

# **Committee Reports**

**November 2024 Quarterly Business Meeting**

## **Documents**

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Nominating Committee

Northern Advisory Committee

Southern Advisory Committee

Shellfish Advisory Committee



ROY COOPER  
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MARY PENNY KELLEY  
*Secretary*

KATHY B. RAWLS  
*Director*

Oct. 25, 2024

## MEMORANDUM

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

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

**SUBJECT:** South Atlantic Fishery Management Council Obligatory Seat for North Carolina

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### Issue

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

### Findings

The Marine Fisheries Commission's Nominating Committee forwarded the following individuals to the Marine Fisheries Commission for the South Atlantic Fishery Management Council Obligatory Seat:

#### South Atlantic Fishery Management Council Obligatory Seat

- Scott Buff, a commercial dealer and vessel owner from Brunswick County
- Jack Cox, a commercial fisherman, dealer and vessel owner from Carteret County
- Alana Harrison, a seafood business manager from Dare County
- Dewey Hemilright, a commercial fisherman from Dare County
- Thomas Newman, a commercial fisherman from Northeastern NC

### Action Needed

The commission needs to approve nominees for the N.C. South Atlantic Fishery Management Council Obligatory Seat.

For more information, please refer to:

- The draft minutes from the Oct. 17, 2024 Nominating Committee Meeting
- The nominees' biographies



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**MEMORANDUM**

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

FROM: Chris Batsavage and Jesse Bissette  
Division of Marine Fisheries, DEQ

DATE: Oct. 30, 2024

SUBJECT: Marine Fisheries Commission Nominating Committee Meeting Minutes

The N.C. Marine Fisheries Commission Nominating Committee met on Thursday, Oct. 17, 2024, at 6:00 p.m. at the N.C Division of Marine Fisheries Central District Office in Morehead City.

The following were in attendance:

Committee members: Sammy Corbett, Sarah Gardner  
Staff: Chris Batsavage, Jesse Bissette, Kathy Rawls, Carter Witten, Brian Gupton

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

**Motion by Commissioner Gardner to approve the October 9, 2023, meeting minutes as presented. Seconded by Commissioner Corbett.**

**Roll Call**

ROLL CALL VOTE				
Member	Aye	Nay	Abstain	Absent
Gardner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corbett	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Motion passed 2-0.**

**Public comment**

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

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

Batsavage briefly reviewed the N.C. General Statutes pertaining to the selection of nominees for federal fishery management council seats. He stated that the N.C. Marine Fisheries Commission must approve a slate of candidates for the governor’s consideration, and that the statutes allow the governor to consult with the commission regarding additions to the list of candidates. Batsavage also described the federal statutes and regulations pertaining to qualification of candidates and noted that the governor must submit



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a list of no less than three nominees for an appointment. The commission will review the list of candidates approved by the committee at its business meeting on Nov. 21-22, 2024.

**Review and selection of candidates for the South Atlantic Fishery Management Council obligatory appointment**

Batsavage reviewed the bios of the candidates for the South Atlantic Fishery Management Council obligatory seat, briefly describing the background and qualifications of each: Scott Buff, Jack Cox, Alana Harrison, Dewey Hemilright, and Thomas Newman. Batsavage noted that Mr. Tim Griner, the current N.C. Obligatory Member on the South Atlantic Fishery Management Council is completing his third consecutive three-year term and is not eligible for reappointment.

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

**South Atlantic Fishery Management Council Obligatory Seat**

**Motion by Sarah Gardner to forward the names of Scott Buff, Jack Cox, Alana Harrison, Dewey Hemilright and Thomas Newman to the Marine Fisheries Commission for consideration for the South Atlantic Fishery Management Council obligatory seat. Seconded by Sammy Corbett.**

**Roll Call**

ROLL CALL VOTE				
Member	Aye	Nay	Abstain	Absent
Gardner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corbett	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Motion passed 2-0.**

Meeting adjourned.

NC Marine Fisheries Commission

## **Committee Reports**

November 2024 Quarterly Business Meeting

# **South Atlantic Fishery Management Council Obligatory Seat**

## **Applicant Biographies**

Brian Scott Buff

Jack Cox

Alana Harrison

Francis D. Hemilright, Jr.

Thomas Newman

**Mr. Brian Scott Buff**

Southport, NC

Mr. Buff was born and raised in Morganton, NC, but grew up fishing the inshore and offshore waters of Brunswick County. In 1997, Mr. Buff found himself spending more and more time fishing. In 1998, Mr. Buff obtained his state and federal vessel permits, and started a commercial fishing business. In 2003, Mr. Buff purchased a new fishing adventure that included charter and commercial fishing boats, and holds a 100 ton Master's License for over 20 years. Mr. Buff holds around 15 federal vessel permits for snapper, grouper, dolphin/wahoo/king and Spanish mackerel. In addition to that he also has a seafood packing facility in Supply NC with a retail market where we pack other vessels in Brunswick County. Mr. Buff also owns a residential/commercial construction company for 22 years. Over the past several years, Mr. Buff has become more involved in management of the fishery and has been on the snapper grouper AP board several times. Mr. Buff attends numerous South Atlantic Council public hearings, including Snapper Grouper Visioning Project port meetings. He is dedicated to educating both fisherman and consumers about the wide variety of available seafood from North Carolina waters.

**Mr. Jack Cox**

Atlantic Beach, NC

Jack Cox is a commercial fisherman who has dedicated his life to sustaining and protecting fisheries. A native of North Carolina, Mr. Cox's experience in the fishing industry spans over forty years—evolving from an early childhood love of the ocean to a passionate career.

In 1980—at only 16 years old—Mr. Cox worked as a crew member on a prominent snapper grouper vessel in Morehead City, NC. Post-high school, Mr. Cox launched his career by selling his daily catch to Davis Fish Company in Morehead City, NC. By 1990, Mr. Cox had developed a successful reputation as a distinguished fisherman and was hired by Lucky International Seafood, Inc., to supply local restaurants in Eastern North Carolina, as well as buyers throughout the United States and Japan.

In 1992, Mr. Cox formed Crystal Coast Fisheries, Inc., an independent corporation that owned and operated several offshore fishing vessels that caught, packaged, and sold seafood throughout the United States. In 1996 Mr. Cox became a licensed charter boat captain and ran fishing charters out of Morehead City NC as well as Hatteras NC. In 2003, Mr. Cox expanded into the retail business by establishing with a partner Blue Ocean Market, LLC—a successful retail/wholesale seafood market in Morehead City, NC.

In 2012, after witnessing the decline of commercial fishing and the indifference towards sustainable fisheries, Mr. Cox became a founding partner of Seafood Harvesters of America, a non-profit organization based out of Washington DC. During his time with Seafood Harvesters of America, he worked with lawmakers and federal agencies to balance regulatory objectives within the fishing industry to promote sustainable fisheries. In addition to his work with Seafood Harvesters of America, Mr. Cox was also elected as a member of the North Carolina Marine Fisheries Fin Fish Advisory Committee in 2006); the South Atlantic Fishery Management Council LAPP Exploratory workgroup in 2006-2007; MREP program in 2008; The South Atlantic Snapper Grouper Advisory Panel in 2016-present); and Carteret Catch, a local organization which helps find, identify and enjoy North Carolina seafood landed by our local fishermen.

In 2013, Mr. Cox was elected and served as the commercial representative for the South Atlantic Fishery Management Council from 2013-2016. Currently, Mr. Cox continues to utilize his experience, passion and skill to educate and train the next generation of fisherman and local business owners. Holding five federal fishing permits, an extensive knowledge of dayboat hook and line fishing as well as multi-trip bandit fishing, Mr. Cox is an asset to both recreational and commercial interests.

**Ms. Alana Harrison**

Hatteras, NC

Ms. Alana Harrison manages her family's seafood business, Harbor House Seafood, located on the Outer Banks of North Carolina. In this role, she oversees daily operations, product sourcing, and marketing. Ms. Harrison grew up in Hatteras Village, where her family has been involved in the seafood industry since 1989.

In 2007, Harbor House opened to sell fish caught on the family's offshore boat, F/V Prowler, amid severe cutbacks to their top species, Snowy Grouper. With a hundred pound trip limit, they had to get more out of the fish than just fillets. They started making value-added products such as fish cakes, chowders, and frozen vacuum packed portions of fish, that customers loved. Demand grew so did their sourcing and distribution channels, but all fish remains locally caught by about a dozen federally permitted commercial boats from Hatteras and Wanchese.

Ms. Harrison has been active in fisheries management for several years, attending meetings and providing input at local, state, and federal levels. Since 2020, she has served as the commercial representative on the South Atlantic Council's Law Enforcement Advisory Panel and was recently appointed to the Mackerel/Cobia Advisory Panel. In 2023, she was appointed by the Council to the Dolphin Management Strategy Workgroup. Additionally, she has been the dealer representative on the Dare County Working Watermen Commission since 2018, advising local leaders on commercial fishery issues.

A lifelong learner, Ms. Harrison has engaged in many educational programs, including the Marine Resource Education Program (MREP) workshops in management and science during 2022-2023, as well as training through UNC-Chapel Hill's School of Government in 2021. Her participation in NC Sea Grant's Fish Camp in 2018 equipped her with valuable insights and tools for advocating for the fishing community.

In addition to fisheries management, Ms. Harrison actively takes part in community initiatives, including the Outer Banks Seafood Festival and Earth Day events. Since 2020, she has held an elected position as a Soil and Water Conservation Supervisor for Dare County. In this role she collaborates with county, state, and federal entities to manage a conservation program that improves local natural resources. Previously, she served as a board member of the Hatteras Village Civic Association for three years.

Ms. Harrison holds a Bachelor of Arts in Sociology from Wake Forest University and lives in Hatteras Village. Her passion for sustainable fisheries and community development inspires her work and commitment to the local fishing community.



To: Chair, Nominating Committee  
North Carolina Marine Fisheries Commission

Alana Harrison  
Hatteras, North Carolina

September 25, 2024

Re: Consideration for Appointment to the Obligatory Seat of the South Atlantic Fishery Management Council

Dear Nominating Committee,

I am writing to express my interest in the obligatory seat on the South Atlantic Fishery Management Council. With over 15 years of professional experience in North Carolina's commercial seafood industry combined with leadership roles in public sector conservation and fishery management, I am confident in my ability to contribute to the Council's mission of sustainable resource management. Coming from the Outer Banks - a top destination for sportfishing, coastal recreation, and commercial fishing - I understand the importance of healthy fisheries for all stakeholders.

As general manager of Harbor House Seafood, I oversee daily operations, product sourcing, and marketing. Our business is committed to selling only local fish, which we source from about a dozen boats including our own, F/V Prowler. Our top species are Snowy Grouper, Blueline Tilefish, Golden Tilefish, King Mackerel, Spanish Mackerel, Cobia, Dolphin, Wahoo, and Tuna. In addition to my professional experience, I grew up in a commercial fishing family and my brother now owns our father's offshore boat, so I have a deep understanding of the seafood supply chain and the regulatory frameworks governing it.

Additionally, my role on the Law Enforcement Advisory Panel for the South Atlantic Council has given me first-hand experience in providing guidance on fishery regulations, collaborating with federal agencies like the U.S. Coast Guard and NOAA Fisheries. In my role as District Supervisor for the NC Soil and Water Conservation Districts, I have gotten experience in conservation initiatives and natural resource management on a grassroots level.

I would be honored to serve North Carolina on the South Atlantic Fishery Management Council, thank you for considering my application.

Sincerely,

Alana Harrison

## ALANA HARRISON

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Hatteras, NC | [REDACTED]

### CAREER SUMMARY:

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Over 15 years of professional experience in North Carolina's seafood industry with extensive expertise in harvesting, processing, and retail sectors. An articulate and professional speaker with proven ability to communicate with stakeholders ranging from fishermen to consumers.

### WORK EXPERIENCE:

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#### Harbor House Seafood | Hatteras, NC

General Manager | May 2016 - Present

Manager | August 2010 - May 2016

- Manage daily operations, product sourcing, and marketing efforts.
- Perform market research and analyze competitors to effectively convey product value.
- Produce all digital content, including recipes, videos, photos, and blog posts.
- Design and oversee online platforms, including the website, online ordering system, and social media accounts.

### COMMUNITY INVOLVEMENT:

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#### Law Enforcement Advisory Panel, South Atlantic Fishery Management Council

Commercial Representative | June 2021 - Present

- Provide guidance to the Council regarding the enforceability of proposed fishery regulations.
- Maintain open communication with state and federal fishery enforcement agencies, including the U.S. Coast Guard and NOAA Office of Law Enforcement.

#### District Supervisor, NC Soil and Water Conservation Districts

Elected Official | January 2021- Present

- Collaborate with county, state, and federal organizations in a non-regulatory capacity to manage a conservation program to protect and enhance the county's natural resources.
- Attend monthly meetings to address issues such as soil erosion, flood damage, and water quality challenges in Dare County.

#### Dolphin Management Strategy Workgroup, NOAA Fisheries

Stakeholder Participant | January 2024 - Present

- Participate in bi-monthly working group meetings with scientists and regional stakeholders.
- Contribute insights on dolphin management performance, including the prioritization of management and research objectives.

#### Dare County Working Watermen Commission

Dealer Representative; Secretary | March 2019 - Present

- Provide recommendations to the Dare County Board of Commissioners regarding the proposed fishery regulations.

### EDUCATION:

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#### 2012 - 2016 | Wake Forest University

Bachelor of Arts - Sociology

- Completed extensive coursework in quantitative and qualitative disciplines, including research methods, social statistics, and sociological theory.
- Magnolia Scholar

**Mr. Francis D. Hemilright, Jr. “Dewey Hemilright”**

Kitty Hawk, NC

Mr. Hemilright is the owner of the 42-ft. F/V TARBABY with his homeport in Wanchese, NC. He has been commercial fishing for 35 years off the east coast, ranging from New York to Florida and has a wide range of fisheries experience. He has served on advisory panels for over 30 years for Highly Migratory Species (HMS), Dolphin-Wahoo (South Atlantic Fishery Management Council). He continues to participate in blue-line tilefish stock assessments, including SEDAR 32, 50, and currently ongoing 92. Mr. Hemilright holds permits to harvest tuna, swordfish, dolphin-wahoo, smooth dogfish, blue-line tilefish, golden tilefish, black sea bass and large coastal sharks, species which are mainly managed by the Mid-Atlantic Fishery Management Council, the South Atlantic Fishery Management Council, the Atlantic States Marine Fisheries Commission or the HMS Division of the National Marine Fisheries Service. He is a board member of the North Carolina Fisheries Association, the board of Blue Water Fishermen’s Association, and also serves on the Board of Responsible Offshore Development Alliance (RODA).

Mr. Hemilright completed 3 full terms and 2 years ending August of 2023, on the Mid-Atlantic Fishery Management Council and has been involved in the following council committees: Protected Resources, Law Enforcement, Highly Migratory Species, Spiny Dogfish, Demersal and Tilefish. He has also participated in collaborative research, most recently dusky sharks and blue-line tilefish. He also serves as Liaison to both SAFMC and NMFS/HMS division.

Mr. Hemilright has been involved in the USA ICCAT advisory panel since 2018 as appointed to serve also on the USA delegation to ICCAT attending yearly meetings both in person and on-line spending numerous and increasing hours of non-paid free time. Mr. Hemilright continues to advocate on behalf of the North Carolina Commercial Fishing Industry and is spreading awareness about sustainability and the importance of the fishing industry in North Carolina. He has previously been involved in an outreach program for K-12 students across the country for seven years through Provider Pals. He has compiled a presentation showcasing an array of photos from his years of fishing, including the unique sights of nature he has been privileged enough to capture. His presentation summarizes a day in the life of a commercial fisherman, and challenges students to think about all the logistics that are involved with operating a fishing vessel for a living. Mr. Hemilright has expanded his outreach program by teaming up with the N.C. Coastal Federation, sharing his lesson with over 400 middle school students living on the coast of North Carolina.

**Mr. Thomas Newman**

Williamston, NC

Mr. Newman is the owner/operator of the 40-ft. F/V Gotta Go with his homeport in Hatteras, NC. He has been commercial fishing for 30 plus years mostly in North Carolina but ranging as far north as scalloping in New York and has fished many seasons in Virginia gill netting for monkfish.

He is currently serving on the Mackerel Cobia Advisory Panel (South Atlantic Fishery Management Council), the Northern Regional Advisory Panel (North Carolina Division of Marine Fisheries), and the Weakfish and Coastal Sharks Advisory Panels (Atlantic States Marine Fisheries Commission). Mr. Newman holds permits and fishes for Spanish mackerel, bluefish, spiny dogfish, smooth dogfish, king mackerel, croakers, large and small coastal sharks and monkfish, species which are mainly managed by the Mid-Atlantic Fishery Management Council, the South Atlantic Fishery Management Council, and the Atlantic States Marine Fisheries Commission.

