as being greater than recreational or commercial mortality, and the cause of the disparity between fishing mortality estimates from two different stock assessment models referenced in the report, the Virtual Population Analysis (VPA) and the Catch Curve Analysis. These two models and the methods they use to estimate fishing mortality are completely different. Results from both models must be evaluated independently. One cannot simply presume "cryptic mortality" must account for the differences in the estimates of fishing mortality derived from the two models. The fishing mortality estimates from the VPA ranged from 0.15 to 0.19, well below the current CSMA fishing mortality reference points.
- The conclusion of WRC staff that there have been no improvements in mean daily CPUE or expansions of the age structure run contrary to the results of the 2015 Rachels and Ricks Neuse River report which states there has been a steady increase in the CPUE of age 6+ fish on the spawning grounds since 2008, from 0.1 to 4.1 in 2014, an all-time high. These results coincide with the distance from shore and tie down modifications made in the commercial gill net fisheries in 2008.
- DMF staff agree with the genetic results from striped bass sampled <u>on the spawning grounds</u> in the Tar/Pamlico, Neuse, and Cape Fear rivers, that hatchery contributions are approaching 100%. However, the DMF believes it is critical to future management decisions to determine the percent hatchery contribution of striped bass throughout their entire range in the CSMA, especially in the commercial and recreational fisheries. DMF staff has collected fin clips from the commercial and recreational harvest in 2016 and will do so again in 2017. These samples will be analyzed by the same lab currently analyzing samples from the spawning grounds. Results of the hatchery contribution of striped bass to the commercial and recreational fisheries is a critical piece of information that must be obtained before discussion of future management strategies can begin.

For these reasons DMF staff feel maintaining the current timeline to begin an amendment to the North Carolina Estuarine Striped Bass FMP in 2018 is the best management strategy in order to have the full suite of new information for review. Both DMF and WRC staff since the passage of the Amendment 1 have been cooperating to address the identified research needs, and adhering to the adopted review schedule allows for comprehensive consideration of recent research results and the involvement of stakeholders through the Fisheries Reform Act guidance criteria.

Marine Fisheries Commission Rule Suspension Update- As of April 29, 2016
(In accordance with Division of Marine Fisheries Resource Management Policy 2014-2: Temporary Rule Suspensions)

New Suspension-Action Required
The following new suspensions occurred since the commission's February 2016 meeting. These suspensions are an action item on the May 2016 agenda and are subject to approval:

- **The following portion of Marine Fisheries Commission Rule 15A NCAC 03M .0516 COBIA is suspended:**
  Section (b) which reads:
  (b) It is unlawful to possess more than two cobia per person per day.

Suspension of portions of this rule allows the division to decrease the recreational harvest of cobia to one (1) fish per person per day. These changes were implemented in Proclamation FF-9-2016, effective February 27, 2016.

- **The following portion of Marine Fisheries Commission Rule 15A NCAC 03M .0503 FLOUNDER is suspended:**
  Section (i) (1), which reads:
  (1) The North Carolina season for landing ocean-caught flounder shall open January 1 each year. If 80 percent of the quota allocated to North Carolina in accordance with the joint Mid-Atlantic Fishery Management Council/Atlantic States Marine Fisheries Commission Fishery Management Plan for Summer Flounder is projected to be taken, the Fisheries Director shall, by proclamation, close North Carolina ports to landing of flounder taken from the ocean.

Suspension of portions of this rule allows the division to extend the Atlantic Ocean summer flounder season. This suspension was implemented in FF-23-2016, effective May 1, 2016.

Suspensions No Longer Needed Due to Rule Changes- No Action Required

- **Marine Fisheries Commission Rule 15A NCAC 03J .0103 GILL NETS, SEINES, IDENTIFICATION, RESTRICTIONS:**

This rule was amended effective April 1, 2016. Suspension of portions of the previous version of this rule were necessary to allow the division to decrease the total yardage of gill nets with a mesh length five inches or greater in order to manage the gill net fishery in accordance with the federal incidental take permits for sea turtles and Atlantic sturgeon. Due to the recent rule change, suspension is no longer needed.

Continuing Suspensions- No Action Required
The following rule suspensions have been approved on a continuing basis by the commission and no further action is required:

- **The following portion of Marine Fisheries Commission Rule 15A NCAC 03J .0501 DEFINITIONS AND STANDARDS FOR POUND NETS AND POUND NET SETS is suspended:**
  Section (e)(2), which reads:
  (e) Escape Panels:

(2) It is unlawful to use flounder pound net sets without four unobstructed escape panels in each pound. The escape panels shall be fastened to the bottom and corner ropes on each wall on the side and back of the pound opposite the heart. The escape panels shall be a minimum mesh size of five and one-half inches, hung on the diamond, and shall be at least six meshes high and eight meshes long.

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.

- **The following <u>portion</u> of Marine Fisheries Commission Rule 15A NCAC 03M .0519 SHAD is suspended:**
  Paragraphs (a) and (b) which read:
  (a) It is unlawful to take American shad and hickory shad by any method except hook-and-line from April 15 through December 31.
  (b) It is unlawful to possess more than 10 American shad or hickory shad, in the aggregate, per person per day taken by hook-and-line or for recreational purposes.

- **The following <u>portion</u> of Marine Fisheries Commission Rule 15A NCAC 03Q .0107 SPECIAL REGULATIONS: JOINT WATERS is suspended:**
  Paragraph (4) which reads**:**
  (4) Shad: It is unlawful to possess more than 10 American shad or hickory shad, in the aggregate per person per day taken by hook-and-line.

Suspension of portions of these rules allows the division to change the season and creel limit of American shad under the management framework of the North Carolina American Shad Sustainable Fishery Plan. These rules have been approved to be suspended indefinitely.

North Carolina Division of Marine Fisheries
Quota Monitoring
Landings Report

North Carolina Quota Monitored Species Reporting

Species currently under a quota monitoring requirement by the North Carolina Division of Marine Fisheries (NCDMF) include summer flounder, striped bass, black sea bass North of Cape Hatteras, spiny dogfish, and river herring. Seasons are opened and closed by proclamation as shown in the table below. Landings reports are updated weekly during the proclamation season.

