

# NORTHERN REGIONAL ADVISORY COMMITTEE



**SEPTEMBER 24, 2024**

*Briefing Materials*

Northern Regional Advisory Committee

## **Table of Contents**

September 2024 Meeting

# Contents

---

Meeting Agenda

April 2024 Meeting Minutes

Blue Crab Adaptive Management  
Decision Document

**N.C. MFC Northern Regional Advisory Committee  
DEQ Washington Regional Office, Wilmington, NC**

**September 24, 2024**

**6 p.m.**

6:00 p.m. Call to Order\*

**Vote on the Approval of the Agenda\*\***

**Vote on the Approval of the Minutes from April 9, 2024 \*\***

6:05 p.m. Presentation on the status of the Blue Crab stock and the Fishery Management Plan Amendment 3 Adaptive Management

*An update on the status of the Blue Crab stock and the framework to implement Adaptive Management through Amendment 3*

6:35 p.m. Public Comment

6:50 p.m. Discussion on Blue Crab FMP Amendment 3 Adaptive Management Potential Options

*Collaborative conversation between the Division and the Advisory Committee on options available under the Adaptive Management framework adopted in Amendment 3.*

7:50 p.m. Issues from AC Members

8:00 p.m. Adjourn

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

***\*\*Action Items***



ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

May 1, 2024

**MEMORANDUM**

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

**FROM:** Lee Paramore, Northern District Manager  
Charlton Godwin, Biologist Supervisor  
Fisheries Management Section

**SUBJECT:** Meeting of the Marine Fisheries Commission's Northern Regional Advisory Committee, Apr. 9, 2024, to provide recommendations for management options for Marine Fisheries Commission consideration on protection of critical seagrass habitat through shrimp trawl area closures

---

The Marine Fisheries Commission's (MFC) Northern Regional Advisory Committee (AC) held a meeting on Apr. 9, 2024, at the Dare County Commissioners Office, Dare County North Carolina. Advisory Committee members attended in person and online, 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: Sara Winslow, Jonothan Worthington, Thomas Newman, Carl Hacker, Wayne Dunbar, Mellisa Clark, (Online – Roger Rulifson, Jamie Lane) (Absent – Everette Blake, Keith Bruno).

Division of Marine Fisheries (DMF) Staff: Chris Stewart, Steve Poland, Kathy Rawls, Lee Paramore, Tina Moore, Charlton Godwin, Debbie Manley, Chris Lee, Dan Zapf, Jason Rock, Charlie Deaton, Michelle Brodeur, Carter Witten.

Public: Jamie Parker Jr., Dale Beasley, Darrell Beasley, Devin Clark, Joseph W. Johnson, Marc Mitchum, Jamie Parigrer, Terry Beasley, David Wilson, Troy Boyd, Wesley Peale, Calvin Peale, Jenn Dixon, Acey Hiner, James Byrd, Robby Midgette, Naomi Midgette, Micha Sadler, Josh Gibbs, James Fletcher, Vernon Saddler, Stanley Equin, Daniel Midgette, Dana Beasley, Judy Reynolds, Barry Sawyer, Steve House, Gaither Midgette, John Silver, Russell Firth, Patricia Capps, Jamie Wescott, Brian Horsley, Rowdy Austin, Steve Albright, John Machie, Carson Beasley, Carson Creef, Luke Midgette, Sarah Gardner (MFC Commissioner), Jamie Rollensen. 35 viewers watched on YouTube.

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

Northern Regional AC Chair Sara Winslow called the meeting to order at 6:02 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 Jon Worthington. Second by Carl Hacker. The motion passed without objection.**

**A motion was made to approve the minutes from the Northern Regional AC meeting held on Jan. 18, 2024. Motion by Jon Worthington to approve the minutes. Second by Thomas Newman. The motion passed without objection.**

## **PRESENTATION OF THE PROTECTION OF CRITICAL SEA GRASS HABITAT THROUGH SHRIMP TRAWL AREA CLOSURES**

Steve Poland, Section Chief, Fisheries Management provided introductory remarks for context of this meeting. The MFC instructed DMF to look at current submerged aquatic vegetation (SAV) layers on maps and bring the MFC options for shrimp trawl closures to protect SAV as part of the Shrimp FMP Amendment 2 adopted in 2022. Chris Stewart, lead biologist for shrimp, presented the issue paper provided to this AC tonight at the MFC in Feb. 2024 and the MFC passed a motion to bring the issue paper to the MFC Regional and Shellfish Crustacean Advisory Committees for further input. Adjustments to the closure options made based on stakeholder input after the issue paper was drafted were presented to the AC. This action was directed to DMF by the MFC and any potential closures would be implemented by proclamation through adaptive management adopted in Amendment 2 of the Shrimp FMP. The intent is to work collaboratively with stakeholders to balance protection of SAV and limit impacts to the shrimp trawl industry. The DMF is stretching the timeline to bring their recommendations to the MFC later this year from the initial May 2024 meeting. DMF will reach out to more stakeholders for direct input and encourage the public to reach out to participate in these smaller stakeholder group discussions.