Mr. Newman also works part-time for the North Carolina Fisheries Association, is a member of the Coastal Carolina River Watch, serves on the Citizen Science Projects Advisory Team (SAFMC), and is involved in state and federal fisheries management issues working directly with fisheries managers and industry groups.



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KATHY B. RAWLS  
*Director*

Nov. 4, 2024

**MEMORANDUM**

TO: Marine Fisheries Commission  
Northern Standing Advisory Committee

FROM: Charlton Godwin, Biologist Supervisor  
Fisheries Management Section

SUBJECT: Meeting of the Marine Fisheries Commission's Northern Regional Advisory Committee, Sept. 24, 2024, to have conversation between the Division and the Advisory Committee on options available in the Blue Crab FMP through the Adaptive Management framework adopted in Amendment 3

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The Marine Fisheries Commission's (MFC) Northern Regional Advisory Committee (AC) held a meeting on Sept. 24, 2024, at the Department of Environmental Quality's Washington Regional Office, Washington North Carolina, and via webinar. AC members could attend in either setting to communicate with other committee members.

The following Advisory Committee members were in attendance in person: Sara Winslow, Keith Bruno, Wayne Dunbar, John Worthington, Roger Rulifson, Thomas Newman. The following members were in attendance online: Missy Clark, Everette Blake, Jamie Lane. (Absent: Carl Hacker).

Division of Marine Fisheries (DMF) Staff: Charlton Godwin, Dan Zapf, Robert Corbett, McLean Seward, Jesse Bisette, Hope Wade, Kathy Rawls, Colonel Carter Whitten, Jason Rock, Brandi Salmon, Captain Daniel Ipock?

Public: Vance Henries, Dana Beasley

The Northern Regional AC had six members present in person at the start of the meeting and a quorum was met.

Northern Regional AC Chair Sara Winslow called the meeting to order at 5:59 p.m. The full meeting can be viewed online [Northern AC Sept. 24, 2024](#).

**APPROVAL OF THE AGENDA AND MINUTES FROM PREVIOUS MEETING**

A motion to approve the agenda was made by John Worthington and seconded by Wayne Dunbar. The motion passed unanimously. Sara Winslow then turned the floor over to Jesse Bisette, MFC liaison, for an update on NC meetings of Boards and Commissions. Jessie indicated that the AC would not be voting to approve the minutes from the April 9, 2024 meeting at this time. On Aug. 6, 2024, the NC Court of Appeals



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found that for a quorum to be met, members must physically attend meetings to cast votes. Members attending virtually can still participate in meetings; however, they cannot vote on action items. While this case was from a ruling involving the Anson County Sheriff's Department, this will impact votes cast by members attending virtually tonight. The AC will vote on the approval of the April 9, 2024 minutes at a future meeting. We are working with legal and the Department of Justice now to determine if virtual votes are valid, particularly if one of the virtual votes is a deciding vote. Jessie asked that members attend the next meeting in person if possible. Fifty percent of the current members plus one, must be present for a quorum.

### **PRESENTATION OF BLUE CRAB FMP AMENDMENT 3 ADAPTIVE MANAGEMENT POTENTIAL OPTIONS**

Robert Corbett, lead biologist for blue crab, presented a brief history of blue crab management in North Carolina, the 2023 stock assessment update, and the adaptive management framework. In 2023, the division began updating the 2018 benchmark stock assessment with data through 2022. Results of the model update indicate trends in estimated recruitment, female spawner abundance, and fishing mortality were similar to the benchmark assessment; however, the maximum sustainable yield-based reference points used to determine stock status for both female spawner abundance and fishing mortality both drastically changed with the expanded time series. Due to the magnitude of the change in reference points, the division requested an external review of the updated stock assessment which was completed in December 2023. The reviewers identified concerns with model specifications and results. They strongly recommended resolving these issues before basing management decisions on assessment results. Suggestions provided by reviewers can only be incorporated through a new benchmark stock assessment. Given concerns with the updated assessment identified by the division and external peer reviewers, the division does not recommend using results of the 2023 stock assessment update to inform management decisions.

The original North Carolina Blue Crab FMP was adopted in December 1998 and Amendment 1 was adopted in December 2004. Following Amendment 1 was Amendment 2, which was adopted in November 2013. The Amendment 2 adaptive management framework relied on annual updates to the Traffic Light Stock Assessment which provided information on the relative condition of the blue crab stock. The traffic light stock assessment gets its name by assigning a color (red, yellow or green) to data trends in comparison to established reference points. Based on results of the traffic light assessment updated with 2015 data, management action was required by the MFC. To improve the condition of the blue crab stock, the MFC adopted management measures via Amendment 2 adaptive management and incorporated them in the May 2016 revision to Amendment 2. A comprehensive review of the Blue Crab FMP was originally scheduled to begin in July 2018, but at their August 2016 business meeting, the MFC voted to begin review immediately to assess the status of the blue crab stock and identify more comprehensive management strategies.

A benchmark stock assessment was completed and approved for management use in March 2018. This assessment included data for 1995–2016 and concluded the stock was overfished and overfishing was occurring. The stock assessment projections indicated a harvest reduction of 0.4% was needed to end overfishing and a harvest reduction of 2.2% was projected to achieve sustainable harvest and rebuild the blue crab spawning stock within 10 years of the date of plan adoption with a 50% probability of success of meeting the statutory requirement. Based on assessment results and projections, the division encouraged



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the MFC to consider a reduction of at least 5.9% which was projected to reduce fishing mortality to a level close to the fishing mortality target and have a 90% probability of achieving sustainable harvest. In November 2019, the MFC voted for preferred management measures projected to result in a 3.7% harvest reduction with a 50%–67% probability of success. However, at the following meeting in February 2020 the MFC changed their preferred measures lowering the projected harvest reduction to 2.4% with only a 50% chance of achieving sustainable harvest in 10 years, which is only slightly higher than the statutory required minimum of 2.2%.

Adoption of Amendment 3 also included the Adaptive Management framework and established specific steps to be taken once an updated stock assessment was completed. If the stock is overfished and/or overfishing is occurring or it is not projected to meet the sustainability requirements, then management measures shall be adjusted using the director's proclamation authority. For management to move forward, the adaptive management framework requires that management measures must be quantifiable. The framework also specifies the division will consult with the MFC Northern, Southern and Shellfish/Crustacean ACs prior to new management measures being approved by the MFC. Upon evaluation by the division, if a management measure adopted to achieve sustainable harvest is not working as intended, then it may be revised or removed and replaced as needed. While we do not have an updated stock assessment that can be used for management purposes, and are unlikely to for some time, there is substantial data suggesting management measures adopted in Amendment 3 are not working as intended and need to be revised using the Amendment 3 adaptive management.

McLean Seward next gave a presentation on recruitment and spawner stock biomass trends from the recent stock assessment update. Both the estimated number of recruits within the stock and spawner abundance indicate steady declines over the last decade. The update also indicated that fishing mortality has remained relatively unchanged since adoption of Amendment 3 management measures in 2020. Next Seward show data from the division's Pamlico Sound Survey (P195), which showed that for males and females of both life stages show continued declines or continued low abundance through 2022, with some of the lowest values in the time series being in recent years. Data from the division's Juvenile Trawl Survey (P120) also indicate a decline in male and female recruits with the last few years being the lowest on record. Declines in the annual commercial landings appear to track with juvenile and adult indices of abundance. Commercial landings of all blue crabs have been in decline since the record high of 67 million pounds in 1996. In 2022, the harvest level dropped to the lowest in the time series. In addition to declining harvest levels, participation and in number of trips has also declined in recent years.

Seward further noted other states along the Atlantic coast have observed similar declines in their commercial landings. In January 2023, the SC Department of Natural Resources released a status report for the SC blue crab fishery. The report concluded the SC blue crab stock has been in decline for nearly two decades and provided recommendations to prevent overharvesting, gradually reduce fishing pressure, prevent overexploitation, and strengthen enforcement capabilities. In the Chesapeake Bay the most recent dredge survey data indicates that although the blue crab stock is not depleted and overfishing is not occurring, juvenile abundance remains low. Precautionary management, focusing on protecting mature females and juveniles, has been recommended for the Chesapeake Bay stock and a benchmark stock assessment has begun to better understand the population.



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All available information suggests the NC blue crab stock has continued to decline since adoption of Amendment 3 management measures in February 2020. Amendment 3 implemented management measures which were projected to result in minimal harvest reductions with a 50% probability of success. Since adoption of Amendment 3, commercial landings have continued to decline to historic lows. And despite low commercial landings, the stock assessment update indicates fishing mortality has not decreased. Abundance of all blue crab life stages as indicated from fishery independent surveys, are at historic lows. Specifically, recruitment has been at historic lows, which means we just don't have enough new crabs coming into this population to replace what we are harvesting. New management that is more substantial than what was adopted in Amendment 3 needs to be developed to reverse the declines we've observed.

Sara Winslow opened the floor to AC members to ask questions about the presentation before moving into discussion of the issue. Worthington asked what were the issues that the peer reviewers had with the assessment results that led them to recommend not using it for management? Corbett responded that it was mostly the drastic increase to the MSY reference point estimates from the assessment update compared to the benchmark assessment. Other concerns were with independent sampling programs that we could potentially tweak to make them more focused on sampling blue crabs rather than sampling a range of species. Newman asked to pull some graphs back up to compare the presentation to the Blue Crab Decision Document. He then asked if we knew why the MSY reference points changed so much, from 60–80 million pounds to 120–150 million pounds? Corbett responded the division is not sure why the estimates of the reference points changed and this is why the division is recommending not using the results to inform management. Although the trends and values in the estimates of fishing mortality and spawner abundance were very similar in the benchmark and the update, the big concern was the change in the models estimate of MSY reference points. Newman expressed concern that there would be so much uncertainty in the estimates from the benchmark to the assessment, and shared that same concern for other stock assessment conducted by the Division. Newman asked if we knew what changes needed to be done to make the assessment be more reliable. Corbett indicated the reviewers suggested it would take a new benchmark assessment. Dan Zapf also mentioned the peer reviewers provided a list of items that we could investigate in the next benchmark. These are all contained in the peer review report. Newman asked if there was a reason we are having so much trouble with our stock assessments. Seems like we have some assessments that were fine in the benchmark, then in the update we are overfishing for the entire time series. Newman just wanted to know what the Acs and MFC could do to help out with these issues. Zapf indicated that right now the main reason is we don't have any of our three stock assessment scientist positions filled. Newman also noted the numbers of crabs were super low in the Pamlico Sound trawl survey, even when harvest was very high. They don't seem to match. He asked if we did any sampling in the Albemarle Sound where most of the crabs are coming from? Corbett responded that the division does sample in the Albemarle Sound, however that program primarily captures adult blue crabs and is not a good indicator for juvenile abundance. Newman pointed out that we should have a dedicated survey for crabs as it is and has always been one of our most lucrative fisheries with the highest levels of harvest. Many states have a dedicated survey just for blue crabs and thinks NC should too. Corbett said that is completely understood but we have never had the resources to implement a state-wide survey for blue crabs at all life stages. Newman also pointed out the error bars are pretty significant, and wishes we could get the estimates a bit more precise. We need to do all we can to build as much confidence in these models with the public and ACs. Blake pointed out that the landings in 2023 had increased quite a





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bit compared to previous years, and maybe if the commercial landings were so much higher than maybe the math we were using for the stock assessment didn't play out correctly. Corbett pointed out that even though the landings in 2023 were higher than 2021 and 2022, they are still lower than most all other landings in the time series. Blake noted we've seen the decline, but the other thing is piggy backing on the last statements, how much of our crab catch is from trawl versus crab pots. I thought crab trawling was a very small quantity from a small area. Why not use data from pots. Corbett said yes, crab trawls make up a relatively small portion of overall harvest in most years, but in some years trawl landings can pick up drastically in the winter. Could we use trip ticket data from the fishermen, such as the discard data to inform the stock status. Corbett pointed out that trip tickets define the gear and location. Blake asked can we use that data for juvenile crabs and the discard data from commercial fishermen? Staff and commercial members of the AC advised that for a crabber to record or cull discards in the field while fishing would be impractical. Would take too long and/or you would have to have a separate crab by sex just to look at culls. Zapf indicated that the division does go to fish houses to measure, weigh, and sex crabs to gather information from the catch. Director Rawls wanted to speak to Mr. Newman's comments about a dedicated blue crab survey. We have been talking about that for 28 years since I've been here. For the last several years it has been a priority for us at the Legislature to get the funding for a dedicated crab survey but have been unsuccessful. Jamie Lane asked to see the graph of harvest numbers again. Thomas Newman also said it looks like we had a harvest reduction from 2016. 2016 landings were about 28 million pounds, and in 2022 landings were down to less than 10 million pounds. Zapf added that what the division really wants to see is a positive response to the stock from management changes, and we are still seeing declines in our independent surveys. Newman, if we look at the long-term time series, landings were really low from the 1950s to the 1980s. Did we do any management back then? Chair Winslow indicated that in the 1950s and 1960s there was no real effort for blue crabs from crab pots, it was all trot lines, so there was just nowhere near the effort like there was in the late 1980s or 1990s. Newman wondered if we had seen this type of decline and/or increases in landings before, and if they were due to active management or natural cycles in crab abundance at play with various market forces. Bruno asked how the division conducts sampling for crabs. Staff responded trawls. Bruno asked if we have had the same Captain over that time. Staff responded no, but sampled the same sets of stations through the years. Bruno asked if the gill net crew could also set some crab pots without cull rings and we could get a better understanding of what is going on with the crab population. This year we have had the best crab year in four or five years. The market was so flooded we couldn't sell them and we were forced into taking lay days. Bruno expressed his frustrations about recent management with spotted seatrout, mullet, and now with the division looking into adaptive management for the crabs, knowing we don't have a reliable stock assessment, etc. Making rules that adversely affect his livelihood everyday without solid information is extremely frustrating. Chair Winslow reminded the AC that at this time we would like to focus on questions to staff about the presentation, or anything crab related, before we get into Public Comment and then discussion among AC members. AC member Rulifson asked about the data that might be available. Have we looked at the water quality data over this last 10-year period. There is evidence that suggests climate change and warming waters are affecting a variety of species. We've seen Bull sharks popping into the Sound and that's the first time that has been recorded. Wondering if we are seeing so many crabs in certain locations, is it due to the environment shifting their population abundance. Staff responded that in the stock assessments environmental data is used to see if any of those variables are affecting abundance estimates from the surveys. Rulifson followed with a question about the latest research or hypotheses that maybe the majority of crabs are coming from the Chesapeake Bay, and if this theory is still believed or not. Zapf



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responded that the NC stock is considered to be a single unit stock. Rulifson indicated the Gulf Stream is weakening and shifting, maybe these changes are affecting recruitment. Winslow responded that normally this time of year the rivers are slam full of pots but very few are in the rivers now. Granted, she said she has only couple of recreational pots set off her bulkhead since June, baited, and fished every day, and caught one legal crab all summer. The crabbing is good in the Sound, but not in the rivers. All commercial AC members mentioned that this is the best year they have seen in several years. Director Rawls asked the staff to talk about what other states are seeing in their fisheries and indices. Staff responded states from Chesapeake Bay down the coast are seeing the same declines in landings and independent indices of abundance. Staff also mentioned in the Albemarle dealers have had to tell fishermen to take lay days because the market is flooded. Dunbar mentioned that the red drum population is so large, they are consuming a lot of crabs as well as other important species. Jamie Lane talked about an article she read from Chesapeake Bay discussing the impact of invasive species blue catfish on not only finfish but also on blue crabs. Could we allow more commercial harvest on blue catfish, which will help perch population, river herring, crabs, and all other stocks that are at low levels of abundance. Staff indicated the division has had many discussions about increasing blue catfish harvest and is actively trying to allow all forms of harvest of blue catfish that will not have adverse impacts on other species of concerns. Through the Commercial Fishing Resource Fund (CFRF) a study by University researchers looking at blue catfish stomach contents had been funded. Newman asked if that study is going to be able to quantify how much of an increase in the crab population would occur if a certain amount of blue crab were removed.

### **PUBLIC COMMENT**

There were two members of the public that provided comment. Since there were only two members present, they were given additional time to provide comment.