2016 North Carolina Quota Monitored Landings

Updated 04/26/2016

Species	2016 Total Quota (LBS)	Quota for Winter Fishery	2016 Transfer	2016 Harvest	Winter Quota Remaining	Proclamation	Trip Limit (pounds)	Comments
2016 Summer Flounder	2,229,709	1,783,767	82,263	1,767,212	380,234	FF-21-2016	4,000	**Closes** 09/30/2016 at 6:00pm
2016 Black Sea Bass N of Cape Hatteras	297,315		1,823	170,871	124,621	FF-20-2016	1500	**Closes** 09/30/2016 at 6:00pm
2015/2016 Spiny Dogfish	7,276,052		0	2,308,222	4,967,830	FF-62-2015	per day: 20,000	**Closes** 04/30/2016 at 6:00pm
A.O. Striped Bass	360,360							
TRAWL	120,120		0	0	120,120			
SEINE	120,120		0	0	120,120	FF-57-2015	150 fish/day	Closes 3/31/2016
GILL NET	120,120		0	0	120,120	FF-64-2015	50 fish/day	Closes 02/14/2016
ASMA Striped Bass	137,500		0	103,909	33,591	FF-16-2016	10 fish/day	Closes 04/30/2016
CSMA Striped Bass	25,000			22,568	2432	FF-15-2016	10 fish/day	Closed 3/21/2016

*** All figures are in pounds unless otherwise noted**

For questions about quota monitoring or to report landings:

Permitted Species	FAX	E-mail Address	Telephone #
Striped Bass, River Herring	**252-264-3723**	LANDINGS@ncdenr.gov	800-338-7805
Summer Flounder, Black Sea Bass North of Cape Hatteras, Spiny Dogfish	**252-726-3903**	FLOUNDER@ncdenr.gov	800-682-2632

Year	Month	Species	Pounds	Dealers	Trips	Average (2007-2009)
2013	1	SOUTHERN FLOUNDER	2,942	42	276	7,713
2013	2	SOUTHERN FLOUNDER	896	37	254	4,617
2013	3	SOUTHERN FLOUNDER	4,387	57	682	23,512
2013	4	SOUTHERN FLOUNDER	16,697	93	1,177	68,389
2013	5	SOUTHERN FLOUNDER	49,629	123	1,778	122,514
2013	6	SOUTHERN FLOUNDER	79,203	137	2,127	154,090
2013	7	SOUTHERN FLOUNDER	119,720	150	2,839	170,387
2013	8	SOUTHERN FLOUNDER	124,177	147	2,685	201,862
2013	9	SOUTHERN FLOUNDER	416,097	161	3,631	396,301
2013	10	SOUTHERN FLOUNDER	883,476	172	5,512	781,717
2013	11	SOUTHERN FLOUNDER	483,762	121	2,589	392,150
2013	12	SOUTHERN FLOUNDER	5,288	12	27	37,303
2014	1	SOUTHERN FLOUNDER	2,978	29	183	7,713
2014	2	SOUTHERN FLOUNDER	1,823	29	285	4,617
2014	3	SOUTHERN FLOUNDER	3,430	43	677	23,512
2014	4	SOUTHERN FLOUNDER	18,997	71	933	68,389
2014	5	SOUTHERN FLOUNDER	16,001	93	681	122,514
2014	6	SOUTHERN FLOUNDER	80,142	123	1,988	154,090
2014	7	SOUTHERN FLOUNDER	84,702	141	2,148	170,387
2014	8	SOUTHERN FLOUNDER	105,208	137	2,204	201,862
2014	9	SOUTHERN FLOUNDER	404,143	153	3,588	396,301
2014	10	SOUTHERN FLOUNDER	634,514	146	3,436	781,717
2014	11	SOUTHERN FLOUNDER	320,773	121	1,991	392,150
2014	12	SOUTHERN FLOUNDER	800	5	7	37,303
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	20,824	88	1,074	68,389
2015	5	SOUTHERN FLOUNDER	42,454	117	1,282	122,514
2015	6	SOUTHERN FLOUNDER	53,838	116	1,482	154,090
2015	7	SOUTHERN FLOUNDER	42,805	106	1,144	170,387
2015	8	SOUTHERN FLOUNDER	43,842	111	1,151	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	301,489	90	1,755	392,150
2015	12	SOUTHERN FLOUNDER	89	7	10	37,303
2016	1	SOUTHERN FLOUNDER	14,874	33	266	7,713
2016	2	SOUTHERN FLOUNDER	6,990	31	288	4,617
2016	3	SOUTHERN FLOUNDER	6,174	34	610	23,512
2016	4	SOUTHERN FLOUNDER	***	2	39	68,389

2016 data are preliminary and only complete through February.
***data are confidential

Red Drum Landings 2014-2016

Landings are complete through February 29, 2016
2015 Landings are final; 2016 landings are preliminary

Year	Month	Species	Pounds	2009-2011 Average	2012-2014 Average
2014	9	Red Drum	34,775	28,991	35,471
2014	10	Red Drum	36,425	43,644	59,757
2014	11	Red Drum	16,375	14,318	28,619
2014	12	Red Drum	2,995	3,428	3,401
2015	1	Red Drum	1,961	5,885	1,364
2015	2	Red Drum	3,009	3,448	3,176
2015	3	Red Drum	3,913	5,699	2,957
2015	4	Red Drum	12,703	7,848	3,945
2015	5	Red Drum	10,617	13,730	9,222
2015	6	Red Drum	7,640	12,681	7,432
2015	7	Red Drum	5,081	13,777	15,555
2015	8	Red Drum	5,395	21,252	16,910
Fishing Year (Sept 1, 2014 - Aug 31, 2015) Landings			**140,889**		

Year	Month	Species	Pounds	2009-2011 Average	2012-2014 Average
2015	9	Red Drum	4,961	28,991	35,471
2015	10	Red Drum	18,815	43,644	59,757
2015	11	Red Drum	4,897	14,318	28,619
2015	12	Red Drum	1,398	3,428	3,401
2016	1	Red Drum	1,183	5,885	1,364
2016	2	Red Drum	1,679	3,448	3,176
2016	3	Red Drum	1,444*	5,699	2,957
2016	4	Red Drum	***	7,848	3,945
Fishing Year (Sept 1, 2015 - Aug 31, 2016) Landings			**34,380**		

*partial trip ticket landings only
***landings are confidential

Marine Fisheries
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: Braxton Davis
Sammy Corbett

FROM: Chris Batsavage, Protected Resources Section Chief/Special Assistant for Councils
Division of Marine Fisheries

DATE: April 29, 2016

SUBJECT: Protected Resources Section Update

OBSERVER PROGRAM

Tables summarizing observer coverage and protected species interactions from January through March 2016 are found in the briefing book. Finalized observer coverage estimates from the previous year (2015) are normally provided at the May Commission meeting, but final edits are still being made to the 2015 trip ticket data. Large mesh gill net observer coverage by management unit through February 2016 ranged from 0% to 55% and from 0% to 6% for small mesh gill nets. Overall large mesh gill net observer coverage for March was 8.2% and small mesh gill net observer coverage was 4.4%. Observer coverage estimates are based on the average number of gill net trips from prior years (2011 – 2014) because 2016 trip numbers are preliminary.

A total of one green sea turtle in large mesh gill nets was observed during the winter months (January – February) in 2016. This interaction occurred much earlier (January 4) in the calendar year than any other estuarine gill net sea turtle interaction documented by the division's observer program. A total of 3 live Atlantic sturgeon were observed in large mesh gill nets and 4 live Atlantic sturgeon from small mesh gill nets during the winter months in 2016. All of the Atlantic sturgeon interactions occurred in Management Unit A and the green sea turtle interaction occurred in Management Unit E. None of the protected species interactions were lethal.