Dana Beasley: First of all thank you, thank you for everything you've done, everything you've said. My first problem is three minutes. I'm here trying to discuss my livelihood and I've got three minutes. The Chair reminded him that they are allowing more time tonight because of so few people. Dana said that in most situations only three minutes are allowed. That's not enough time. He went on to say the AC members made a lot of good points. He said he has met Corbett at Endurance seafood measuring crabs. I've heard you say things we are trying to control. You can't control things that are under water. Mother nature is going to control it. We can't control it. Second thing you just brought up was drum, blue cats, turtles, stripers, flounders, they are all aggressive species and they are eating the mess out of blue crabs. Next thing is how do you define a juvenile recruit? Corbett responded for the stock assessment it is anything under 5 inches. If you do your trawls, most crabs are caught in pots. Set a peeler pot, no cull rings, put some bait in it. I set one for pinfish with bait had 85 pinfish and 32 little crabs. In one day. Right by Currituck Bridge. The crabs are out there your just not seeing them because your not bringing them in. Try using pots. You trawl in the same places, you got to move to where the crabs are. Have additional sites that you trawl. Water quality. We just had all this rain, dead water, crabs get into pots can't get out, pushes people to other places, landings are affected by this. If you have lay days that will affect landings. Your talking about sustainability, sustainability of the crabs we are catching, we should be talking about sustainability of our livelihood. Your graph shows the crabs going down but look at the number of trips and fishermen and landings, and look at the catch per crabber. I bet it is the same. The crabs haven't declined there is just less effort. No young crabbers getting into it. The youngest crabber might be 40. All kinds of factors why landings are down, not



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just population decline (weather, the females, the spawning stock, etc.). There are areas in the spring where females sponge out but they have had less crabs. We had a big storm this spring and they moved southeast, and the guys peeling missed out, the crabs moved north. Too many factors that you can't see under the water that you can never control. You don't have solid baseline data. The last stock assessment was 2016. If you want to see what we are catching come out with us anytime. In Currituck sound, if it's not included in the juvenile recruitment it should, there are little crabs all over up there. I hope it's not falling on deaf ears, but I'm with Bruno, there is not solid enough data on this. If you look at pounds per trip landings are solid. We don't have picking houses, nowhere to send the crabs. Imported crab meat is killing this country. Other one is sea turtles. They cost me between \$5000-\$10,000 each year in gear and lost crabs. They turned over a whole line of pots the other day rolled 30 pots in a row. Didn't tear many of them but they rolled them and I was averaging 20 crabs a pot so 30 pots is roughly 5 bushels of crabs plus a flat and a half of bait. That's \$160 out of my day. That's huge. The economic side of this is where we really need to be focused. This isn't drum fishing and trout and striper fishing. No one really recreational crabs. There's always crabs for the rec guys. If I want to catch the last crab and put us out of business, let's do it. It's our livelihood. Just like flounders, if you bring them all back, there will be so many crabs we won't get paid anything. I flounder fished last year. Everyone in a 6-day window. All gears were open, everyone fishing. I got paid \$1.50 a pound for flounder. When in June, July, August, I could get \$5.00 a pound for that same flounder. You got to spread it out. It's all about the money. It's not about how many crabs there are. They had rather crab and get 20 pounds a pot and get a nickel a pound for them. I'd rather get three pounds to the pot and get \$2 a pound. I had rather come in and unload 10 bushels of crab at \$70 bushel. Yesterday, I unloaded 42 bushels and I'm going to get \$18-\$20 a bushel. I'm not utilizing the resource. Find a way to get more money for the crab. That's what we need to do. It's about what's out there and what it's worth at the end of the day. Everything is going up, bait, wire. Like Bruno said, when I leave the dock I'm your paycheck a week in the hole probably. When I come in and Kissi tells me crabs dropped today, I'm like great, maybe I went for nothing today. If don't get paid today. I still have to pay my mate but I don't get paid. It always goes down quicker than it comes up. That's my piece thank you for listening.

Vance Henries: Carolina Seafood in Aurora. I'm going to reiterate all of the points that were made here tonight I believe in and had already intended to speak on. Thank you for your time and for what you all do. I believe we've got a way out of balance ecosystem. We are protecting predators, and those predators are having impacts on other species. I see that as a big problem. Other problem is water quality, not water temperature, or salinity, but others such as non-environmental factors. South Creek 30 years ago was stated that it was the most productive fish estuary in the state. Now there's not much that comes out of it. Things like that need to be looked at big time. I don't think it's overfishing. Every time there's a decline it's blamed on overfishing. I just don't believe that. That's my two cents worth, thanks for listening.

#### **COLLABORATIVE CONVERSATION BETWEEN THE DIVISION, ADVISORY COMMITTEE, AND THE PUBLIC**

Chair Sara Winslow closed Public Comment and turned the floor back over to the AC to discuss potential management options. Sara noted in the documents provided there was a summary sheet of any potential things considered previously with the pros cons and complexity. Blake comments that when he looks at the management options none of them give you a number they just give you how hard and pros or cons. First one is limit crab trawls but that's the least amount of harvest coming from that gear. I would say that we



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don't have enough information to make a decision at this point on the reduction, but I ask that whatever we do let's make it as easiest as possible to the crabber. The Chair pointed out to Everette that these are initial options to seek input and will have numbers associated with the reduction if that option is developed. Dunbar made a motion status quo, nothing. Like the gentleman said, and I'll say, I've been in the crabbing business 50 years and there's too many factors that mother nature puts in that you can't control any of this except maybe get rid of some of the predators. Other than that, there is just so many factors involved we can't control it. Like shrimp, you can't control them. I make a motion of status quo. Second by XXX Motion passes. Chair Winslow asked if there were any other recommendations from the AC? Rulifson asked what affect does it have on the blue crab industry that we have tried to reduce bycatch in different fisheries? What do the blue crab have to eat out there. We've had great blue crab fisheries for all these years, and now that we've reduced bycatch blue crab landings are declining. Dunbar talked about the turtle excluders and fish excluders, which may have reduced the amount of bycatch to eat. Winters are not as cold. Oyster beds were alive and prosperous. Crabs loved to get around oyster beds. Rulifson asked, I wonder what the other states are doing to reduce bycatch and therefore reduce the amount of food that the blue crab has to forage on. Two decades ago, B.J. Copeland and I put in a study to look at just this issue, but it never got funded. We wondered if it would have an impact. Dunbar noted that years ago when there were plenty of fishermen they kept the predators in check. Year-round flounder fishery that killed a ton of skates, the haul seiners caught a lot of drum, but now we don't keep these predators in check. Clark asked if we had explored every possible option to get rid of these blue catfish. Maybe back to overnight soaks of gill nets and electrofishing to keep these blue cats down. They eat 5-8% of their body weight everyday out of our estuaries. The Chair noted that wouldn't be in the blue crab plan under adaptive management. Staff noted it would have to be quantifiable and that would be difficult to quantify. But that is certainly something that could be addressed through another option. Newman pointed out that it is disappointing that we don't come up with a recommendation other than status quo, but we want to do something, we want to make things better. The reason fishermen are so frustrating right now we have so many natural deterrents that limit our ability to harvest fish. Like the four-day mullet season right now, the weather is insane. You may get periods where you can't fish for seven or eight days in a row. We are already seeing natural reduction in harvest because effort is down, then the fish markets go away. There is escapement from that. Also I wanted to question to Director Rawls on the the 2 and 10 statute. It says if there is a lack of data, we could go down the 2 and 10 rule. How could we go down that road if we don't have the necessary data? Director Rawls said that can definitely be part of the conversation and it is always difficult when a stock assessment does not give you what you need. We are in this situation now that we are using previous stock assessment and independent indices showing these declining trends, so that is what we are trying to come up with. One of the staff introduced the questions of where are these crabs located? It's not just a NC thing, there is something going on up and down the coast. I think we would all agree that what we would like to see is a stock assessment that we feel is reliable however this is not what we have and at this point we should rely on the trends in the data we have, both dependent and independent, to guide management recommendations. Staff Godwin wanted to address Rulifson's question about the bycatch issue. We looked at blue crab landings all through the east coast and Gulf of Mexico although we didn't show a lot of that, but in looking at Gulf landings, Louisiana is really the only state that has seen relatively consistent landings of blue crabs though the years, and they have many more shrimp trawlers in the gulf and also have turtle excluders and fish excluders to reduce bycatch, so at least for LA. It doesn't seem that reducing bycatch has reduced blue crab population. Corbett added that some management measures may be developed that could potentially help market prices, such as bushel



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limits during certain time periods. Bruno added that it is a supply and demand fishery. MD and VA supply a lot of crabs and can often flood the market. We would have to control their harvests and number of crabs coming on the market to have any effect. Director Rawls asked, is the demand for crabs as it is for other seafood as well or is the demand even there? Bruno said it peaks on the Fourth of July from the spring in MD and VA. That's our major markets. As soon as it first gets warm, the first nice weekend, they call down here looking for crabs. By the Fourth of July they start catching more in the Chesapeake, so you get less demand, more crabs, so that's when the price falls out and we may have a harder time moving crabs. Rulifson asked is this a marketing problem? After the Fourth of July could you sell it to the Midwest and make profit? Bruno said it is a very delicate product. They want them alive. There are some industry leaders trying to create different product, frozen crab, etc. but we just don't have the infrastructure we used to have. We don't have the picking houses, we don't have the people. We could waylay this into a political issue. We don't have the imported help we used to have. We have lost infrastructure and then you lose market share. Louisiana is one of our biggest competitors in selling crab to VA and MD. I'd have to look at the numbers but after the Horizon oil disaster for a few years LA had no crabs, and we did great, because of less competition. In years past the Chesapeake hasn't had a lot of crabs, but they have really cleaned up that Bay, they went after the major polluters upstream and now they have more crabs, and oysters are doing great. And the Bay has now come back because they have cleaned up the waters. They do their annual survey of abundance and they say we don't have any young crabs but they still kill it. We've had a tough couple of years here in NC, no doubt. There was discussion about the efficiency of crab trawls as a sampling gear. Worthington asked, you said you didn't have the employees to do the second part of what you needed to get done? What are we lacking for employees? Staff responded they were talking about the stock assessment staff? Worthington said he is aware that the Legislature doesn't provide the funding for law enforcement, so what do you need from the Legislature to get these positions filled? Director Rawls mentioned, the division is having trouble hiring staff all across the board. The DMF cannot compete with the salaries of these positions. The DMF can compete across states but not with the Federal Government. As a state agency the DMF just can't compete. We train employees and then they go to better paying jobs. The DMF can't hardly even get applicants. It is a struggle. Currently the DMF have been having internal discussions about what other options do we have available for assessing stocks if we don't have a stock assessment scientist.

Corbett added that we really do want input on potential management measures. Even if its not on Table 2, think of things that could potentially help with market issues. If we move effort to a different area, or how about sex specific management measures, just think about these things and please provide us input on what measures would work and what ones would not.

Jesse Bisette also pointed out that we wanted to bring this to the AC as early as possible to provide input on how these different options available on the table to let us know how these options will affect the industry, which ones would work. We really need input from industry. We can do it after this meeting if we need to, but we really need your input.

Blake discussed that if we had to do anything, regional closures would probably be better than statewide blanket closures. Hope they would be less impact on the fisherman. We could shift these based on how landings are going during the year. All the other ones it seems like they all put a lot more work on the fisherman.



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Corbett said yes these are the types of input we are looking for. And we have talked about regional closures. However, sometimes if you close a small area, everyone is just going to move out of that area and go to another area. Regional closures might have to be relatively broad, because if they are too small, folks will just move to the other side of the line.

Bruno mentioned another effort switch to look at is when I can't crab, I go gill net. That is going to put more pressure on species like spotted seatrout, etc. Fishermen have to have something to do, the bills keep coming. If I can't crab, I got to do something else. That will just put more pressure on other species.

Rulifson asked when was the moratorium? When there were so many Vietnamese that came into the industry from Louisiana? Is that the blip in landings you see in the long-term landings data? Back in the late 70s early 80s?

Jesse wanted to look at the Decision Document, and asked Keith and Wayne, if we are looking potential bushel limits. So when you talked about the market and demand when we are landing a lot of crabs and the market goes down and you have to take lay days, what would be the drawback of having bushel limits that might prevent that? Bruno responded that it's not a local market. If we start limiting our guys then that is just going to give more market share to the guys in MD and VA. Staff mentioned that MD and VA already have bushel limits and have for years. Dunbar said VA and MD depend on us Feb-June. Then when they open up in VA and MD they flood the market on female crabs. Come after July 4<sup>th</sup> they really don't buy crabs like they were in the spring. In those months they depend on NC and LA crabs. Jesse pointed out we could do bushel limits on a seasonal basis. So we wouldn't want to have a bushel limit in the spring, but we could that later in the year? Bruno asked aren't we in that situation already? If the market is not there we stop catching as many crabs. The market takes care of that.

Newman also mentioned if we have closures and then something happens to the markets in other states, and we don't have product to sell because of a closure, then we might lose that market altogether. That is what happened with bluefish. We had to take reductions because of the quota, and now we've got more bluefish than anyone's ever seen, but we lost the markets we had because of several years of reduced harvest. Bruno says the market acts as harvest reductions. We may tell our crabbers that you can't crab for a couple days during the week because the market can't handle all the crabs. When there are so many crabs there is escapement through lay days and reductions.

Dana Beasley said your talking about a 2.2% reduction. In my log book I've had 12 or 14 lay days since the last August and September, easily averaging 25 bushels a day. So 2.2% reduction on 16 million pounds, 352,000 pounds for the reduction. 25 bushels a day times 12 is 300 bushels is 12,000 pounds. 352,000 pounds divided by 12,000 lbs is 29 crabbers. Easily 29 crabbers in the state have had 12 lay days, and some of them have had more, and some were harvesting more than 25 bushels a day. So that's easily your 2.2% reduction right there in lay days just since August of this year. Plus you don't know what Mother Nature is going to do. Like mullet, can't fish on the weekends. It blows all week and is pretty on the weekend now I've had a 7 day closure not just a two day closure. Fish and seafood don't have a calendar, they don't know what day it is. When we are fishing, we go fishing when we can and catch fish. And now you've pigeonholed everyone



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in to crabbing. Like Ms. Winslow said about crabbing 30 or 40 years ago. There were no crabbers back then. Everyone long hauled. Everyone fished long nets. They blocked off the Pamlico sound into square mile grids and you picked a grid and had to call in what grid you were fishing, if I'm not mistaken. Then long netting went by the wayside. Maybe they caught them all I don't know. Then here comes shrimping. No one used to shrimp, shrimping was sketchy at best. Then everyone was shrimping. Long netters hated crabbers. Some guys got into crabbing. Made good money, next thin you know lots of folks crabbing. Now you can't catch a drum, can't catch a flounder, can't catch a striper, what you got? Crabs. We do have window and a season. Oysters, look at oysters. You got only two weeks around Thanksgiving. The oyster beds have gone to crap because nobody keeps up with them because you can't fish them. Look at flounder. You make a short season and put everybody in at one time, they flood the market and flounder aren't worth nothing. The time thing doesn't work. We got to go fish when we can go.

That was the end of AC discussion. Jesse Bissett reminded the AC the next meeting will be Oct. 8, at the Washington office, and the discussion will be the draft of Spotted Seatrout Amendment 1. And because of the court ruling we are asking that everyone attend in person. Bruno asked if that date could be changed. That's one of the days I'm going to go flounder fishing. Only getting six days this year probably. I'm not going to be here but I am interested in that discussion. Jesse said they probably will not be able to move the meeting date at this point, but he would call Keith tomorrow to discuss more.

Bruno made a motion to adjourn. Rulifson seconded. Motion passed by unanimous consent. Meeting adjourned.



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Nov. 4, 2024

**MEMORANDUM**

TO: Marine Fisheries Commission  
Northern Standing Advisory Committee

FROM: Charlton Godwin, Biologist Supervisor  
Fisheries Management Section

SUBJECT: Meeting of the Marine Fisheries Commission's Northern Regional Advisory Committee,  
Oct. 8, 2024, to provide recommendations for the Spotted Seatrout Fishery Management  
Plan Amendment 1

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The Marine Fisheries Commission's (MFC) Northern Regional Advisory Committee (AC) held a meeting on Oct. 8, 2024, at the Department of Environmental Quality's Washington Regional Office, Washington North Carolina, and via webinar. AC members could attend in either setting to communicate with other committee members.

The following Advisory Committee members were in attendance in person: Sara Winslow, Jamie Winslow, Wayne Dunbar, Thomas Newman, Roger Rulifson. The following members were present online: Carl Hacker.

Division of Marine Fisheries (DMF) staff present: Lucas Pensinger, Melinda Lambert, Charlton Godwin, Kathy Rawls, Hope Wade, Jason Rock, Capt. Chris Lee, Dan Zapf, Jeff Moore, Brandi Salmon, Jesse Bisette, Officer Candace Rose, Michale Thompson, Alan Bianchi.

Public that signed in: Kim Tavasso, Wilbur Vitols, Paul Lane.

The Northern Regional AC had five members present in person at the start of the meeting, therefore a quorum was not met.

Northern Regional AC Chair Sara Winslow called the meeting to order at 6:00 p.m. The full meeting can be viewed online [Northern Regional AC Oct 8, 2024](#)

**APPROVAL OF THE AGENDA AND MINUTES FROM PREVIOUS MEETING**

There was not a quorum present so no motions and votes were made.

**PRESENTATION OF THE DRAFT SPOTTED SEATROUT FISHERY MANAGEMENT PLAN AMENDMENT 1**





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Staff started the presentation with a timeline of the FMP process and asked that the AC give their recommendations to send to the MFC for the draft Spotted Seatrout Fishery Management Plan (FMP). Staff will present the standing and regional ACs' recommendations at the November MFC meeting. The MFC will select its preferred management options at its November meeting and then vote on final adoption of Amendment 1 in February 2025. The goal of Amendment 1 is to manage the Spotted Seatrout fishery to maintain a self-sustaining population that provides sustainable harvest based on science-based decision-making processes. Since current management was fully put in place in 2012, recreational harvest has accounted for about 86% of total harvest and commercial harvest has accounted for about 14%. Landings in both sectors are variable, but recreational landings have generally increased throughout the time series with periods of low harvest in both sectors following cold stuns. Landings in both sectors dramatically increased in 2019 and remained high through 2022. However, recreational landings decreased sharply in 2023. Commercial landings also decreased in 2023 although that drop was not as steep as what we see recreationally. Approximately 70% of recreational harvest occurs in the peak October–February season. A similar pattern is seen for the commercial sector. Historically anchored gills nets landed most of the commercial catch; however, in recent years runaround gill nets land most of the fish.

The last stock assessment indicated spawning stock biomass (SSB) was well above the threshold; thus, the stock is not overfished. However, fishing mortality ( $F$ ) or the rate at which fish are removed due to fishing, was above the maximum ratio ( $F/F_{20\%}$  ratio = 1) in the terminal year indicating that overfishing was occurring. To keep spotted seatrout biomass at levels that support the fishery we have seen in recent years, we need to end overfishing by reducing fishing mortality. The options presented today are intended to benefit the stock and end overfishing. The first issue paper looks at characterizing the small mesh gill net fishery for spotted seatrout, the predominate gear used to harvest the species commercially. This paper examines mesh size restrictions and trip and yardage limits. The next issue paper is the sustainable harvest issue paper. Management measures discussed in this issue paper are quantifiable and projected to meet the required reduction in spotted seatrout harvest based on the terminal year of that stock assessment. At least a 19.9% harvest reduction is required to meet the fishing mortality or  $F$  threshold, while a 53.9% harvest reduction is needed to reach the  $F$  target. Harvest reductions in the issue paper are based on harvest from 2019 to 2022. Management measures that reduce harvest so that  $F$  falls somewhere in between the threshold and target need to be somewhere between 19.9% and 53.9% to achieve the highest probability of SSB staying above the target.

AC member Newman asked what was the recruitment value used in the projections? Pensinger said it was the mean of the recent recruitment, 2012–2022 he thought. Newman asked why it was not the same years as the average of the average  $F$  for the terminal year, 2019–2022. Pensinger noted he would have to go back though the stock assessment to say for sure. But we can certainly find that information. I can look it up when Melinda takes over for the second half of the presentation. Staff continued the presentation which was to show the projections that would end overfishing and keep SSB above the Target.

To achieve the reductions needed to end overfishing, options include size limits, season closures, bag/trip limits, stop net management, combinations of measures, and adaptive management. Staff then reviewed supplemental options that would benefit the population but could not be quantified, which include vessel limits, effort controls, gear requirements, tournament restrictions, and commercial hook and line harvest.



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Staff next discussed how adaptive management could be used to address cold stuns. Currently the Director can close the spotted seatrout fishery by Proclamation through June 15 in the event of a severe cold stun which allows surviving fish a chance to spawn before being subject to harvest. The issue paper discusses additional management options on top of the seasonal closure through June 15. Management measures that could be adjusted through cold stun adaptive management specifically include temporary measures like extended season closures, reduced bag and trip limits, and size limits. The cold stun adaptive management process would start with the Division evaluating the cold stun by analyzing water temperatures, reviewing cold stun reports, and using onsite data collected by Division staff. It would also include analysis of fishery independent data looking at indices of abundance and length frequencies. If a cold stun was deemed especially severe, then the Director can implement temporary management measures using adaptive management.

The preliminary DMF management recommendation to end overfishing is for a January through February statewide harvest closure for both sectors, a 14–20-inch recreational slot limit with an allowance for one fish over 26-inches, a 3 fish recreational bag limit, and a commercial harvest closure from 11:59 p.m. Friday to 12:01 a.m. Tuesday, October through December. This mirrors the fall weekend closures recently adopted in Amendment 2 of the Striped Mullet FMP. Additionally, the preliminary Division management recommendation is for no changes to the quota in the Bogue Banks stop net fishery, but to formalize the management of that fishery in Amendment 1. And finally, the preliminary Division recommendation is to adopt the adaptive management framework to allow the Division to respond more quickly to ensure sustainability goals are met. The preliminary recommendations would result in a recreational harvest reduction of just over 1.3 million pounds or 39.5% while commercial harvest would be reduced by about 228 thousand pounds or 40.2%. This would combine to a total harvest reduction of 39.6%. When we look at the breakdown of each sector's contribution to the total harvest reduction, we see that it aligns almost exactly with the proportion of total harvest (85% recreational, 15% commercial), making these reductions equitable.

AC member Dunbar asked why if the commercial catch is 14% you want to cut them back by 40.2%, and if the recreational catch is 86% you want to cut them back 39.5%, which is less than the commercial cut. What's up with that? Staff responded that there were a few more slides that might clear that up and we could talk about it then if that were OK? Staff continued the presentation. Dunbar noted later that looking at the harvest, the recreational fishery is the problem, not the commercial. Commercial hasn't really gone up while the recreational has gone up a lot. Way more than commercial. Why does the commercial take so much of a reduction? Staff responded that commercial harvest has increased some too, but you are right not as much as recreational. But through the timeseries the 85% recreational-15% commercial split in harvest percentages has stayed pretty much the same through time.

Chair Sara Winslow asked that AC members please hold discussion of the potential management options and discussion in general until after staff have gotten through the presentation. Then we will take public comment, then come back to the AC for full discussion, but let's let them get through their presentation first.



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The preliminary Division recommendation in Appendix 3 is to eliminate the captain/crew allowance for spotted seatrout. This idea had some support from the for-hire industry and would stop the practice of harvesting multiple captain/crew limits in a day. The preliminary Division recommendation for Cold Stun Management is to extend the harvest closure in the event of a severe cold stun through June 30 and adopting the cold stun adaptive management framework. Extending the closure through June 30 protects spotted seatrout that survive the cold stun through the entire peak in spawning. The adaptive management framework allows the Division flexibility in responding to an exceptionally bad cold stun.

Sara Winslow opened the floor to AC members to ask questions about the presentation before moving into Public Comment. Newman wanted to ask a couple of questions about the projections graph. He liked the graph and was glad it was in there, it helps a lot. Pensinger noted the answer to the previous question was the last five years were used to balance out a couple of really low recruitment years and a really high recruitment year in that time period, 2015–2019. Newman asked why the chart of projections went all the way out to 2035 instead of just 2 years like the statue to end overfishing, so end the graph in 2026. Newman also asked why the purple line was so far above the red 50% probability line? Why basically are we taking such a drastic reduction so much more than the minimum needed? All we need to do is meet FRA requirements, which is a 50% probability to end overfishing. We are taking a humongous cut when we don't need that much. Also wondering when our next stock assessment is. Staff indicated we really don't know until we get some stock assessment staff on board. We currently do not have a stock assessment scientist on staff. Last question on the graph of projections by Newman: do these projections take into effect the increase in discards due to the closures and/or slot limits? Staff indicated no they do not. But even with the increase in discards, there will still be a lot of saved fish. Newman pointed out that if we could just decrease that catch-and-release mortality from 10% to 8% that would be the reduction we would need. Newman pointed out that the elephant in the room is the fact that recreational releases have gone up ten-fold in the last years. Closures are just going to increase those releases. We are not even touching that part of the fishery. 1.6 million fish dying in some years is a lot. I wish we could look at reducing discards and stop hearing DMF say we just can't do anything about discards. Chair Winslow mentioned that for years the Division has puts out all types of information about reducing discards and best handling practices for spotted seatrout and other species. But a lot of that is not enforceable relative to angler behavior. Newman says this is a problem in every fishery up and down the coast including the South Atlantic. We cut harvest and turn everything into a discard fishery. We can't keep going like that. Jesse Bisette mentioned that is a good point but as you mentioned that one of the major challenges coming up in Fisheries Management is how to handle the increase in recreational trips and effort that has been increasing for the past two decades and are expected to continue to increase. Roger asked if someone could review the rules on cold stun. Is it legal to collect cold stun fish if they are dead? Staff responded that if the fishery has been closed due to a cold stun, then no you cannot harvest them. But if the cold stun is just happening and the fishery had not been closed, you could keep them.

### **PUBLIC COMMENT**

There were three members of the public that provided comment.



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Kim Tavasso: My belief is that the decision to change has already been made. And I see that the numbers of speckled trout caught have gone up. I think there is a pretty easy answer for that. Its due to a lack of options. We can't catch flounder, can catch striped bass, can only keep one drum. In 2020 the flounder caught commercially was about 480,000 pounds. The trout went up in the commercial sector. So that's not a surprise that trout harvest has gone up. We are running out of options for fish to keep. I want the commercial industry to make a living, but I want to be able to catch a fish too. My fear is the fishing industry in NC is headed for a demise. If you look at the trip tickets, the commercial industry caught 175.8 million pounds of seafood. In 2020 that number had fallen to 35 million pounds. Going down at a rate of about 3% per year. We are running out of options. If we don't do something soon the commercial industry is going to die and the recreational industry is going to go along with it. Please work on this hard folks. I'd like to see a solution. Thank you.

Wilbur Vitols: I'm from New Bern and born in NC. My memory is that we took whatever species we wanted and how many of them we wanted. There is no denying that this unchecked recreational fishing had significant impact. But it is now apparent that trying to fix the problem we have also had a huge impact while ignoring the most logical ways to fix the decline of all species. At recent meetings it also appears the division is ignoring the voice of the public as represented by the trout AC. The proposed trout regulations with size limits and bag limits could be supported, but including the elimination of the guides' bags this will reduce the trout catch by over 45%. But it also seems not logical to close this fishery for two months but allowing nets for mullet that will kill trout too. I'm not against commercial fishing, I think you all need to work and it's a good thing for the state, but I know unless we change things now this is headed in the same direction as the trout regs and closures. So reduce the recreational bag limit to three and use the slot size system as proposed, and yes based on historical data put in quota system for the commercial sector with a cap, that is equal in scale to the impact of the recreational side. I know that's not what you'd like to see but I think that is fair. Use an adaptive management system that will allow for adjustments and not wait for a 5-year schedule or that will result in a closure. Enforcement, we must have enforcement with serious consequences such as loss of licenses and equipment seizures. I'm willing to take one for the team but there needs to be equal enforcement and equal sharing of the burden by all parties. I appreciate the work you all do, and I know this is a terribly complicated issue. But we are on that slippery slope. Thank you.

Paul Lane: I'm a commercial fisherman been at it about 40 years now. I'm opposed to any reductions or regulations for several reasons, but the main reason is a fellow named Louis Daniel said it is unmanageable. Due to a cold stun, they will get wiped about all out and it will take several years for the to rebound. And in my 40 years I've seen that, it is true. You can do whatever you want to, but you cannot manage a speckled trout. And be careful what you wish for people want something done about this, but I've never seen anything given back once it's been taken. I'm opposed to any regulations, there's no need for it to be done, but sometimes things get done for no reason, but this shouldn't be done.

**DISCUSSIONS ON RECOMMENDATIONS OF MANAGEMENT OPTIONS TO THE DRAFT SPOTTED SEATROUT FISHERY MANAGEMENT PLAN AMENDMENT 1 FOR MFC CONSIDERATION**

Chair Sara Winslow closed Public Comment and turned the floor back over to the AC to discuss potential management options.



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Jamie asked when we lost the Neuse River in one document it showed that the Neuse and Bay Rivers had about 26% of the speckled trout harvest. If we've already lost 26%, then you are taking another 42%, are you accounting for the fact the Neuse River is closed? We've already lost 26% and now you are wanting to take an additional 42%. Seems like we have already taken our cut and reduction. Staff responded that the reductions calculated are from 2019 to 2022, so the time period that we are looking at encompasses the ferry line closures on the Neuse, so that reduced harvest is accounted for. But those fish move out of those areas in the summer and fall so those fish are available to harvest. Jamie emphasized that they don't fish for speckled trout so much in the summer, it is mostly in the winter when they are up the rivers. Jamie asked is there a scenario outside of this where we could have a one on one with your stock assessment scientist to see the statistics that go into to the assessment, like how you calculate the standard deviations etc. and go through and look at all your inputs and graphs. Staff responded that we don't currently have a stock assessment scientist, but the spotted seatrout lead would be happy to sit down with you and go over those. One little input in a formula can have a major impact in 20 years of the model. Staff agreed that it is complicated math but again would be glad to sit down anytime and walk through the assessment results.

Chair Winslow asked you showed on one of the slides the 2023 landings do you know if the effort for commercial and recreational effort was up or down. Staff responded they do know recreational trips were down somewhat but were not sure about the commercial. Sara asked if the quota had ever been reached in the stop net fishery? Staff responded not once. Newman asked about the fishing mortality and spawning stock biomass graph the terminal year of the stock assessment you used the average F from 2016–2019 and used that? How good do you all feel about that? Are we still confident with that terminal year estimates since it is the most uncertain year in the assessment. Staff responded we had lots of conversations with the peer reviewers about that last terminal year estimate and a lot of the conversation was about the variance in that year, but it was also about the fact that removals in that year were an outlier at the time. They are no longer an outlier. All years since 2019 except for 2023 were very similar to 2019 landings. Newman said you would expect landings to be high if we have highest biomass we have ever had. And that's what's so concerning, during these early periods we were overfishing and the stock was low and then all of a sudden, the stock turns around and starts getting more and more biomass and now we are so close to that line of overfishing to have such a huge reduction doesn't make sense. Why do we need this 40% reduction? Staff responded the preliminary reductions are based on a combination of things, but one of them is folks want that high level of biomass, so we wanted to take reductions that will keep it there. Also, effort has increased a lot and our ability to control effort is limited. So, for a combination of those reasons, we wanted to recommend measures that are more cautions, that keeps spawning stock biomass at levels that the public enjoy. That's not unique to NC as you mentioned earlier. Newman said that we are not accounting for effort, we are simply shifting harvest to discards. Removals are staying about the same. For the commercial sector there is a breaking point where we can't operate if harvest gets so low. For the recreational sector harvest is not that big of a deal. We are losing fish houses, and every time just cut harvest and shift everything to discards. And we are not even looking reducing discards or discard mortality. We never touch the catch-and-release fishing sector. Winslow asks when the last catch-and-release mortality was done. Staff responded for NC it was 2002. But the results were pretty consistent with other studies, including more recent studies. We have seen ranges



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from 5%-15% or 20%. Dunbar said my bottom line is I'm like this man over here been fishing for 40 plus years. We've had good years, and we've had bad years, but right now we've never seen more speckled trout than right now. I wish there was something we could do to help some of these stocks, but there's nothing you can do. Mother nature is going to have her way. There are more fish in the sounds now than I've seen in my life. We just caught 125,000 pounds of flounder in just a few days. Three or four days. That's a lot of flounder. And the red drum they are running rampant. We've protected them for 20 years. There are a lot of wolves running around out there eating all the little rabbits. The croakers have shown back up, the big croakers. The fish are going to come and go in cycles and not much you can do about it.

The chair closed the discussion and since there was no quorum no motion could be made. She turned the floor over to Jesse for some updates and questions about the next meeting preferences. Jesse informed the AC the next scheduled meeting is in January which will be about the oyster/clam FMP. Do you have any preferences about when that meeting should occur in January or December, especially since we are trying to have it in person? So, if you have a preference let us know. Just email or call me. Newman said the South Atlantic meets in December so probably January will be better.

The meeting was adjourned at 7:41.



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Sept. 27, 2024

**MEMORANDUM**

**TO:** Marine Fisheries Commission  
Southern Regional Advisory Committee

**FROM:** Chris Stewart, Biologist Supervisor  
Tina Moore, Southern District Manager  
Fisheries Management Section

**SUBJECT:** Meeting of the Marine Fisheries Commission's Southern Regional Advisory Committee, Sept. 25, 2024, to have conversation between the Division and the Advisory Committee on options available in the Blue Crab FMP through the Adaptive Management framework adopted in Amendment 3

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The Marine Fisheries Commission's (MFC) Southern Regional Advisory Committee (AC) held a meeting on Sept. 25, 2024, at the Department of Environmental Quality Wilmington Regional Office, Wilmington, North Carolina and via webinar. AC members could attend in either setting and communicate with other committee members. Public comment was received in-person and the meeting was streamed to the public not in attendance via YouTube.