A total of two live and one dead green sea turtle were observed in small mesh gill nets so far this spring (March – May) with the interactions occurring in Management Units B and E. A total of 6 live and 3 dead Atlantic sturgeon were observed in large mesh gill nets and one live Atlantic sturgeon from small mesh gill nets so far this spring. There was also a live Atlantic sturgeon interaction in a drift gill net. Drift gill nets are not covered under either Incidental Take Permit for Atlantic sturgeon or sea turtles. The Atlantic sturgeon interactions in large mesh gill nets occurred in Management Units A and E and the small mesh interaction was from Management Unit B. In addition, one shortnose sturgeon interaction occurred in a large mesh gill net in

Management Unit E. No self-reported interactions of sea turtles or Atlantic sturgeon from fishermen have occurred through April 2016.

MANAGEMENT UNIT CLOSURES

Management Unit A closed to large mesh gill nets on April 23, 2016 due to the allowed takes of dead Atlantic sturgeon from large mesh gill nets in this management unit for the spring season (March-May) being reached. The closure will remain in effect until May 31, 2016.

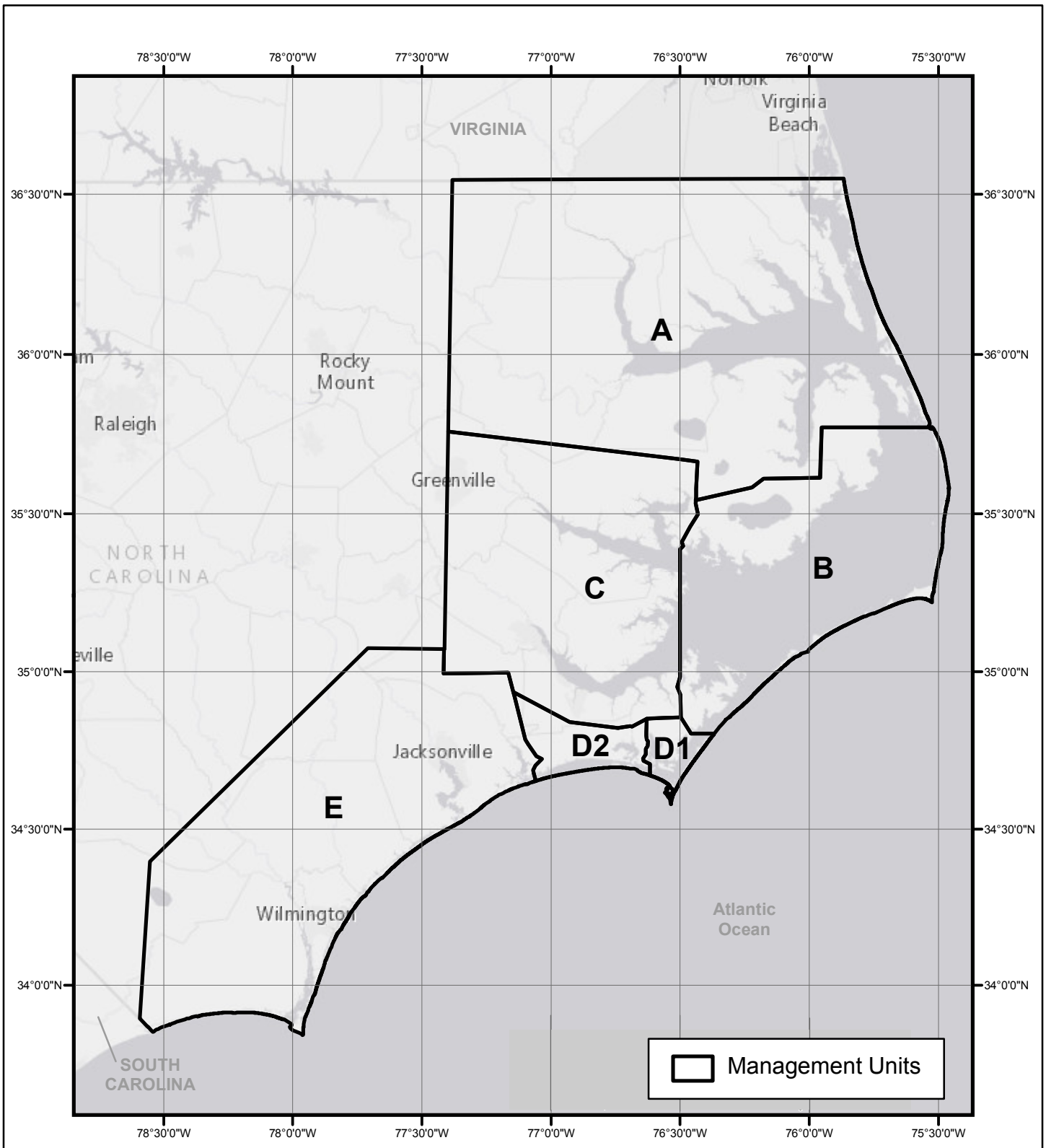
Management Unit D1 will close on May 8, 2016 to large mesh gill nets and will remain closed until at least October 15, 2016. This closure is a requirement of the Sea Turtle Incidental Take Permit.

Management Unit E on the Cape Fear and Northeast Cape Fear rivers upstream from Wilmington closed to large mesh gill nets on April 10, 2016 due to a shortnose sturgeon interaction and multiple Atlantic sturgeon interactions including a lethal take. Shortnose sturgeon are endangered but are not covered under the incidental take permits because of their rare occurrence in the state. The closure was implemented to avoid additional shortnose sturgeon interactions while the division works with the National Marine Fisheries Service on potential measures to address any future interactions.

Management Unit E will close to small mesh gill nets in early May due to reaching the allowed takes of green sea turtles on April 29. The closure will remain in effect until August 31, 2016.

INCIDENTAL TAKE PERMITS

Last fall, the division presented an issue paper to the Northern, Southern, and Sea Turtle Advisory Committees that explored potential amendment items to the sea turtle and Atlantic sturgeon incidental take permits. The division's Management Review Team reviewed the issue paper as well as the input received at the advisory committee meetings and recommended pursuing the large mesh gill net exemption in the upper Cape Fear River as an amendment item for both incidental take permits. However, due to the shortnose sturgeon interaction as well as three Atlantic sturgeon interactions this spring in the upper Cape Fear River from large mesh gill nets, the division will not be pursuing incidental take permit amendments for this exemption.



NCDMF ESTUARINE GILLNET PERMIT MAP

April 2015

0 12.5 25 50 Miles

Table 1. Preliminary data collected for large mesh gill nets by month through the NCDMF Observer Program through March 2016.