The following Advisory Committee members were in attendance: Fred Scharf, Jeremy Skinner, Pam Morris, Ken Siegler, Sam Boyce, Tom Smith (Absent – Tim Wilson, Michael Yates, Jason Fowler, Jeff Harrell, and Truby Proctor)

Division of Marine Fisheries (DMF) Staff: Chris Stewart, Tina Moore, Jason Rock, Dan Zapf, McLean Seward, Robert Corbett, Garland Yopp, Ashley Bishop, Debbie Manley, Jessie Bissette, Brandi Salmon, Charlton Godwin

Public: Glen Skinner, Ronnie Williams. There were 9 viewers on You Tube.

The Southern Regional AC had six members present at the start of the meeting and a quorum was met.

Southern Regional AC Chair Fred Scharf called the meeting to order at 6:00 p.m. The Chair opened the floor for the AC members and DMF staff to provide introductions.

**APPROVAL OF THE AGENDA AND APPROVAL OF THE MINUTES**

Jessie Bissette indicated that the AC would not be voting to approve the minutes from the Apr. 10, 2024 meeting. On Aug. 6, 2024, the NC Court of Appeals found that for a quorum to be met, members must physically attend meetings to cast votes. Members attending virtually can still participate in meetings; however, they cannot vote on action items. While this case was from a ruling involving the Anson Co.

Sherrif's Department, this will impact votes cast by members attending virtually tonight. The AC will vote on the approval of the Apr. 10, 2024 minutes at the next meeting (Oct. 9, 2024). We are working with legal and the Department of Justice now to determine if virtual votes are valid, particularly if one of the virtual votes is a deciding vote. Jessie asked that members attend the next meeting in person. Fifty percent of the members plus one or six people must be present for a quorum for the Southern Advisory Committee. Right now, it's looking like the virtual votes will not count. Tom Smith noted that is the way it works for a committee he sits on at the county level. Jessie noted this meeting is to share ideas and there are no planned action items at this meeting requiring a vote.

### **PRESENTATION OF BLUE CRAB FMP AMENDMENT 3 ADAPTIVE MANAGEMENT POTENTIAL OPTIONS**

Robert Corbett, lead biologist for blue crab, presented a brief history of blue crab management in North Carolina, the 2023 stock assessment update, and the adaptive management framework. In 2023, the division began updating the 2018 benchmark stock assessment with data through 2022. Results of the model update indicate trends in estimated recruitment, female spawner abundance, and fishing mortality were similar to the benchmark assessment; however, the maximum sustainable yield-based reference points used to determine stock status for both female spawner abundance and fishing mortality both drastically changed with the expanded time series. Due to the magnitude of the change in reference points, the division requested an external review of the updated stock assessment which was completed in December 2023. The reviewers identified concerns with model specifications and results. They strongly recommended resolving these issues before basing management decisions on assessment results. Suggestions provided by reviewers can only be incorporated through a new benchmark stock assessment. Given concerns with the updated assessment, identified by the division and external peer reviewers, the division does not recommend using results of the 2023 stock assessment update to inform management decisions.

The original North Carolina Blue Crab FMP was adopted in December 1998 and Amendment 1 was adopted in December 2004. Following Amendment 1 was Amendment 2, which was adopted in November 2013. The Amendment 2 adaptive management framework relied on annual updates to the Traffic Light Stock Assessment which provided information on the relative condition of the blue crab stock. The traffic light stock assessment gets its name by assigning a color (red, yellow or green) to data trends in comparison to established reference points. Based on results of the traffic light assessment updated with 2015 data, management action was required by the MFC. To improve the condition of the blue crab stock, the MFC adopted management measures via Amendment 2 adaptive management and incorporated them in the May 2016 revision to Amendment 2. A comprehensive review of the Blue Crab FMP was originally scheduled to begin in July 2018, but at their August 2016 business meeting, the MFC voted to begin review immediately to assess the status of the blue crab stock and identify more comprehensive management strategies.

A benchmark stock assessment was completed and approved for management use in March 2018. This assessment included data from 1995-2016 and concluded the stock was overfished and overfishing was occurring. The stock assessment projections indicated a harvest reduction of 0.4% was needed to end overfishing and a harvest reduction of 2.2% was projected to achieve sustainable harvest and rebuild the blue crab spawning stock within 10 years of the date of plan adoption with a 50% probability of success of meeting the statutory requirement. Based on assessment results and projections, the division encouraged the MFC to consider a reduction of at least 5.9% which was projected to reduce fishing mortality to a level close to the fishing mortality target and have a 90% probability of achieving sustainable harvest. In November 2019, the MFC voted for preferred management measures projected to result in a 3.7% harvest reduction with a 50% - 67% probability of success. However, at the following meeting in February 2020 the MFC changed their preferred measures lowering the projected harvest reduction to 2.4% with only a 50% chance of achieving sustainable harvest in 10 years, which is only slightly higher than the statutory required minimum of 2.2%.



Adoption of Amendment 3 also included the Adaptive Management framework and established specific steps to be taken once an updated stock assessment was completed. If the stock is overfished and/or overfishing is occurring or it is not projected to meet the sustainability requirements, then management measures may be adjusted using the director's proclamation authority. For management to move forward, the adaptive management framework requires management measures must be quantifiable. The framework also specifies the division will consult with the MFC Northern, Southern and Shellfish/Crustacean ACs prior to new management measures being approved by the MFC. Upon evaluation by the division, if a management measure adopted to achieve sustainable harvest is not working as intended, then it may be revised or removed and replaced as needed. While we do not have an updated stock assessment that can be used for management purposes, and are unlikely to for some time, there is substantial data suggesting management measures adopted in Amendment 3 are not working as intended and need to be revised using the Amendment 3 adaptive management.

McLean Seward next gave a presentation on recruitment and spawning stock biomass trends from the recent stock assessment update. Both the estimated number of recruits within the stock and spawner abundance indicate steady declines over the last decade. The update also indicated that fishing mortality has remained relatively unchanged since adoption of Amendment 3 management measures in 2020. Next, Seward presented data from the division's Pamlico Sound Survey (P195), showing continued declines or continued low abundance through 2022 for males and females of both life stages there have been continued, with some of the lowest values in the time series being in recent years. Data from the division's Juvenile Trawl Survey (P120) also indicate a decline in male and female recruits with the last few years being the lowest on record. Declines in the annual commercial landings appear to track with juvenile and adult indices of abundance. Commercial landings of all blue crabs have been in decline since the record high of 67 million pounds in 1996. In 2022, the harvest level dropped to the lowest in the time series. In addition to declining harvest levels, participation and number of trips has also declined in recent years.

Seward further noted other states along the Atlantic coast have observed similar declines in their commercial landings. In January 2023, the South Carolina Department of Natural Resources released a status report for the South Carolina blue crab fishery. The report concluded the South Carolina blue crab stock has been in decline for nearly two decades and provided recommendations to prevent overharvesting, gradually reduce fishing pressure, prevent overexploitation, and strengthen enforcement capabilities. In the Chesapeake Bay, although the blue crab stock is not depleted and overfishing is not occurring, juvenile abundance remains low. Precautionary management, focusing on protecting mature females and juveniles, has been recommended for the Chesapeake Bay stock and a benchmark stock assessment has begun to better understand the population.

All available information suggests the blue crab stock has continued to decline since adoption of Amendment 3 management measures back in February 2020. Amendment 3 implemented management measures which were projected to result in minimal harvest reductions with minimal probability of success. Since adoption of Amendment 3, commercial landings have continued to decline to historic lows. And despite low commercial landings, the stock assessment update indicates fishing mortality has not decreased. Abundance of all blue crab life stages as indicated from fishery independent surveys, are at historic lows. Specifically, recruitment has been at historic lows, which means we just don't have new crabs coming into this population to replace what we are harvesting. New management that is more substantial than what was adopted in Amendment 3 needs to be developed to reverse the declines we've observed.

Ken Siegler noted the last Blue Crab AC asked that a pot study be conducted. He further noted that a trawl survey doesn't work for crabs. Staff indicated there is a lack of funds. Morris noted that the annual blue crab commercial landings is not useful due the drop of participants and the additional regulations that have been in place which impact landings. Scharf asked about the summary table of potential management

options. It notes staff has reached out to stakeholders, and asked if there has been stakeholder engagement outside of the AC. Corbett said many options have been brought up in the past and staff has reached out to people at fish houses and many of these options are ones that have come out of those conversations.

Boyce noted that in Amendment 3, the target was to reduce landings by 2.2%. He asked if the assessment can't be used, is there a statutory requirement saying we must implement a certain reduction. Corbett noted that not without a usable assessment, we need to increase the reduction to address stock concerns. Dan Zapf added the landings went down, but likely not due to management measures. Seigler noted that everyone is quitting. Morris added crabs are an annual crop, you don't need that many crabs and she disagreed with additional management. Boyce noted that Chesapeake Bay is having a similar issue. Seigler said the other states tried regulations to prohibit harvest of female crabs and it didn't work. Morris noted that it didn't work due to the nature of crabs and where they lay their eggs. The males are not there. Morris asked what the division was doing about predation, we should increase red drum and striped bass landings so less are eating blue crabs. Corbett again noted adaptive management requires measures be quantifiable. Morris added the only thing we can quantify is how regulations impact humans. Scharf added what's obvious is that what we are doing is not working. The stock has been declining the last 20 years.

Seigler asked what the relationship between female crab abundance and recruitment is. Zapf explained the crab life history and there is a poor relationship, as many factors can limit recruitment. Staff noted that they can spawn up to seven times. We would hope to see more recruitment if we protected the females. Smith noted that the MFC went with a 50% probability of success, and it didn't work. We need to pick options with a higher probability of success. Every time we pick the minimum, it gets us nowhere, it has happened for multiple species. Seigler disagreed and noted that VA had no harvest of female crabs, and they are still in the same situation as us and the states to the south. Morris again noted that predation was the problem as well as water quality. Smith said water quality issues were outside of DMF's control. Boyce remarked if we always select 50%, half of our plans should be working. Seigler and Morris didn't agree with the results of the assessment and noted it was not what they were seeing in their pots.

Seigler noted again limiting sponge crabs has been tried by other states and doesn't work. I have an issue with a 10-day soak period where people run 150 pots. The success of the spawners is something we can focus on. The pinfish are eating all the eggs if they are in the pot that long. If we could have a three-day soak period. You get good fresh crabs with high survivability. The longer the female crab stays in the pot; she will drop all her eggs. Corbett said we currently have a 5-day soak period. Many complain about weak markets; thus, they need to let them soak longer. Seigler noted that every day a crab sits in the pot she is losing weight and that the current regulations for sponge crabs don't align with the 30-day black and brown sponge life stage. Noting if you extended the black and brown into May, it would give the female crabs the opportunity successfully spawn.

Seigler said he disagreed on limiting the harvest of the sponge crabs, noting that other states didn't see the benefits. Morris noted sponge crabs are mainly on the east side of Core Sound because the water has higher salinity. The larger male crabs are in the brackish water on the western side. The Central AC voted on the regulations the way we did because at the time we felt like it was going against our crabbers. We don't have as many male crabs on the east side. Staff noted that everyone fishes different in each region. Seigler added that in the southern region, it is totally different here. I've found brown sponge crabs far up the creeks. Corbett noted that may be due to the salt wedge. Thus, the division has sampling stations higher up rivers to account for this.

Morris noted crabbers in New Bern have strings of 400 pots and fished up to 2,000 pots, fishing different strings on different days. There used to be a lot of bad blood between the crabbers and shrimp trawlers, but nobody is fishing. Now there are hardly any pots. It's not the same effort that it was 20 years ago. Staff noted that technology is better and people still fish 1,200-1,600 pots. Noting that catch per unit effort should

be increasing but it's not. Corbett asked if there was anything that could be done economically. Can we get more people involved, and are there any efficiencies? Morris noted people are fishing and making money, but they are having to do other things to supplement their income. There is a lot of overhead, nobody is getting into it. It's expensive. Those with the larger strings of pots are boats with families of three or more putting all their money in one pot.

Morris asked about crab trawling for hard crabs and peelers. In Core Sound crabs shed out first on the east side, we are still able to make good money. The soft crab trawl is prosecuted in shallow water. It's not like hard crab fishing. They get good money for those first crabs. They go across the sound and get green-line shedders because they shed out later. I used to crab for hard crabs. It's done at a similar time. It was an in-between fishery; in between sink netting in the winter and shrimping in the spring. We used to catch conchs (whelks) and it was just as good money. Staff indicated that the division looked at the hard and soft crab trawl fisheries. We have seen an uptick in trawling as well as an uptick in conflict in areas where potting and trawling overlap. Morris noted that trawlers fishing for soft crabs are fishing in a different place. The hard crab trawling occurs in December, mostly the end of February. They emerge out of the mud in March. Corbett noted that many fishermen were using trawls because they were not coming out of the mud and not potting. Morris added you can't catch them in the mud.

### **COLLABORATIVE CONVERSATION BETWEEN THE DIVISION, ADVISORY COMMITTEE, AND THE PUBLIC**

Glenn Skinner, Executive Director of the North Carolina Fisheries Association, in the 1950s and 60s there wasn't too much crabbing and then there was a big jump in landings. What caused this? I think the decline in the landings is part of a larger cycle, the decline we are seeing is just part of the cycle and we will see an uptick eventually. We see this with other fisheries as well. Corbett noted the markets were different, and their value was low, thus effort was low. The peeler fishery has changed over the years as their value has increased, now more trips are occurring. Skinner noted the sponge regulations were put in place following the decline, it didn't work, and it was later dropped, and the crabs came back. I'm not opposed to management. Zapf noted that historically not much has been done over the years. Morris said in the 1950s something was done, and it was done away with. Jason Rock indicated that the sponge crab harvest regulations were dropped when the spawning sanctuaries were implemented. Since their creation they have been modified over the years with the different amendments. In 2000, a study evaluating spawning sanctuaries found that just as many female crabs were caught outside of the sanctuaries as inside; therefore, indicating that we needed to expand the sanctuaries which we have done over the years. Skinner noted that his family didn't think the sponge crab regulations did anything. We don't want to catch the last crab regardless of what you heard last night. If you go from the 1990s to the 1960s, you must look at it holistically. Have the other states seen similar declines and rebounds? Has it happened elsewhere and is it environmentally driven? Seigler noted you have to have east winds to have crabs. Rock noted there have been studies that show that environmental changes affect recruitment. The reality is that we still must figure out what to do considering the changes. Morris added why do anything, you are not going to get the last crab. It's not the effort, it's happening anyway no matter how many people fish. We must look at predation by red drum. When the red drum restrictions came the decline blue crabs started happening.

Ronnie Williams, commercial fisherman and fish house owner, noted that there is a blue catfish problem in the Cape Fear River however there is no market. While I do catch some blue catfish and sell in my market, the ones I catch they are full of crabs. The USDA regulations really impacted the wild caught catfish. Everything must now go through USDA plants. I can't cut a catfish currently. Corbett noted that the regulations were pushed through by federal government and that not all processing plants can meet the guidelines. Morris asked how blue catfish got here. Staff indicated they were introduced, and they have taken over our waters.

Bissette noted at last night's AC meeting we heard many crabbers had to take lay days due to the markets and asked if any options would benefit the markets and still get reductions. Morris noted that crabs demand top dollar so there isn't much you need to do. The lack of picking houses has impacted the landings. In Davis, the biggest crab picking plant is gone, but they are still making crab cakes. But it's not local caught crabs they are using. Staff noted the division wants to work with the industry. We hear it's supply and demand, but why is the cost still so high per bushel. The money doesn't appear to be going back to the fishery. Morris indicated the crab market is much like shrimp, in 2004 the price of shrimp didn't change when fuel prices went up. Carteret Catch is trying to address this, but it is difficult, many restaurants are selling things as local when they aren't. There is also a shortage of people who locally process seafood.

Jeremy Skinner asked about how the division collected the P120 data. Seward described the trawl and survey design. Glenn Skinner noted that what the division used was not a crab trawl, a shrimp trawl rides off the bottom and is ineffective at catching crabs. We need a designated crab survey. Skinner said there is a need to address the issues with the stock assessment and collect better data. He further added that crab abundance can change quickly and often; however, it's hard to discuss and debate what needs to be done when I don't fish for crabs anymore. You really need to hear from the people who are in it, some people are having to take lay days because there are so many crabs, it's hard to understand how things are as bad as the assessment says they are. Seigler noted gulf stream doesn't seem to bring the sargassum and the small crabs in like it used to.

Scharf asked if there is any other options the AC wanted to see and asked staff if the matter was coming back to the AC? Staff indicated that it would be brought back later; however, the division was looking for additional input prior to developing the options any further. Seigler noted that for black and brown sponge crabs there are two different time frames that need to be accounted for. Noting that it is the end of April in the southern part of the state and end of May for the northern. Staff noted that the current sponge brown-black crab moratorium could be examined regionally; however, enforcement can be an issue when things are based on color. The brown-black sponge crab period is short and typically only is a 10-day period. Seigler noted that the gestation period is about six weeks long from start to finish, and he would like to keep the black and brown sponge moratorium but look at regionally. Like you said, it's a 10-day spawning period, but if she is in a pot, the pinfish are picking the sponges apart and it won't matter.

Morris asked about what committees this was going to. Staff indicated that it was part of Amendment 3, and it doesn't require a full amendment or FMP AC. Adaptive management doesn't require a stock assessment but requires consultation with certain regional and standing ACs based on the measures chosen. Corbett again noted that only quantifiable measures will be considered. Non quantifiable measures can only be put in place with another amendment. Bissette noted the division wanted input early. Even if we don't have the Blue Crab AC together, it doesn't mean we aren't getting public input; thus, these meetings.

Regarding non-quantifiable measures, Glenn Skinner noted that he had a conversation with Steve Poland the former section chief about an invasive species FMP. Invasive species keep coming up, could invasive species FMP be developed to control them to ensure the viability of economically important species? Corbett said there is an invasive species task force that a collaboration of several agencies to address this issue. For blue catfish, it's a coastwide issue. The Chesapeake Bay is working on a plan, and if successful we would like to mirror it. One of the issues with blue catfish is, there is a lack of market for them. So, there is not much incentive for fishermen to fish for them. Other states have problems with blue catfish populations, and they can flood the market and sell catfish cheaper due to lower shipping cost. The USDA certification is another hoop for fishermen to jump through. Virginia has looked at electrofishing, but it doesn't seem like it has an impact. Other grants have been given to fish processing plants, but the value is just not there. Some people like trophy catfish, so it's difficult to manage for all users. In the Albemarle, trotlines are a good method for catching catfish, but the market still dictates the effort. Staff noted USDA certification was put in place federally to combat cheap imported catfish flooding the market. Virginia and

Maryland law makers are working to change the certification to not include wild caught catfish. The certification is being evaluated as we speak to help support local fishers. Skinner noted that the NCFA has been working with the NC Farm Bureau to address the USDA regulations.

### **ISSUES FROM AC MEMBERS**

No issues were provided by the AC.

Bissette noted that a blue crab pot survey would take a lot of funding and support. He further noted that people need to talk to the legislators about getting more funding to the division to address needs such as this. Seigler indicated that he was under the impression that the survey was in Amendment 3 as approved by the MFC. Jason Rock noted that it was not part of the amendment, but we have put in a request and have put together a sampling design and cost estimates. We will need funding and new staff, it's more than just putting pots in the water. Morris noted she was frustrated that every time a model gets updated, things appear to decline. She asked that the old models be reevaluated in addition to better indices.

Bissette noted the AC will be discussing spotted seatrout management at the Oct. 9, 2024 meeting. This will be an in-person meeting and will be held at the Wilmington Regional Office.

Pam Morris motioned to adjourn, seconded by Samuel Boyce. The meeting ended at 8:49 p.m.



ROY COOPER  
*Governor*

MARY PENNY KELLEY  
*Secretary*

KATHY B. RAWLS  
*Director*

Oct. 15, 2024

**MEMORANDUM**

**TO:** Marine Fisheries Commission  
Southern Regional Advisory Committee

**FROM:** Chris Stewart, Biologist Supervisor  
Tina Moore, Southern District Manager  
Fisheries Management Section

**SUBJECT:** Meeting of the Marine Fisheries Commission's Southern Regional Advisory Committee, Oct 9, 2024, to provide recommendations for the Spotted Seatrout Fishery Management Plan Amendment 1

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The Marine Fisheries Commission's (MFC) Southern Regional Advisory Committee (AC) held a meeting on Oct. 9, 2024, at the Department of Environmental Quality Wilmington Regional Office, Wilmington, North Carolina and via webinar. AC members could attend in either setting and communicate with other committee members. Public comment was received in-person and the meeting was streamed to the public not in attendance via YouTube.

The following Advisory Committee members were in attendance: Fred Scharf, Jeremy Skinner, Pam Morris, Ken Siegler, Sam Boyce, Tom Smith, Jason Fowler (Absent – Tim Wilson, Michael Yates, Jeff Harrell and Truby Proctor)

Division of Marine Fisheries (DMF) Staff: Kathy Rawls, Lucas Pensinger, Melinda Lambert, Jason Parker, Chris Stewart, Tina Moore, Jason Rock, Dan Zapf, Garland Yopp, Hope Wade, Jesse Bisette, Jeff Dobbs

Public: Glenn Skinner. There were 28 viewers on You Tube.

MFC Members: Sammy Corbett, William Service

The Southern Regional AC had seven members present at the start of the meeting and a quorum was met.

Southern Regional AC Chair Fred Scharf called the meeting to order at 6:00 p.m. The Chair opened the floor for the AC members and DMF staff to provide introductions.

**APPROVAL OF THE AGENDA AND APPROVAL OF THE MINUTES**

**A motion was made to approve the agenda by Tom Smith. Second by Jason Fowler. The motion passed without objection.**

**A motion was made to approve minutes from April 10, 2024 by Jason Fowler. Second by Tom Smith. The motion passed without objection.**

**PRESENTATION ON THE DRAFT SPOTTED SEATROUT FISHERY MANAGEMENT PLAN AMENDMENT 1**

Staff started the presentation with a timeline of the FMP process and asked that the AC give their recommendations to send to the MFC for the draft Spotted Seatrout Fishery Management Plan (FMP). Staff will present the standing and regional ACs' recommendations at the November MFC meeting. The MFC will select its preferred management options at its November meeting and then vote on final adoption of Amendment 1 in February 2025. The goal of Amendment 1 is to manage the Spotted Seatrout fishery to maintain a self-sustaining population that provides sustainable harvest based on science-based decision-making processes. Since current management was fully put in place in 2012, recreational harvest has accounted for about 86% of total harvest and commercial harvest has accounted for about 14%. Landings in both sectors are variable, but recreational landings have generally increased throughout the time series with periods of low harvest in both sectors following cold stuns. Landings in both sectors dramatically increased in 2019 and remained high through 2022. However, recreational landings decreased sharply in 2023. Commercial landings also decreased in 2023 although that drop was not as steep as what we see recreationally. Approximately 70% of recreational harvest occurs in the peak October-February season. A similar pattern is seen for the commercial sector; however, landings can extend into the winter months. Historically anchored gills nets landed most of the commercial catch; however, in recent years runaround gill nets land most of the fish.

The last stock assessment indicated spawning stock biomass (SSB) was well above the threshold; thus, the stock is not overfished. However, fishing mortality ( $F$ ) or the rate at which fish are removed due to fishing, was above the maximum ratio ( $F/F_{20\%}$  ratio = 1) in the terminal year indicating that overfishing was occurring. To keep spotted seatrout biomass at levels that support the fishery we have seen in recent years, we need to end overfishing by reducing fishing mortality. The options presented today are intended to benefit the stock and end overfishing. The first issue paper looks at characterizing the small mesh gill net fishery for spotted seatrout, the predominate gear used to harvest the species commercially. This paper examines mesh size restrictions and trip and yardage limits. The next issue paper is the sustainable harvest issue paper. Management measures discussed in this issue paper are quantifiable and projected to meet the required reduction in spotted seatrout harvest based on the terminal year of that stock assessment. At least a 19.9% harvest reduction is required to meet the fishing mortality or  $F$  threshold, while a 53.9% harvest reduction is needed to reach the  $F$  target. Harvest reductions in the issue paper are based on harvest from 2019 to 2022. Management measures that reduce harvest so that  $F$  falls somewhere in between the threshold and target need to be somewhere between 19.9% and 53.9% to achieve the highest probability of SSB staying above the target.

To achieve the reductions needed to end overfishing, options include size limits, season closures, bag/trip limits, stop net management, combinations of measures, and adaptive management. Staff then reviewed supplemental options that would benefit the population but could not be quantified, which include vessel limits, effort controls, gear requirements, tournament restrictions, and commercial hook and line harvest. Staff next discussed how adaptive management could be used to address cold stuns. Currently the Director can close the spotted seatrout fishery by Proclamation through June 15 in the event of a severe cold stun which allows surviving fish a chance to spawn before being subject to harvest. The issue paper discusses additional management options on top of the seasonal closure through June 15. Management measures that could be adjusted through cold stun adaptive management specifically include temporary measures like extended season closures, reduced bag and trip limits, and size limits. The cold stun adaptive management process would start with the Division evaluating the cold stun by analyzing water temperatures, reviewing cold stun reports, and using onsite data collected by Division staff. It would also include analysis of fishery independent data looking at indices of abundance and length frequencies. If a cold stun was deemed

especially severe, then the Director can implement temporary management measures using adaptive management.

The preliminary DMF management recommendation to end overfishing is for a January through February statewide harvest closure for both sectors, a 14- to 20-inch recreational slot limit with an allowance for one fish over 26-inches, a 3 fish recreational bag limit, and a commercial harvest closure from 11:59 p.m. Friday to 12:01 a.m. Tuesday, October through December. This mirrors the fall weekend closures recently adopted in Amendment 2 of the Striped Mullet FMP. Additionally, the preliminary Division management recommendation is for no changes to the quota in the Bogue Banks stop net fishery, but to formalize the management of that fishery in Amendment 1. And finally, the preliminary Division recommendation is to adopt the adaptive management framework to allow the Division to respond more quickly to ensure sustainability goals are met. The preliminary recommendations would result in a recreational harvest reduction of just over 1.3 million pounds or 39.5% while commercial harvest would be reduced by about 228 thousand pounds or 40.2%. This would combine to a total harvest reduction of 39.6%. When we look at the breakdown of each sector's contribution to the total harvest reduction, we see that it aligns almost exactly with the proportion of total harvest (85% recreational, 15% commercial), making these reductions equitable. The preliminary Division recommendation in Appendix 3 is to eliminate the captain/crew allowance for spotted seatrout. This idea had some support from the for-hire industry and would stop the practice of harvesting multiple captain/crew limits in a day. The preliminary Division recommendation for Cold Stun Management is to extend the harvest closure in the event of a severe cold stun through June 30 and adopting the cold stun adaptive management framework. Extending the closure through June 30 protects spotted seatrout that survive the cold stun through the entire peak in spawning. The adaptive management framework allows the Division flexibility in responding to an exceptionally bad cold stun.

Scharf opened the meeting for clarifying questions regarding the presentation and stock status. Fred asked about the current regulations (i.e., four fish bag limit, 14 in minimum size limit, closure after cold stun until June 15) and asked if the DMF recommendation is to extend the cold stun closure for two weeks. Staff indicated that was correct. Siegler noted they will spawn Aug. into Sept. Smith asked if 39% reduction would keep spawning stock biomass at the target. Staff noted that it would and explained it would be between the black and purple lines in the figure shown; however, the fishing mortality rate would need to be calculated. Siegler asked if a 15-inch size limit was looked at. Pensinger noted it was as well as slot limits. At the workshop, there was some support for a slot even though it may be unrealistic as it would be very tight and would only reduce the catch by a tenth of a percent. Siegler expressed his concerns with discards. Pensinger noted that while the bigger fish do contribute more to the stock, there are not as many of them and fewer landed. Further noting that there is limited research on fecundity. Scharf asked if all the combinations included a trophy fish option and asked how much it contributed to the reductions. Staff noted it was not very much; about 0.5%. Siegler cited the need to protect fish in every age group. Boyce asked how long it takes for a fish to grow to 26 inches. Pensinger noted about 3-20 years. Scharf added that it is probably about six years on average, and it depends on diet, location, among other factors. Boyce asked if all three options had a trophy fish as part of the three fish bag limit. Staff indicated that they did.

Siegler noted that a robust mortality study is needed for the stock assessment. In 2008, 88% discards were sub legal fish and noted that the 14-inch size limit has created more discards. Sigler asked what percent of released fish that are sub legal die. Staff noted that MRIP only documents if the fish was harvested or released and it doesn't identify if it was because it was over bag limit or undersized. Siegler noted that most of the mortality is coming from fish under 14 inches. Pensinger noted that the Jeff Gearheart study didn't find that size was a factor, but they did include it as a co-variate in their model. What was significant was deep hook or injuries. About 10% of fish fell under that condition. There was a range of mortality rates found in published literature, but the mortality rate used in the assessment came from the NC study. Siegler added that when the spikes are schooled up, anglers can catch 75-100 fish, so it has to be a problem. Most releases are below 14 inches. The stresses on a 24 inch and 12-inch spike are different from what I have



seen. Smith noted water temperature had a lot to do with mortality if I recall. Staff noted that for spotted sea trout, water temperature was a significant source of mortality. However, in a Sea Grant gill net study, water temperature did have a significant impact on striped bass, not spotted seatrout. Smith noted that cooler water should help when the fishery is really seeing a lot of effort. Pensinger noted that this type of data is difficult to get and that MRIP and the carcass collection program doesn't see the fish that get released. Boyce noted one of the goals was outreach and interjurisdictional cooperation and didn't see any of that in the plan. Further citing he has seen literature about hook type, but no promotion of not fishing on spikes. Pensinger noted that this is promoted via the ethical angling program. Boyce again noted that ethical angling needs to be included in the plan.

Scharf asked for clarification why slot limits are so prevalent in the management options provided. Was there a lot of support for this? Pensinger replied that there was. Scharf asked about option 5.e and noted that it achieved a 30% reduction, 5.j adds a slot and it goes up to 39.5%. This really illustrates how much the slot can do. Pensinger noted the public support for the trophy fish allowance (one fish >26 inches) as many people wanted an opportunity to break the state record. Scharf noted that allowing one fish over 26 appeared to be insignificant. Pensinger noted that it was, so it was dropped and that most of the reductions came from the slot limit. He added that the bag limit helped with escapement. Siegler asked how the Jan.-Feb. closure would work with the NCWRC rules related to non-game fish? Pensinger noted there should be enough lead time to get the rules adjusted. Boyce noted that during striped bass season, you will run into some spotted seatrout particularly in Brunswick Co. and that it could be an issue. Scharf also noted that could be an issue in New River as well.

Morris noted that the spotted sea trout stock assessments have been shaky for a while. It was overfished, in one, another said it was never overfished, etc. How confident are you with your assessment? Your figure, that projects out to 2035 how confident are you? Staff noted that the 2008/2009 assessment assigned some of the mortality to natural winter mortality. In the current assessment, winter mortality was allowed to be variable which is more realistic and found higher natural mortality (M) in cold stun years. Pensinger noted that it was a better model, and he is more confident but noted that the projections always have assumptions, and the conditions don't always happen the way we want. Recruitment varies, there will be cold stuns, hurricanes, etc. It gives a good snapshot of the fishery. Morris asked why more restrictions were needed for the commercial side when all the mortality is coming from the recreational fishery. She further noted that gill nets let the little fish through. Pensinger noted that the commercial landings from 2018 to 2019 increased over 100% and that the percentage of the reductions are based on the proportion of the landings taken by each sector. He further noted that in the division's gill net study, smaller fish are rarely caught, and it would take a very small range of mesh sizes to have a commercial slot limit. Smith noted a slot would not work for commercial sector. Morris concluded that we need to do the right thing for both sides. Bissette noted that people focus on the harvest reductions too much, and that we don't always get the reductions that we need. Thus, it may be best to focus on the options that are more preferable than others. While you must look at the reductions, we need to look at the totality of the options and how it would impact how each sector fishes. While 40% is a lot, we need to look at the options as a whole. Siegler noted that with flounder, the commercial sector caught 70% of the landings while the recreational sector caught 30%; nothing stopped the recreational sector from catching as much as the commercial sector. If you would have left it alone and have no allocation, everyone could catch what they needed. What happened to flounder will happen with spotted seatrout. You are creating conflict. Smith added that public perception is always an issue and if it doesn't appear to be equitable, it creates a problem.

Siegler noted that in 2013, the Finfish AC recommend that fishermen be allowed two limits per fishermen on one boat with a single set of gear. Noting that it was safer to have two people on board. We would be taking gear out of the water, while still allowing each to catch their limits. He further added that the NCMFC approved it 9-0 to go in the next FMP. I didn't see anything about in this FMP. Morris noted how the current regulation came in rule, noting that while that was discussed for a 25 fish trip limit, ultimately a 75 fish

limit was agreed upon. Siegler again cited that if two trip limits were allowed on one boat with one complement of gear, it would get gear out of the water. Scharf next opened the floor to public comment.