	Trips		Observer Large Mesh				Observed Takes By Species								
							Kemp's		Green		Loggerhead		Unknown	A. Sturgeon	
Month	Estimated [1]	Actual [2]	AP Attempts [3]	Trips	Yards	Coverage [4]	Live	Dead	Live	Dead	Live	Dead	Live	Live	Dead
January	308	524	48	22	10,400	7.1	0	0	**1**	0	0	0	0	**1**	0
February	597	743	49	43	16,655	7.2	0	0	0	0	0	0	0	**2**	0
March	2,007	1,215	75	164	101,048	8.2	0	0	0	0	0	0	0	**4**	**1**
Total	2,912	2,482	172	229	128,103	7.9	0	0	1	0	0	0	0	7	1

[1] Finalized trip ticket data averaged from 2011-2014

[2] Preliminary trip ticket data for 2016

[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 season and management unit through the NCDMF Observer Program through March 2016.

								Observed Takes By Species								
		Trips		Observer Large Mesh				Kemp's		Green		Loggerhead		Unknown	A.Sturgeon	
Season	Unit	Estimated [1]	Actual [2]	AP Attempts [3]	Trips	Yards	Coverage [4]	Live	Dead	Live	Dead	Live	Dead	Live	Live	Dead
Winter	A	699	1,176	53	37	17,960	5.3	0	0	0	0	0	0	0	**3**	0
	B	74	21	4	0	0	0.0	0	0	0	0	0	0	0	0	0
	C	103	36	20	13	7,140	12.7	0	0	0	0	0	0	0	0	0
	D1	0	0	1	0	0	0.0	0	0	0	0	0	0	0	0	0
	D2	3	1	1	0	0	0.0	0	0	0	0	0	0	0	0	0
	E	27	33	18	15	1,955	55.3	0	0	**1**	0	0	0	0	0	0
Total		905	1,267	97	65	27,055	7.2	0	0	1	0	0	0	0	3	0

[1] Finalized trip ticket data averaged from 2011-2014

[2] Preliminary trip ticket data for 2016

[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 through the NCDMF Observer Program through March 2016.

	Trips		Observer Small Mesh			Observed Takes By Species								
						Kemp's		Green		Loggerhead		Unknown	A. Sturgeon	
Month	Estimated [1]	Actual [2]	Trips	Yards	Coverage [3]	Live	Dead	Live	Dead	Live	Dead	Live	Live	Dead
January	643	462	28	14,055	4.4	0	0	0	0	0	0	0	**3**	0
February	589	735	28	15,320	4.8	0	0	0	0	0	0	0	**1**	0
March	914	718	40	18,515	4.4	0	0	**1**	0	0	0	0	**1**	0
Total	2,146	1,915	96	47,890	4.5	0	0	1	0	0	0	0	5	0

[1] Finalized trip ticket data averaged from 2013-2014

[2] Preliminary trip ticket data for 2016

[3] Based on estimated trips and observer small mesh trips

Table 4. Preliminary data collected for small mesh gill nets by season and management unit through the NCDMF Observer Program through March 2016.

		Trips		Observer Small Mesh			Observed Takes By Species								
							Kemp's		Green		Loggerhead		Unknown	A.Sturgeon	
Season	Unit	Estimated [1]	Actual [2]	Trips	Yards	Coverage [3]	Live	Dead	Live	Dead	Live	Dead	Live	Live	Dead
Winter	A	1,071	785	40	20,780	3.7	0	0	0	0	0	0	0	**4**	0
	B	409	242	2	1,780	0.5	0	0	0	0	0	0	0	0	0
	C	180	87	9	5,100	5.0	0	0	0	0	0	0	0	0	0
	D1	5	0	0	0	0.0	0	0	0	0	0	0	0	0	0
	D2	73	7	1	200	1.4	0	0	0	0	0	0	0	0	0
	E	70	76	4	1,515	5.7	0	0	0	0	0	0	0	0	0
Total		1,808	1,197	56	29,375	3.1	0	0	0	0	0	0	0	4	0

[1] Finalized trip ticket data averaged from 2013-2014

[2] Preliminary trip ticket data for 2016

[3] Based on estimated trips and observer small mesh trips

February 2016 Council Meeting Report

February 9 – 11, 2016

New Bern, NC

The following summary highlights actions taken and issues considered at the Mid-Atlantic Fishery Management Council's February 2016 meeting in New Bern, North Carolina. Presentations, briefing materials, and audio recordings are available on the Council's website at www.mafmc.org/briefing/february-2016.

Unmanaged Forage Fish

The Council considered recommendations from the Unmanaged Forage Fishery Management Action Team (FMAT), the Ecosystem and Ocean Planning (EOP) Advisory Panel (AP), and the EOP Committee regarding the Unmanaged Forage Omnibus Amendment. The Council's decisions and recommendations are summarized below.

- **List of Unmanaged Forage Taxa:** The Council adopted a list of unmanaged forage taxa to be included in the public hearing document for the amendment. The list, which contains more than 50 species and higher-level groupings such as families and orders, may be modified in the future based on input provided at public hearings and recommendations from NOAA Fisheries, the FMAT, advisors, and the EOP Committee. The Council considered but did not approve a motion to include an additional list with only those unmanaged forage species which make up at least 5% of the diet of a Council-managed predator as an alternative for consideration in the amendment.
- **Goal Statement:** The Council agreed to strike "recreational" from the goal statement; thus the amendment will henceforth focus on commercial fisheries for unmanaged forage species. However, recreational management measures will be added to the list of items which can be addressed through future framework adjustments.
- **Reporting of Unmanaged Forage Landings:** The Council unanimously passed a motion to develop an alternative that would require vessel and dealer reporting of landings of species included in the amendment. This addition is intended to address data gaps associated with certain forage species which are currently harvested but are not required to be reported through SAFIS or VTRs, such as round herring and Spanish sardines. The Council expressed a desire to work with the Northeast Fisheries Observer Program to improve documentation of observed catches of unmanaged forage species.
- **SSC Role:** The Council recommended that the SSC assist the Council in assessing available scientific information relating to any new or expanded directed fisheries for unmanaged forage species.

The Council expects to review and approve a public hearing document at the April 2016 meeting. Public hearings are tentatively scheduled to begin in May. Additional information and updates about the amendment will be posted on the Council's website at www.mafmc.org/actions/unmanaged-forage.