## **PUBLIC COMMENT**

Glenn Skinner, Executive Director NC Fisheries Association, asked for clarification about the target spawning stock biomass (SSB) projections shown in the Appendix 2. Skinner noted that at 50% probability (blue line in figure), it looks like if we keep fishing at this rate for the next 11 years, the stock will not be overfished because we will not hit the threshold. Pensinger noted that the figure is solely for the target and not the threshold, adding a different chart would have to be made for the threshold. He added the y-axis is the probability of staying above the target SSB and explained what each of the color-coded lines meant in relation to the target SSB level. He further noted that the purple line would get SSB where it needs to be for the target and that a lot of assumptions would have to be met. Scharf noted that the projections can't be used in the other direction. Pensinger added that going higher than the purple line, would lead to a higher probability of ending overfishing, thus keeping people happy with the biomass. He noted the 50% probability is not coming into play as we are not trying to rebuild the stock, we are just trying to end overfishing. Siegler asked why project past two years. Pensinger noted that we must look long term and keep SSB above the target. There are a lot of fish available, and we want to keep SSB above the target, thus keeping people happy. Scharf added that there are statutory requirements, nothing says the preferred management measures can't go over the target.

Skinner also noted that he had concerns with stock assessment, it is hard for the industry to get past an assessment that changes so much. SSB keeps changing. Overfishing occurred, then it didn't, etc. There is so much uncertainty with recreational data and it's going to change again. There is reason for us to doubt SSB and F, because they have changed drastically. We saw the same issues with southern flounder and striped mullet. We can't take harsh reduction with so much uncertainty. I don't see how you can overfish a stock in one year. We can't support management that doesn't address recreational dead discards. You are just turning harvest into dead discards. Skinner next asked about the MRIP FES estimates. Scharf went over how some of the federal councils have dealt with the uncertainty and how the bias could not just be in one direction. The messaging went out too early before we knew what was going on, making some people think the bias went in one direction. At this point there is no way to determine which direction the bias goes until the comprehensive review of the FES is complete. He further added that with the spotted seatrout assessment the impact of cold stuns was not incorporated in the first assessment and a compressive study was done using tagging data to determine quantitative impact; thus, things changed. The current assessment does a much better job incorporating this data. The models keep advancing but can be frustrating for all involved. Skinner noted that a 40-50% harvest reduction is huge especially when a slight degree of uncertainty can lead to where we are today. We need to use two years, not just the last year. Scharf added that the impact of the last year of an assessment (terminal) is downgraded because a three-year average is used. Skinner added that nobody knows what is happening with these stocks. With all the model changes, new inputs, etc., it's hard to determine if we achieved anything.

## **VOTE TO RECOMMEND MANAGEMENT OPTIONS TO THE DRAFT SPOTTED SEATROUT FISHERY MANAGEMENT PLAN AMENDMENT 1 FOR MFC CONSIDERATION**

**Motion by Tom Smith to recommend option 5.i in Appendix 2 of the draft Spotted Seatrout Fishery Management Plan Amendment 1 for the recreational fishery (Jan-Feb closure, 3 fish bag limit, 14-20" slot limit with 1 fish over 26"). Second by Sam Boyce. Motion passes 5-0-2.**

Scharf called for a discussion on the motion and asked if the spotted seatrout workgroup supported the DMF approach. Jeremy Skinner noted that at the spotted seatrout AC meeting this option was a lesser of evils and said there were a lot of different opinions. Siegler noted that the slot limit seemed narrow and was

concerned with discards. Smith noted it was a 39.5% recreational reduction; however, since the recreational fishery is the biggest user group they must do their part. Adding while it's hard to quantify discards, it's the right thing to do and the MFC makes final decision. Boyce noted that a lot of people are already throwing back fish over 20 inches. Smith noted that the slot allows people to keep fish that are eating size and that discards will happen if fishing is occurring. Some people will still fish on undersize trout, and you can't stop that unfortunately. Morris added that they grow fast and have lots of babies, so it's not an issue. Siegler again disagreed with a slot.

**Motion by Tom Smith to recommend extending the closure to June 30<sup>th</sup> following a severe cold stun. Second by Sam Boyce. Motion passed passes 7-0.**

Siegler said he would like a 10% bycatch allowance during the cold stun closures like had been done in the past. Pensinger noted that there was not an allowance for keeping fish when the fishery was closed. Pensinger noted that at one point there was an allowance, and the people could collect cold stunned fish, but currently when it's closed its closed. He added that we are still operating under the original FMP with supplement measures, it should still be no allowance. Morris noted that if it's there, it's still there. Staff indicated that if it's there, it will continue. The question was called.

**Motion by Tom Smith to recommend option 1.b in Appendix 3 of the draft Spotted Seatrout Fishery Management Plan Amendment 1 (eliminate the captain/crew allowance in the recreational spotted seatrout fishery). Second by Fred Scharf. Motion passes 7-0.**

Morris asked what the spotted seatrout workgroup had to say about eliminating the captain and crew allowance. Skinner noted they weren't against it. Smith said, individuals should only be able to catch their limit and not someone else's, it's only fair.

**Motion by Fred Scharf to recommend adopting the adaptive management framework for sustainable harvest in Appendix 2 (option 7) and the adaptive management framework for cold stun management in Appendix 4 of the draft Spotted Seatrout Fishery Management Plan Amendment 1 (option 4). Second by Jason Fowler. Motion passed 4-0-3.**

Scharf explained the adaptive management allows for more flexibility between plans to address emerging issues. Adding that the division can't add new things, but only tweak existing measures. Moore noted that adaptive management allows specific management to be quickly implemented via proclamation as needed to react to stock concerns that meet the variable conditions described in the FMP and in rule. Input from the public is also considered in the process it's not just the will of the Division or the MFC. Morris indicated that she has not been satisfied with adaptive management. Moore asked Morris to give an example of recent times where it didn't work. Siegler indicated he didn't think it worked for the striped mullet fishery. Morris said with the blue crab plan. Moore asked if the dissatisfaction was with the plan or the management between plans. Morris noted that three to five years is not very long to wait between plans and adaptive management really is not needed. Fowler added it just allows you to change things before the next plan. Siegler again noted his dissatisfaction with how adaptive management was used for the striped mullet FMP. Staff clarified how adaptive management is used. Smith noted that adaptive management has been approved for several species recently and that flexibility is need. Siegler noted the original process of looking at it every five years allows you to see how changes impacted the fishery. You never see how the changes impacted the fishery. Scharf added that you can't account for human behavior. You can look at effort and removal rates and see what modifications are needed after the first year. It's not just the director, it's also the MFC. Pensinger noted that we do not make changes without input. Moore gave the example of how adaptive management was used to implement diamond back terrapin excluders in the Masonboro Sound area following some research that was done in collaboration with UNCW and a local fisherman. Adaptive management helped to balance the needs with the fishermen and reduce diamond back terrapin catches in

pots. This allowed closure windows to be developed. It required input from Shellfish/Crustacean AC and the MFC for the areas.

**Motion by Sam Boyce to recommend adopting option 1.a from Appendix 2 of the draft Spotted Seatrout Fishery Management Plan Amendment 1 (no change to commercial size limit). Second by Tom Smith. Motion passed 7-0.**

Siegler indicated that he would like to allow two allowance (75 fish) on one vessel with one gear limit. Scharf indicated that the DMF position was for status quo on the commercial bag limit.

**Motion by Ken Siegler to recommend allowing one vessel with one set of gear with two commercially licensed individuals on board to possess two commercial trip limits of spotted seatrout. Second by Jeremy Skinner. Motion passed 7-0.**

Scharf noted that this would make things more efficient. Morris added there would be less discards and is like what is allowed for clams and oysters. Siegler noted it would take gear out of the water. Smith indicated if it was one set of gear, then he was good with the motion. Moore noted that a similar allowance is done for flounder pound nets. Morris noted that there should be less discards. Smith then asked that a motion be made to close the commercial season while the recreational season was closed. Pensinger indicated that the DMF recommendation is a statewide closure for both sectors.

**Motion by Tom Smith to close the commercial spotted seatrout fishery in January and February to match the recreational closure period. Second by Fred Scharf. Motion passes 4-3.**

Smith indicated that he didn't want to address trip limits at this time. Morris asked what the commercial harvest was during this time. Pensinger indicated it was approximately 20% of the harvest. Siegler added you will see the fish when it ices over. Morris noted that it would be closed due to a cold stun so it wouldn't matter. Skinner indicated that he didn't agree with the recommendation because it's about the only thing you can fish for during that time of the year. Siegler asked if the DMF position also mirrored the mullet closure. He also added that a lot of other fisheries would be closed as well. Fowler read the difference between the motion on the floor and the DMF recommendation. Smith noted that his motion was just for the Jan. and Feb. closures. Skinner noted that he didn't want any of it regardless. Scharf asked if most of the reductions were coming from this time. Pensinger noted that about half of the commercial reductions were from Jan. and Feb. closure, the other half is from the weekend closure. The division was concerned with recoupment and thus wanted to match the mullet closure. Spotted seatrout don't leave the system like mullet, spotted seatrout will aggregate and more susceptible to harvest. Mullet will leave the system. Siegler noted that when the fish move to inland waters there will be an issue with WRC, especially when mullet fishing. He added that you are going to catch a few trout and red drum while fishing for mullet. Scharf noted that he is not an advocate for weekend closures because people change behavior, so it doesn't work. Scharf added that this will get at least half of the commercial reductions that are needed. Siegler again noted that it's the only fish around. Pensinger noted that the commercial season closure alone accounted for a 21% harvest reduction and that it meets the statute to end overfishing. Morris said there isn't any overfishing to address. Fowler asked about the stop net fishery. Pensinger noted that fishery is monitored using a quota and they have not met that in years. What the DMF recommends is to formalize the MOU in the FMP and not change anything.

**Motion by Ken Siegler to recommend option 4.a in Appendix 2 of the draft Spotted Seatrout Fishery Management Plan Amendment 1 [4,595 lb stop net season quota with terms and conditions of stop net fishery and responsibilities of the stop net crew outlined in Memorandum of Agreement (MOA)]. Seconded by Pam Morris. Motion passes 3-2-2.**

Staff indicated that it eliminates the needed to track down people to get the signatures needed for the MOA and makes issuing the proclamation easier. Nothing changes, it only formalizes the process. Pensinger noted that only one person fishes the fishery, and he agrees with the recommendation. Siegler later objected to the need to formalize MOA, stating that if it is working currently why change it? Scharf called the question.

### **ISSUES FROM AC MEMBERS**

Bissette indicate at the next meeting the AC will be discussing the Oyster and Clam FMPs in Jan. He asked if there was any interest in having the meeting in Dec. since we need to meet in person. Some members indicated they had a lot going on in Dec. Scharf noted it may be best to have it in Morehead City since most members live near there. Bissette indicated that the meeting will remain scheduled for Jan. for now. Smith asked what happened at the Aug. MFC meeting. Bissette noted a presentation on the draft options of the Spotted Seatrout Amendment 1 was given, an update on blue crab, as well as rule making updates. He noted that blue crab was coming back to the AC in April. The MFC also voted to request the Secretary to reopen the Southern Flounder FMP; however, the DMF has not heard back from Sectary's office. Scharf indicated that while he would be stepping down from the AC, he will attend the Jan. meeting.

Pam Morris motioned to adjourn, seconded by Samuel Boyce. The meeting ended at 8:58 p.m.



ROY COOPER  
*Governor*

MARY PENNY KELLEY  
*Secretary*

KATHY B. RAWLS  
*Director*

Oct. 6, 2024

**MEMORANDUM**

**TO:** Marine Fisheries Commission  
Shellfish Crustacean Standing Advisory Committee

**FROM:** Tina Moore, Southern District Manager  
Fisheries Management Section

**SUBJECT:** Meeting of the Marine Fisheries Commission's Shellfish Crustacean Standing Advisory Committee, Sept. 26, 2024, to have conversation between the Division and the Advisory Committee on options available in the Blue Crab FMP through the Adaptive Management framework adopted in Amendment 3

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The Marine Fisheries Commission's (MFC) Shellfish Crustacean Standing Advisory Committee (AC) held a meeting on Sept. 26, 2024, at the Division of Marine Fisheries (DMF) Central District Office, Morehead City, North Carolina and via webinar. AC members could attend in either setting to communicate with other committee members. Public comment was received in-person and the meeting was streamed to the public not in attendance via YouTube.

The following Advisory Committee members were in attendance: Mike Blanton, Mike Marshall, Lauren Burch, Ryan Bethea

Online: Ted Wilgis, Tim Willis, Michael Hardison (Absent –Mary Sue Hamann, Jim Hardin, Bruce Morris, Brian Shepard)

Division of Marine Fisheries (DMF) Staff: Tina Moore, Jason Rock, Dan Zapf, McLean Seward, Robert Corbett, Daniel Ipock, Hope Wade, Jessie Bisette, Brandi Salmon, Alan Bianchi, Brooke Anderson

Public: None. There were two viewers on You Tube.

The Shellfish Crustacean AC had six members present at the start of the meeting and a quorum was met.

Shellfish Crustacean Standing AC Chair Mike Blanton called the meeting to order at 6:00 p.m. Chair Blanton said there will be no votes today and will be discussing adaptive management of blue crab.

**APPROVAL OF THE AGENDA AND APPROVAL OF THE MINUTES**

Jessie Bisette indicated that the AC would not be voting to approve the minutes from the Apr. 11, 2024 meeting. On Aug. 6, 2024, the NC Court of Appeals found that for a quorum to be met, members must physically attend meetings to cast votes. Members attending virtually can still participate in meetings;

however, they cannot vote on action items. While this case was from a ruling involving the Anson Co. Sheriff's Department, this will impact votes cast by members attending virtually tonight. The AC will vote on the approval of the Apr. 11, 2024 minutes at the next meeting. We are working with legal and the Department of Justice now to determine if virtual votes are valid, particularly if one of the virtual votes is a deciding vote. Jessie asked that members attend the next meeting in person. Fifty percent of the members plus one or six people must be present for a quorum for the Shellfish Crustacean Advisory Committee.

Tim Willis expressed many boards do virtual meetings and votes. Lauren Burch asked for clarification on what is a quorum. Bissette said fifty percent of the members plus one or six people must be present for a quorum for the Shellfish Crustacean Advisory Committee. Right now, it's looking like the virtual votes will not count. Blanton said this meeting is to share ideas and there are no planned action items at this meeting requiring a vote and a couple of members are participating virtually.

### **PRESENTATION OF BLUE CRAB FMP AMENDMENT 3 ADAPTIVE MANAGEMENT POTENTIAL OPTIONS**

Robert Corbett, lead biologist for blue crab, presented a brief history of blue crab management in North Carolina, the 2023 stock assessment update, and the adaptive management framework. In 2023, the division began updating the 2018 benchmark stock assessment with data through 2022. Results of the model update indicate trends in estimated recruitment, female spawner abundance, and fishing mortality were similar to the benchmark assessment; however, the maximum sustainable yield-based reference points used to determine stock status for both female spawner abundance and fishing mortality both drastically changed with the expanded time series. Due to the magnitude of the change in reference points, the division requested an external review of the updated stock assessment which was completed in December 2023. The reviewers identified concerns with model specifications and results. They strongly recommended resolving these issues before basing management decisions on assessment results. Suggestions provided by reviewers can only be incorporated through a new benchmark stock assessment. Given concerns with the updated assessment, identified by the division and external peer reviewers, the division does not recommend using results of the 2023 stock assessment update to inform management decisions.

The original North Carolina Blue Crab FMP was adopted in December 1998 and Amendment 1 was adopted in December 2004. Following Amendment 1 was Amendment 2, which was adopted in November 2013. The Amendment 2 adaptive management framework relied on annual updates to the Traffic Light Stock Assessment which provided information on the relative condition of the blue crab stock. The traffic light stock assessment gets its name by assigning a color (red, yellow or green) to data trends in comparison to established reference points. Based on results of the traffic light assessment updated with 2015 data, management action was required by the MFC. To improve the condition of the blue crab stock, the MFC adopted management measures via Amendment 2 adaptive management and incorporated them in the May 2016 revision to Amendment 2. A comprehensive review of the Blue Crab FMP was originally scheduled to begin in July 2018, but at their August 2016 business meeting, the MFC voted to begin review immediately to assess the status of the blue crab stock and identify more comprehensive management strategies.