Scup Gear Restricted Areas

The Council reviewed management alternatives and advisor recommendations for a framework action to modify the scup Gear Restricted Areas (GRAs). The scup GRAs were first implemented in 2000 and are intended to reduce scup discards in small mesh fisheries during the spring and winter. The GRAs have been modified several times in response to requests from commercial fishermen. In recent years, several advisors have recommended further modification of the GRAs. Additionally, an analysis by the Northeast Fisheries Science Center suggests that relatively high scup discards have occurred in areas and times outside of the GRAs in recent years. After considering advisor recommendations and additional analysis by Council staff, the Council voted to add an alternative to the framework which would modify the boundaries of the southern scup GRA

based on a proposal developed by several members of the Council's Mackerel, Squid, Butterfish and Summer Flounder, Scup, Black Sea Bass Advisory Panels. The alternatives under consideration now include *status quo* alternatives, one alternative to modify the boundaries of the Northern GRA, several alternatives to modify the boundaries of the Southern GRA, and alternatives to eliminate one or both GRAs. The Council postponed final action on the framework until April 2016.

Ecosystem Approach to Fisheries Management

The Council received a progress report on development of the Ecosystem Approach to Fisheries Management (EAFM) Guidance Document. The guidance document is being developed to enable the Council to move from a single species management approach toward the development and implementation of assessments and management frameworks that incorporate environmental drivers, habitat and climate change, species interactions, and fleet interactions.

As part of the Council's EAFM discussion, Dr. Sarah Gaichas presented a draft white paper on ecosystem interactions. The paper synthesizes the presentations, discussions, and key outcomes from a workshop the Council convened in June 2015. The workshop and the white paper explore alternative pathways to incorporating species and fisheries interactions into the Council's fishery management policies and programs as part of the development of its EAFM Policy. The white paper includes a description of a framework and process for defining key questions, evaluating the adequacy of information and analytical tools to address the questions, and developing analyses to evaluate management strategies to achieve Council management objectives.

A draft of the EAFM Guidance Document is expected to be available for Council consideration at its April meeting.

Omnibus Industry Funded Monitoring Amendment

The Council adopted preferred alternatives for the omnibus portions of the Industry Funded Monitoring (IFM) Amendment. These alternatives provide an overall structure for IFM programs. In April the Council will consider identifying preferred alternatives for IFM specific to the Atlantic mackerel fishery, which will be followed by public hearings in May and final action at the June 2016 Council meeting.

Naming the Deep Sea Coral Protection Areas

The Council voted to name a new deep sea coral protection area in honor of the late Senator Frank Lautenberg, a five-term United States senator from New Jersey who was responsible for several important pieces of ocean conservation legislation. The proposed *Frank R. Lautenberg Deep Sea Coral Protection Area* encompasses more than 38,000 square miles of federal waters off the Mid-Atlantic coast. Senator Lautenberg was a champion for ocean stewardship and worked with particular determination to establish protections for deep sea coral ecosystems. He authored several provisions included in the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, including a discretionary provision which gave regional fishery management councils the authority to protect coral habitat areas from fishing gear.

Collaborative Research Committee

The Collaborative Research Committee met to discuss preliminary alternatives for the Council's long-term involvement in collaborative research (CR). After considering several broad approaches presented by staff, the Committee recommended a hybrid approach which would involve retaining RSA as an option for future consideration but moving forward with steps to improve coordination with NEFSC's Northeast Cooperative Research Program (NCRP). The Committee recommended establishing a technical working group with participants from MAFMC, NEFSC, and GARFO to develop an action plan and craft options for Council consideration at a meeting later in 2016. The working group will explore options for addressing MAFMC collaborative research needs more effectively through NCRP activities as well as options for reconfiguring RSA.

Ricks E Savage Award

Preston Pate was named this year's recipient of the Ricks E Savage Award. The award is given each year to a person who has added value to the Council's process and management goals through significant scientific, legislative, enforcement, or management activities. Preston Pate was appointed to the Council in 2009, following a distinguished 36-year career with the state of North Carolina. During his six years on the Council he participated on fifteen committees and served as the chairman of the Research Set-Aside Committee. During the presentation of the award, Council Chairman Rick Robins noted that Mr. Pate "had a tremendous impact on the region's fishery management programs and made outstanding contributions to the Council."

Other Business

Marine Recreational Information Program (MRIP): The Council received an update on implementation of improvements to MRIP, including changes in recreational data collection and catch and effort estimation methodologies. Council staff will be participating in the Atlantic Coastal Cooperative Statistics Program's (ACCSP) ongoing work to identify regional needs and priorities for data collection.

Fisheries Dependent Data Project: The Council initiated an omnibus amendment to address the regulatory changes needed to fully implement the Agency's Fishery-Dependent Data Visioning Project.

Improving Stock Assessments: Northeast Fisheries Science Center staff presented plans for an improved stock assessment process. Proposed changes are focused on improving transparency and collaboration, streamlining operational assessments and assessment updates, and incorporating climate change and ecosystem considerations into assessments.

Spiny Dogfish Trip Limits: In response to comments from the Atlantic States Marine Fisheries Commission, the Council voted to consider of a potential increase in the dogfish trip limit to 6000 lbs. at the April 2016 Council meeting.

MID-ATLANTIC
FISHERY MANAGEMENT COUNCIL

PRESS RELEASE

FOR IMMEDIATE RELEASE
April 19, 2016

PRESS CONTACT: Mary Clark
(302) 674-2331 (ext. 261)

Council Approves Changes to Scup Gear-Restricted Areas

During a meeting last week in Montauk, New York the Mid-Atlantic Fishery Management Council approved a framework action to modify the boundary of one of the region's two Scup Gear Restricted Areas (GRAs). The proposed change to the Southern Scup GRA boundary is expected to increase the availability of longfin squid to small-mesh fisheries.

The GRAs were implemented in 2000 and are intended to reduce discard mortality of juvenile scup. The current GRA regulations include a Northern GRA, which is effective from November 1 through December 31, and a Southern GRA, which is effective from January 1 through March 15. Trawl vessels which fish for or possess longfin squid, black sea bass, or silver hake (also known as whiting) are required to use mesh 5 inches or larger in the GRAs during those times of the year. The scup stock has expanded substantially since the GRAs were first implemented, and analysis conducted by scientists at the Northeast Fisheries Science Center indicate that the GRAs were partially responsible for this rebuilding.

The GRAs have been modified several times in response to requests from commercial fishermen. In recent years, advisors have recommended further modification of the GRAs to restore access to certain areas for longfin squid fishing, arguing that modifications to the GRA boundaries would not harm the scup stock

In response to an industry request, the Council initiated a framework action in 2014 to address potential changes to the scup GRAs. The framework considered a range of alternatives, including modifications to the GRA boundaries and elimination of one or both GRAs.

After a lengthy discussion of the impacts of the proposed alternatives, the Council voted to modify the boundary of the Southern Scup GRA. The proposed change, shown in Figure 1, is based on a proposal developed by members of the Council's Summer Flounder, Scup, and Black Sea Bass Advisory Panel.

"By increasing access to important fishing grounds, the Council balanced the concerns of the squid industry with the possible impacts on the scup stock," said the Council's Executive Director, Chris Moore. "If the modification is approved by NMFS, the Council will be working closely with NMFS to monitor scup discards to make sure that mortality of juvenile scup does not increase as a result."

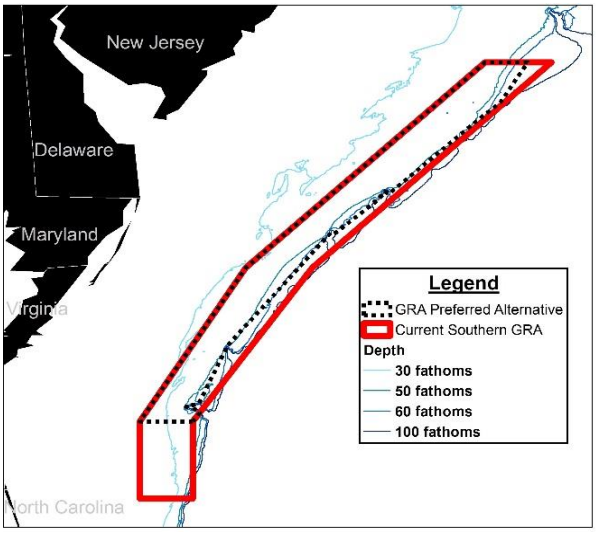


Figure 1. Proposed modification to the Southern Scup GRA boundary.

MID-ATLANTIC
FISHERY MANAGEMENT COUNCIL

PRESS RELEASE

FOR IMMEDIATE RELEASE
April 25, 2016

PRESS CONTACT: Mary Clark
(302) 674-2331 (ext. 261)

Federal Fishery Management Measures Approved for Blueline Tilefish in the Mid-Atlantic

The Mid-Atlantic Fishery Management Council has approved measures to establish management of blueline tilefish in Federal waters off the Mid-Atlantic and New England coasts. The Blueline Tilefish Amendment includes a suite of measures that will incorporate blueline tilefish as a managed species in the Tilefish Fishery Management Plan.

Blueline tilefish are managed by the South Atlantic Fishery Management Council from Florida to North Carolina, and there are currently no regular federal regulations north of the North Carolina/Virginia border. Last year, after catch of blueline tilefish off the Mid-Atlantic increased markedly, the Council requested that the National Marine Fisheries Service (NMFS) implement emergency measures to constrain landings of blueline tilefish in the Mid-Atlantic. These measures, which include a commercial trip limit of 275 pounds (gutted) and a recreational bag limit of 7 fish per person, are set to expire on June 3, 2016.

If approved by the Secretary of Commerce, the amendment would establish a separate blueline tilefish management unit in Federal waters north of the North Carolina/Virginia border extending up to the boundary with Canada. The management objectives for blueline tilefish would be the same as for golden tilefish, with the addition that "management will reflect blueline tilefish's susceptibility of overfishing and the need for an analytical stock assessment."

Based on the recommendation of its Scientific and Statistical Committee (SSC), the Council adopted an Acceptable Biological Catch (ABC) of 87,031 pounds for 2017. The Council voted to allocate 73% of total allowable landings to the recreational fishery and 27% to the commercial sector. This allocation was based on the median of annual commercial-recreational catch ratios from 2009-2013.

For the commercial fishery, the Council adopted a trip limit of 300 pounds gutted weight (head and fins must be attached). In addition, the amendment would require a joint golden/blueline tilefish open access commercial permit to retain blueline tilefish, subject to the applicable trip limit. Standard reporting of catch would be required for commercial vessels and dealers landing blueline tilefish.

For the recreational fishery, the Council recommended an open season from May 1 to October 31, when blueline tilefish are available to most anglers throughout the Mid-Atlantic. Recreational bag limits would be set at 7 fish per person for inspected for-hire vessels, 5 fish per person for uninspected for-hire vessels, and 3 fish per person for private vessels. In addition, the Council recommended mandatory permitting and reporting of golden and blueline tilefish for both for-hire and private recreational fishing in order to develop better information on recreational tilefish landings in the Mid-Atlantic.

"One of the challenges with developing this amendment has been the lack of data about the abundance and historical landings of blueline tilefish in the Mid-Atlantic," said Council Chairman Rick Robins. "As we transition from emergency management to regular management of the fishery, it will be important for us to seek continual improvement in information on the status, productivity, and catch of blueline tilefish off the Mid-Atlantic. The Council will be working to encourage progress on the research needs identified by our SSC

and will also be highly engaged in developing new information through the upcoming SouthEast Data, Assessment, and Review Assessment (SEDAR) for blueline tilefish."

The public will have an opportunity to comment on the measures recommended by the Council during the comment period associated with the NMFS proposed rule. Publication of the proposed rule is expected this summer.

Marine Fisheries
ENVIRONMENTAL QUALITY

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

BRAXTON DAVIS
Director

MEMORANDUM

TO: North Carolina Marine Fisheries Commission

FROM: Michelle Duval
Division of Marine Fisheries, DEQ

DATE: April 24, 2016

SUBJECT: South Atlantic Fishery Management Council Meeting (March 7-11, 2016)

The South Atlantic Fishery Management Council (Council) met in Jekyll Island, Georgia. The following is a summary of actions taken by the Council. The next meeting will be held in Cocoa Beach, Florida, June 13-17, 2016.

Protected Resources Committee

The Council received updates on various protected resources activities, including a notice of intent to consider additional regulations to reduce sea turtle bycatch in southeastern shrimp fisheries (Texas through North Carolina). Scoping meetings will be held throughout April, including April 13, 2016 in Morehead City. The final rule for North Atlantic right whale critical habitat became effective Feb. 26, 2106; the total critical habitat area is 8,429 square nautical miles and extends from Cape Fear shoals to south of Cape Canaveral. Formal consultation for the snapper grouper fishery was reinitiated due to the recommended actions in Snapper Grouper Regulatory Amendment 16 to modify the existing six-month black sea bass pot closure (approved by the Council in December 2015).

The Council also gave final approval of the Endangered Species Act Integration Agreement between NOAA Fisheries and the Council. The agreement establishes protocols and expectations regarding the level of council involvement in biological opinions.

Southeast Data, Assessment, and Review (SEDAR) Committee

This is the name of the stock assessment process in the southeast, and each Southeast, Data, Assessment and Review, or "SEDAR" is given a number. The Council received updates on the following stock assessment activities:

- *Blueline tilefish stock identification workshop*: The Council approved appointments for a stock identification workshop to be held in late June 2016 in advance of a new benchmark assessment for blueline tilefish (SEDAR 50). The workshop will consider the results of two complementary genetics studies that are being completed. Scientific and management representation from both northeast and southeast regions has been solicited so that both biological stock and management unit recommendations can be considered.
- *Red snapper/gray triggerfish benchmark stock assessments (SEDAR 41); golden tilefish update*: The Council's Scientific and Statistical Committee will be reviewing new benchmark stock assessments for red snapper and gray triggerfish conducted through SEDAR 41, as well as an update to the golden tilefish stock assessment, at their meeting in early May. The Council will subsequently receive the results of those reviews at its June 2016 meeting in Florida.