A benchmark stock assessment was completed and approved for management use in March 2018. This assessment included data from 1995-2016 and concluded the stock was overfished and overfishing was occurring. The stock assessment projections indicated a harvest reduction of 0.4% was needed to end overfishing and a harvest reduction of 2.2% was projected to achieve sustainable harvest and rebuild the blue crab spawning stock within 10 years of the date of plan adoption with a 50% probability of success of meeting the statutory requirement. Based on assessment results and projections, the division encouraged the MFC to consider a reduction of at least 5.9% which was projected to reduce fishing mortality to a level close to the fishing mortality target and have a 90% probability of achieving sustainable harvest. In November 2019, the MFC voted for preferred management measures projected to result in a 3.7% harvest

reduction with a 50% - 67% probability of success. However, at the following meeting in February 2020 the MFC changed their preferred measures lowering the projected harvest reduction to 2.4% with only a 50% chance of achieving sustainable harvest in 10 years, which is only slightly higher than the statutory required minimum of 2.2%.

Adoption of Amendment 3 also included the Adaptive Management framework and established specific steps to be taken once an updated stock assessment was completed. If the stock is overfished and/or overfishing is occurring or it is not projected to meet the sustainability requirements, then management measures may be adjusted using the director's proclamation authority. For management to move forward, the adaptive management framework requires management measures must be quantifiable. The framework also specifies the division will consult with the MFC Northern, Southern and Shellfish/Crustacean ACs prior to new management measures being approved by the MFC. Upon evaluation by the division, if a management measure adopted to achieve sustainable harvest is not working as intended, then it may be revised or removed and replaced as needed. While we do not have an updated stock assessment that can be used for management purposes, and are unlikely to for some time, there is substantial data suggesting management measures adopted in Amendment 3 are not working as intended and need to be revised using the Amendment 3 adaptive management.

McLean Seward next gave a presentation on recruitment and spawning stock biomass trends from the recent stock assessment update. Both the estimated number of recruits within the stock and spawner abundance indicate steady declines over the last decade. The update also indicated that fishing mortality has remained relatively unchanged since adoption of Amendment 3 management measures in 2020. Next, Seward presented data from the division's Pamlico Sound Survey (P195), showing continued declines or continued low abundance through 2022 for males and females of both life stages there have been continued, with some of the lowest values in the time series being in recent years. Data from the division's Juvenile Trawl Survey (P120) also indicates a decline in male and female recruits with the last few years being the lowest on record. Declines in the annual commercial landings appear to track with juvenile and adult indices of abundance. Commercial landings of all blue crabs have been in decline since the record high of 67 million pounds in 1996. In 2022, the harvest level dropped to the lowest in the time series. In addition to declining harvest levels, participation and number of trips has also declined in recent years.

Seward further noted other states along the Atlantic coast have observed similar declines in their commercial landings. In January 2023, the South Carolina Department of Natural Resources released a status report for the South Carolina blue crab fishery. The report concluded the South Carolina blue crab stock has been in decline for nearly two decades and provided recommendations to prevent overharvesting, gradually reduce fishing pressure, prevent overexploitation, and strengthen enforcement capabilities. In the Chesapeake Bay, although the blue crab stock is not depleted and overfishing is not occurring, juvenile abundance remains low. Precautionary management, focusing on protecting mature females and juveniles, has been recommended for the Chesapeake Bay stock and a benchmark stock assessment has begun to better understand the population.

All available information suggests the blue crab stock has continued to decline since adoption of Amendment 3 management measures back in February 2020. Amendment 3 implemented management measures which were projected to result in minimal harvest reductions with minimal probability of success. Since adoption of Amendment 3, commercial landings have continued to decline to historic lows. And despite low commercial landings, the stock assessment update indicates fishing mortality has not decreased. Abundance of all blue crab life stages as indicated from fishery independent surveys, are at historic lows. Specifically, recruitment has been at historic lows, which means we just don't have new crabs coming into this population to replace what we are harvesting. New management that is more substantial than what was adopted in Amendment 3 needs to be developed to reverse the declines we've observed.



## **COLLABORATIVE CONVERSATION BETWEEN THE DIVISION, ADVISORY COMMITTEE, AND THE PUBLIC**

There was no public in attendance to provide comment. Willis requested more information on the 2023 stock assessment update and why the model statistics were different and could not be used for management. Corbett reiterated the MSY reference points changed drastically between the original assessment and update but the trends in the data did not. Willis asked if other statistics were used to look at trends to get some predictability. Corbett said timing has been an issue with losing the last stock assessment scientist at DMF just after the blue crab update came out. Also, external reviewers suggested, and division staff agree, the only fix would be a completely new benchmark assessment. Willis noted in 2020 areas were closed to crabbing and asked if there were any positive changes in those areas. Corbett said the trends are statewide and not to the specific areas, the inlet sanctuaries. Dan Zapf explained the coastal inlets prevent disturbance where blue crabs spawn with the idea to produce more juveniles and we have not seen any increase in juvenile abundance in our independent sampling. Willis said with less people crabbing, something else is going on with blue crabs. Bissette said the stock assessment scientist provided the report to the MFC in May with more detail and will send to the group for further background.

Ryan Bethea said with the decline in trips and crabbers what do they think could contribute to declining stock? Corbett said it could be environmental factors or disease, we don't know and have a limited toolbox on what we can do in fisheries management. Blanton said that just because there are less crabbers doesn't mean they will catch more crabs (i.e., CPUE won't increase with less crabbers, it's way more complex since it's passive gear and includes bait). Blanton said you have to be careful when looking at CPUE and needs to be investigated more. Corbett noted CPUE is difficult to use with dependent sampling, but independent sampling is another piece of data for looking at trends. DMF has independent sampling since the 1970s and we see all-time low in the current years.

Burch asked what the concerns were from the external reviewers. Corbett indicated the juvenile estuarine trawl survey that was adapted for the blue crab survey. Burch asked if the model used in 2023 was the same model as the benchmark model. Zapf indicated the 2016 model was peer-reviewed and cleared to use. The latest update was the same assessment, we just added data, the trends were the same but reference points changed to the point where it appeared the stock was always overfished and overfishing was always occurring. But we couldn't identify the reason why that occurred. The advice gained from reviewers of the updated stock assessment would have been big changes to model and would require whole new benchmark stock assessment. Given the trends seen in the stock it was decided to move forward with adaptive management. Burch then asked if we go to same locations every year to get data. Zapf indicated some surveys (P120 – Juvenile Estuarine Trawl Survey) go to same locations every year whereas other surveys are random stations (P195 – Pamlico Sound Survey). Burch was concerned because crab abundance depends on salinity and locations change each year, crabs are going to move. Burch said they can't keep adding restrictions to the fishery based on poor data. Confidence intervals are really small.

Burch asked if landings are included in the model? Zapf indicated that landings are included in model. If that goes down and less are removed from population that could be good if population can rebuild itself but that's not what we are seeing in the independent data. Corbett indicated that environmental conditions go into assessment model as well. Burch asked if we have started throwing out outliers. Corbett indicated that the model already picked out outliers, including related to environmental factors. Burch indicates that catch is not reduced at her dock, she's seen bigger crabs. Corbett clarified that now is the time to provide recommendations and talk about options and pros and cons at this point. Tina Moore asked Burch where she crabs because there could be regional variability. Burch said Currituck and Albemarle but goes where crabs are, said salinity is a big thing.

Bethea asked what impacts recruitment and larvae, predation? Corbett said a wide range of items impact recruitment - environmental factors, predation, SAV habitat requirements, disease, water quality. We are at all-time low of recruitment. Corbett said the MFC basically chose the minimum requirement with only a 50% likelihood of rebuilding the stock (basically flipping a coin).

Blanton asked for summary of other AC meetings. Corbett said we heard similar comments at the other ACs and during one-on-one conversations with crabbers trends varied by region. We discussed the options in the decision document and they noted options they could live with and others not so much. Market influences were also noted. We heard from some to look at hard versus soft shelled trawling and regional closures. Regional closures were a concern because of shifts in effort.

Burch said a spring closure would hurt industry and economy. The availability of crabs in other states influences NC landings and their value. Burch questioned whether this would be quantifiable, Corbett said it would be. Burch said a lot of people make a good part of their money during that spring season. Burch said in 2010 study that they didn't find much clutch damage. Corbett said certain groups (eastern part of state) would be hurt with sponge crab closure.

Bethea asked what measures excite DMF? Corbett said nothing excites him and wished we weren't here. Corbett said we need the biggest bang for our buck, less harsh on industry but most reductive for getting higher recruits. Bethea asked if there was a measure that he thought would be most effective? Corbett said we are at the initial phase and he doesn't have numbers here and wants this conversation to guide us so they can get those numbers.

Burch asked if recruits were biggest problem. Corbett confirmed. Bethea said Chesapeake Bay, York Harbor, Florida showed ocean acidification is a big impact and asked if that was a problem in NC. Corbett said there's nothing we can do about that. Moore said it's a global phenomenon. Corbett said a great thing about blue crab is that you can identify sex and maturity so can customize management by life history. Burch said just because it's easy to put a number on it doesn't mean it's the right approach. Corbett said if there's a time the market is flooded we can try to use limits to take the pressure off the crabs when they are not worth as much to the industry. Burch said that wouldn't be doable. Burch said a spring closure would be when price per unit is higher. Corbett asked if she recommends a fall closure and Burch said she recommends no closure. Burch recommended a peeler size limit, maybe 2 inches. Blanton recommended no peeler size limit because of the effort to measure them; peelers are a small part of fishery, but very economically important (as well as soft crabs), said he's completely against it and wouldn't give stock rebuilding advantage. Said small peelers can have a market and are used for bait. Corbett stated there are markets for small peelers for bait. Blanton agreed but again are a very small part of the fishery, the window of opportunity for peelers is 30-45 days and gives the fishermen the push they need economically to get through the year. Only a little amount of effort needed for a higher value product. The peelers will not rebuild the stock, we do not need regulations on peelers. Bissette said this is exactly what we want from these meetings. Corbett reiterated that through adaptive management process all measures must be quantifiable.

Blanton asked for more in-depth presentation on how fishery operates north to south in NC, there may be economic benefits to consider as well; provide an overview of the crab life cycle and fishery. More information on trawls and how long the gear is effective. How crabs pot at different life stages. What do crabs eat, when do they reproduce, when do the sea turtles show up. They eat up the crabs in the pots, what happens next. They sponge out, they shed, they turn into peelers, then the jimmies show up. The small jimmies show up, the females shed off, the crabs harden up and start catching up everything. The females swim back to the beach. Then a second blast after the peak of the hot water. The jimmies find shelter, but the DO drops, then the crabbers start looking. After the water hits the right temperature, they shed again. The females shed in the fall, but there are so many jimmies. They are not hungry, they don't

pot. The female's stage until the next spring. Not everybody knows this. We need to look at this to inform management measures. Let's showcase the lifecycle and how crabbers pursue the crabs. Blanton said the public and committees need to understand the dynamics to form segmented management that wouldn't be hard on everybody at one time. He said it would be nice to have a room full of crabbers but they will keep crabbing. Blanton said he's not going to make any specific recommendations today but we need to take a look at places in fishery that would have limited participation or impact on industry but biggest impact on population/recruitment. Moore asked where she thinks that is in Albemarle? Blanton said in the fall during heavy female run where price is low. Blanton noted if there needs to be reduction to look in the fall; you won't see crabs in pots in the north until last week of February. Corbett said this is a good point because when looking into extending the closure to February 15 it probably wouldn't lead to an actual reduction. Blanton and Burch both indicated the early season has biggest financial gain for crabbers and early season closures would not work because it would take a lot away from crabbers financially but not that many crabs caught. Moore asked what a high value is for female crabs? Blanton said \$80-\$100 per basket for females, \$40-\$60 is normal, and typically it is \$10-20 per basket of females once the market is flooded. Blanton said bait quality has gone down but bait price has doubled and crab price has gone down. Some people are paying \$30-\$40 a flat for catfish heads to use as bait in the pots. And we no longer get big menhaden so handling more smaller menhaden to re-bait takes more time than just one big one.

Ted Wilgis said other states are dealing with low crab populations as well. He asked what weight do those populations play on our decisions? Corbett said that trends are the same in other states so helps validate our data/results. Bethea asked are females that come out first hungrier? Blanton said there may be years when pregnant females don't go into the mud. Corbett said knowing that females are usually sold at lower price, should we focus our research on management measures into protecting female crabs given that they would help recruitment? Burch said there's already a 5-inch limit on females, we don't catch many females in our area. Corbett said it could be bushel limits, area limit, etc. Corbett asked for clarity if wanting to find measures with highest impact on population but lowest impact on fishery means doing measures that would have lower crabber impact but spread out to everyone in fishery or doing measures that may have higher impact on crabbers but on smaller portion of crabbers. Blanton reiterated advantage of being able to identify sex and there's a portion of fishery good at targeting females that other crabbers can't get to because you have to chase them as they move. Blanton said if a crabber hasn't made their money by Labor Day, they aren't really a crabber. Any crabs caught after Labor Day are bonus crabs to help try to get more money, but bulk of the annual income for a crabber should be made between first peelers and Labor Day. Crabbers feed a lot of crabs too in their baited pots, the smaller ones that can move in and out of the pots. If you can manage in a unique way and distribute burden across fishery is the better approach.

Corbett asked if we looked at female reduction in harvest, how would effort change? Do you think the crabbers would shift to male crabs? Blanton said effort may shift slightly but not to the extent we would predict. Need to determine daily baskets, 10-15? 80-100 dollars a basket is a good day of work. Depends on crew size, smaller crews are better, why run 4-5 heads a boat. It will vary by the crabber and the region. Less volume more money is the best approach. Don't mess with junky white crabs. I don't keep white crabs. No dead crabs, volume is what some look for. Not me. Blanton said what's sustainable to state and resource is different than what's sustainable to the fisher's pocketbook and operation. Corbett asked how bushel limit would affect crabbers when there are some that may not use bushels? Blanton and Burch said it wouldn't be a problem we cull every day. Blanton said NC is only state you can dump a pot straight into a box without culling. Corbett said NC has some of the least restrictive harvest of blue crabs. Burch asked if other states fisheries have rebounded with stricter management. Corbett said VA is not overfished and overfishing is not occurring. Burch asked how big sponge crabbing is in NC. Corbett said substantial in some locations. Blanton said unfortunately a handful of people will be impacted in very

negative way; we don't know the impact of being in pot on sponge crabs. They may drop their eggs when potted up together. Bushel limit may not effectively manage sponge crabs if sponge is impacted.

Corbett said if were to set a bushel limit on females, there may be an effort shift to males, do we need to set high limits on males to keep that effort shift and potential landings increase from occurring? Blanton said males limit themselves because of energy expenditure and aren't actively potting and pursuing food as much, so landings won't increase as much as effort might. As the females move to the inlets for the winter, they need food, and they pot. The males don't move and settle when it gets cold. They have personality as they shed too, a Jimmy don't care! Especially as he gets old. He doesn't want to fight; the rusty crabs just want to lay low. The market price is lower and fishing is less frequent.

Corbett asked if people would go to longer soak times if limits were in place? Burch said depending on the amount of pots. Blanton said not less, but different. The longer they sit the dirtier they get with sponge, moss, barnacles and the product is less valuable. Sometimes it just regulates itself. When crabber are chasing females they are constantly moving their pots. Talk to buddies on where fishing is good. Blanton said the crab population was a lot bigger in early days and crabbers didn't have to be as good at crabbing. Burch said it's good that DMF is going to docks and meeting with people because crabbers aren't going to come to DMF. Burch asked for documents to be more geared toward public, in layman's terms, because it was hard to read. Blanton said asking every fisher what they would want to do, you'd get a different answer every time. Corbett said that's one of the reasons we go to the docks. Bissette said Blanton would be fantastic for an outreach video on the crab fishery. Blanton said he's passionate about crab fishing. "Crabbing with Blanton". Corbett said he's been reaching out to crabbers that have been in the industry for a long time. Bissette told Burch that any suggestions she has for ways to communicate these complex ideas to fishermen and public would be welcome and he can send AC members any documents or information they need

Wilgis want to put emphasis on females and if there is any way to manage them that would be great if we can do it without too much hardship. Corbett wanted to get ACs feedback on managing orange vs. brown sponge crabs. Would they want to look at sponge crab as a whole or by color? Burch and Blanton said they wouldn't know how that would work with colors and don't want to get into color management. Blanton said sponge crabs are always a mess once they come out of crab pots. Either allow them to keep or not keep, doesn't understand management by color.

### **ISSUES FROM AC MEMBERS**

No issues were provided by the AC. Bissette noted will be emailing the AC to schedule a potential meeting in December rather than January to discuss the Oyster and Hard Clam amendments. Which will need to occur in person due to the court of appeals issues. And at the next meeting the committee can approve the April and September minutes. Blanton called meeting adjourned at 8:07 pm.