Dolphin Wahoo Committee

The Council received updates on the status of commercial and recreational landings, as well as the following amendments under review:

- *Dolphin Wahoo Regulatory Amendment 1:* This amendment was approved by the Council in December 2015 and is under review by NOAA Fisheries. It contains a single action to implement a commercial trip limit of 4,000 pounds whole weight once 75 percent of the commercial annual catch limit has been met.
- *Commercial dolphin fishery control date:* The Council approved a June 30, 2015 control date for the commercial dolphin fishery at its December 2015 meeting. The comment period on the control date ended March 7, 2016. A control date informs the public that the Council may consider limiting participation in the fishery in the future.

The Council discussed potential options to be included in an amendment that would establish a tool for temporary allocation shifts (transfers of quota) between commercial and recreational sectors. Consideration of a similar tool is ongoing in the Gulf of Mexico king mackerel fishery, and has been in place for the bluefish fishery managed by the Mid-Atlantic Council for some time. The Council will review the alternatives approved for scoping at its June meeting, as well as the list of items discussed in December 2015 for a comprehensive dolphin fishery amendment. The Council also discussed possibly including re-consideration of bag limit sales by properly licensed and permitted for-hire vessels in a comprehensive amendment.

Snapper Grouper Committee

The committee received updates on the status of commercial and recreational landings, as well as the following amendments under review:

- *Amendment 35 (removal of species and golden tilefish longline endorsement)*: Removes mahogany snapper, dog snapper, black snapper and schoolmaster snapper from the fishery management unit and closes a loophole in the regulations regarding golden tilefish commercial longline endorsement holders fishing on the golden tilefish commercial hook-and-line quota. Comments on the proposed rule were due April 4, 2016.
- *Regulatory Amendment 25 (blueline tilefish annual catch limit, black sea bass recreational bag limit, yellowtail snapper fishing year)*: Increases the annual catch limit, commercial trip limit and recreational bag limit for blueline tilefish; increases the recreational bag limit for black sea bass; and modifies the fishing year for yellowtail snapper. The proposed rule package is under review by NOAA Fisheries.
- *Regulatory Amendment 16 (black sea bass pot closure)*: Modifies the existing November-April prohibition on use of black sea bass pots to allow for limited access beyond certain depths. The proposed rule package is under review by NOAA Fisheries.

Amendment 37 (hogfish): This amendment contains actions related to hogfish in response to the recent stock assessment (2014) that determined there were two hogfish stocks: one from Georgia through North Carolina, and a second along the east coast of Florida through the Florida Keys. The Georgia-North Carolina assessment was rejected, while the assessment for the Florida stock indicates it is overfished and overfishing is occurring. The amendment includes actions to establish maximum sustainable yield, annual catch limits and accountability measures for each stock. It also includes actions to modify the minimum size limit and establish a recreational bag limit and commercial trip limit for each stock. It also establishes a rebuilding plan for the East Florida/Florida Keys stock.

The Council reviewed input from public hearings conducted in January 2016 and made modifications as needed. The preferred alternatives for the Georgia-North Carolina stock are: a minimum size limit of 17 inches fork length (commercial and recreational); recreational daily bag limit of two fish/person;

commercial trip limit of 500 pounds whole weight. For the east Florida stock, the preferred alternatives are: a minimum size limit of 16 inches fork length (commercial and recreational); recreational daily bag limit of one fish; recreational fishing season of July through October; commercial trip limit of 25 pounds whole weight. The Council will approve the amendment for secretarial review at its June meeting.

Amendment 41 (mutton snapper): This amendment contains actions pertaining to management of mutton snapper, in response to the latest stock assessment (2015). While the stock is not overfished and overfishing is not occurring, modifications to the annual catch limits are necessary based on a smaller estimated adult population size. The Council reviewed comments from scoping hearings conducted in January 2016 and made adjustments to the alternatives based on public input. The major management actions in this amendment include changes to the commercial and recreational harvest limits both during and outside of the spawning season, as well as an increase in the minimum size limit. The Council will review the revised analyses at its June meeting.

Amendment 36 (spawning Special Management Zones (SMZs)): This amendment contains actions to establish spawning Special Management Zones off North Carolina, South Carolina and Florida. The preferred alternatives for the site off North Carolina (five square miles well south of the Big Rock), and the sites off South Carolina (two artificial reef sites, as well as a 3.1 square mile site around Devil's Hole), and the site off south Florida (Warsaw Hole) remained unchanged. The Council also selected a 10-year sunset provision and a no-anchoring provision for all spawning Special Management Zones except the two artificial reef sites, and approved an evaluation plan. The amendment was approved for formal secretarial review.

Amendment 43 (future red snapper management): Council staff provided a review of existing red snapper data, including seasonality and size distribution of commercial and recreational harvest, to inform potential options for future management of red snapper. The Council is scheduled to receive the results of the new benchmark stock assessment (SEDAR 41) in June.

Visioning actions

In December 2015, Council members completed a survey to rank different amendment approaches and topics for a Visioning Amendment in 2016. The highest ranked was a Fishery Seasonality/Retention amendment. Additionally, the Council delayed consideration of Snapper Grouper Regulatory Amendment in 2015 until the Vision Blueprint was complete. This draft regulatory amendment included items that address several of the short-term management strategies identified in the Vision Blueprint. To prioritize items for inclusion in a Visioning Amendment, Council members were asked to complete another survey in February 2016 to rank specific management strategies on Fishery Seasonality/Retention and Sub-regional Approaches to Management. Council staff reviewed the survey results and the Council discussed which items to recommend for inclusion in the 2016 Visioning Amendment. The Council may choose to develop one or two amendments (dependent on the activity schedule that the Council approves). Options discussed included:

- Seasonality Amendment – shallow water grouper closure (all sectors)
- Recreational Amendment – aggregate bag limits; deepwater species (bag/size limits); start dates of fishing year; fishing season
- Commercial Amendment – aggregate trip limits; start dates of fishing year
- Retention Amendment – aggregate bag limits/trip limits (all sectors)

Mackerel Committee

Amendment 26 (king mackerel annual catch limits and stock boundary): This amendment would adjust the king mackerel annual catch limits based on the SEDAR 38 stock assessment. It includes actions to adjust the boundary between Gulf and South Atlantic stocks; allow for sale of king mackerel incidentally

caught in the directed shark gill net fishery by fishermen with federal commercial king mackerel permits; and establish split season quotas and trip limits for the Southern Zone (Florida east coast through South Carolina). The Council approved this amendment for secretarial review.

2016 Recreational Cobia Season: The 2015 recreational cobia harvest was estimated by NOAA's Marine Recreational Information Program to be 1.54 million pounds, approximately 910,000 pounds higher than the recreational annual catch limit of 630,000 pounds. The current recreational accountability measure for cobia states that if both the recreational and total annual catch limits (690,000 pounds) are exceeded in a particular year, and the stock is not overfished, then the following year's recreational season will be shortened to ensure that the annual catch target (500,000 pounds) is achieved. NOAA Fisheries published a Fishery Bulletin on March 9, 2016 stating the recreational cobia season for 2016 would close on June 20, due to the accountability measure being triggered. NOAA Fisheries staff gave a presentation on the harvest characteristics of the 2015 season that may have contributed to such high levels of harvest, including increased numbers of target and catch trips, and described the analysis used to determine the 2016 harvest season. Council staff provided a historical overview of the fishery as well as a review of the 2013 cobia stock assessment, which established a new stock boundary between the Gulf and Atlantic stocks at the Florida/Georgia border, and indicated a steady decline in spawning biomass over the last several years of the assessment period.

The Council discussed the significant negative economic impacts of the season reduction on the charter industry and associated businesses, and the disproportionate geographic impact on Virginia and northern North Carolina in particular. The Council also discussed the need for an update to the 2013 stock assessment (which included data through 2011), and gave staff direction regarding development of a framework amendment for cobia to prevent such a seasonal restriction from occurring in the future. Actions in the draft framework include: modification to the existing accountability measures; modification of the minimum size limit and recreational bag limit; consideration of a vessel limit; combinations of vessel/size/bag limit modifications; and a change in the start of the fishing year. The Council also approved a motion to request the Atlantic States Marine Fisheries Commission consider a complementary management plan for cobia in state waters, in order to provide the geographic flexibility necessary for equitable access to the resource. The Council will consider a draft framework amendment at its June meeting, and approve the draft for August public hearings. Final action is planned for September 2016 so that measures may be effective in early 2017.

Data Collection Committee

Bycatch Reporting: The Council received a presentation from NOAA Fisheries regarding the proposed rule on guidance for councils to develop a standardized bycatch reporting methodology. All of the fishery management councils have commented on the proposed rule, which will likely be revised significantly this summer. Additionally, the presentation included a review of existing bycatch accounting and reporting in the South Atlantic, along with suggestions to improve the reporting of bycatch for each of the Council's managed fisheries. Most of these improvements focus on electronic reporting. NOAA Fisheries recently introduce a draft national bycatch strategy, which is open for comment through June 3, 2016.

Commercial Electronic Reporting: The electronic version of the existing commercial logbook form being developed by the Atlantic Coastal Cooperative Statistics Program for voluntary use by fishermen is awaiting validation. Additionally, the commercial electronic logbook pilot program conducted by NOAA Fisheries has been completed, and feedback from fishermen is being incorporated. Fishermen were able to upload data via wi-fi at the dock, at home, or via a vendor's web portal. The pilot study showed greater accuracy and timeliness of catch data, and the technology allowed for fishermen to access specific trips to

review notes, etc. at a later date. Concerns about the hardware tested were mostly related to vessel size and configuration (e.g. exposed cabins).

South Atlantic For-Hire Electronic Reporting: The Council reviewed input received during January public hearings on the draft amendment. The intent of the amendment is to have charter boats reporting at the same frequency and for similar data elements as headboats (which have had electronic reporting in place since January 2013). The preferred alternatives are to require both headboats and charter boats to report weekly, by midnight of Tuesday following each reporting week; to require charter vessels to report all fish harvested and discarded, regardless of where fishing activity took place (current headboat requirement); and to require that catch location be reported in degrees longitude and latitude or by clicking on the headboat chard grid squares.

Given the need to coordinate with concurrent activities in the northeast regarding charter/for-hire vessel electronic reporting, and the delay in receipt of funds from the Atlantic Coastal Cooperative Statistics Program for the Council's pilot project to test tablet-based reporting software developed by Rhode Island charter captains, the Council voted to delay approval of the amendment until September. Regarding the pilot project, tablets are being sent to volunteers in each of the four southeastern states at the end of April to begin the testing process, and feedback will be incorporated into the draft amendment.

Citizen Science Workshop

The Council reviewed a draft blueprint for its Citizen Science program developed as a result of its Citizen Science Design Workshop held Jan. 19-21, 2016 in Charleston. The opportunity to contribute to data collection activities was a widely-expressed sentiment during the Snapper Grouper Visioning Process. The intent of a Citizen Science program is not to replace the existing NOAA Fisheries Cooperative Research Fund, but to supplement it by providing information that may be needed quickly and across large spatial or temporal scales. The Council's Citizen Science Organizing Committee is moving forward to develop important program components as well as "shovel-ready" pilot projects.

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MEMORANDUM

TO: Braxton Davis, Division of Marine Fisheries Director
Sammy Corbett, Marine Fisheries Commission Chairman

FROM: Randy Gregory
Division of Marine Fisheries

DATE: April 29, 2016

SUBJECT: Highly Migratory Species Update

The Highly Migratory Species Advisory Panel's spring meeting was held on March 29 - 31, 2016 in Bethesda, Maryland. The Advisory Panel discussed Amendments to the 2006 Consolidated Highly Migratory Species Fishery Management Plan including a review of implementation for Final Amendment 9 on smoothhound sharks and Amendment 10 on Essential Fish Habitat, including lemon shark aggregations off southeast Florida. Highly Migratory Species Fishery Management Division staff reviewed the upcoming 2016 Atlantic Highly Migratory Species Tournament Economics Survey involving all of North Carolina's billfish tournaments. The Advisory Panel discussed management measures from Amendment 7 regarding General category quotas and individual bluefin quotas in the pelagic longline category.

Sharks

On April 2, The Highly Migratory Species Fishery Management Division reduced the retention limit for the commercial aggregated large coastal shark and hammerhead shark management groups for directed shark limited access permit holders in the Atlantic region from 36 to 3 large coastal sharks. This adjustment was intended to promote equitable fishing opportunities in the Atlantic region, while still allowing the majority of quota to be harvested later in the year. The agency intends to increase the commercial retention limit around July 15, 2016, as this was the date used for recent prior season opening dates.

National Marine Fisheries Service completed comprehensive status reviews under the Endangered Species Act for common thresher shark (Alopias vulpinus) and the bigeye thresher shark (Alopias superciliosus). Based on the best scientific and commercial information available, including the status review report (Young et al., 2015), and after taking into account efforts being made to protect these species, the National Marine Fisheries Service determined the common and bigeye thresher do not warrant listing at this time.

Bluefin Tuna

The General category January sub-quota (49 metric tons) closed March 31. The Angling category fishery (recreational) for large medium and giant "trophy" bluefin tuna (measuring 73" or greater) in the southern area closed effective April 10, 2016, through December 31, 2016. The southern area is the area south of 39°18'N (off Great Egg Inlet, NJ) and outside the Gulf of Mexico.