Chris Stewart presented information on SAV overlays also known as the mosaic with the current open and closed areas to trawling and initial DMF lines to extend areas closed to shrimp trawling to protect SAV. He iterated several times in the presentation, this was the first step to allow for stakeholder input. He noted the adaptive management strategy was directly from the MFC in the Shrimp FMP Amendment 2 and was limited to addressing shrimp trawl impacts to SAV. He encouraged the public to reach out to the two other commissions who are responsible for the Coastal Habitat Protection Plan that deal more directly with water quality concerns. Information was provided on the importance of SAV as a critical habitat and impacts to this habitat from bottom-disturbing gears. Aerial imagery with sampling conducted randomly at selected sites was updated to identify the maximum known extent of SAV in NC. The original DMF options would close about 9.5% of the current open shrimp trawl areas and he went through the maps of the proposed line changes by region as well as alternative options not shown in the issue paper that would reduce the extent of the closed areas. The MFC Habitat and Water Quality Advisory Committee met in Jan. 2024 and endorsed the current recommendations only after further input from stakeholders and recommended a monitoring program for SAV.

After the presentation, the chair entertained questions and comments from AC members. Thomas Newman asked why the Division brought these SAV closure areas and presented them to the Habitat and Water Quality Committee and did not present them to the public prior to coming to the ACs so the public could provide input before the lines were drawn. Staff responded it was part of the MFC directive to identify issues pertaining to SAV, and the issue paper addresses the most current SAV mosaic data that is available. So through Amendment 2 many of these lines were drawn as a starting point to begin discussion. Thomas discussed that he listened to the habitat meeting and they were focused on the Southern region, and that's why we are getting so much negative feedback from the public. Many of these areas up in the Northern area of the state in Dare and Hyde counties that were shown tonight are in very shallow water where trawlers can't even get into. So why close them to trawling? A bigger concern is the damage done to SAV by skiffs and props. Staff responded that managing boats is outside the scope of the

Shrimp Fishery Management Plan. The Chair recognized that members Roger Rulifson and Jamie Lane are online. Wayne Dunbar asked what kind of proof exists that if we stopped trawling in these areas, it will actually help the SAV? In his experience, anytime he's seen shrimp trawlers go into an area it improves the bottom when they turn it over. Staff responded there is very little evidence that shrimp trawling increases productivity. Shrimp trawling has been shown to tear up SAV and turbidity from shrimp trawlers also threatens SAV by limiting light penetration. There are also areas that are stressed by other issues, such as wind and wave energy, but in those places, it would benefit the SAV to limit shrimp trawling. Mr. Dunbar mentioned additional stressors including skates. He sees this as another way of stabbing the public in the back. Thomas Newman asked why we were using proclamation authority to implement any closures instead of through the rule making process? It's my understanding that once these areas are closed they will not open back up. Staff responded that this is happening through Adaptive Management in Amendment 2, and the DMF will continue to monitor SAV.

Chair Winslow opened the floor to public comment.

### **PUBLIC COMMENT**

Robbie Midgette: I'm a shrimper and I don't want these lines because there are plenty of places with grass that are already closed. I'm not going to speak for the areas around Collington, Manns harbor, Wanchese area, Hyde County there are other boys here who will do that. But my son is here, I'm tenth generation in this community. Some people have been here since 1790 something, we've been shrimping these areas for years. The area around Stumpy Point, this is where we make our livelihood. These places are vital. I talked to Chris earlier and we talked about how the effort is down, some 28%, 38%, so effort is already down and there has been a big reduction in effort in the area. Can we pull up that map of Stumpy Point Chris? (Staff indicated it would take the rest of his public comment time, we could do it after). I looked in there, there is no grass in that Stumpy Point area, so you want to close more of it so there will be no grass? There are a lot of boys in here that work that area behind and just inside where you want to close that is vital to these folks. We've been shrimping there for generations and generations. Haul nets used to catch lots of fish in there but all that's closed too. Let the few folks that are left continue to work.

Chair Winslow asked staff to pull up the map of Stumpy Point Mr. Midgette talked about. The proposed area south of Stumpy point Bay. The map was pulled up to that area.

James Fletcher: Represents United National Fisherman's Association. What is the Latin name of the vegetation we are proposing to protect? Is it Eurasian milfoil? How many of the species are we proposing to protect that are native to America? The question is we are going after something the wrong way? How many of these are imported that the colonists brought over from England. Will any of this do away with the vibrio that is killing fisherman and threatening to kill tourists this year and is it going to clear that out of the water? If we were to allow the ground application of all wastewaters in the state of NC would it allow the seagrass to grow? We are going after it the wrong way. I'm 78 years old. The first meeting I went to he said the water was the wrong color in 1949. He was talking about the dioxins coming out of the plant at Plymouth. The state needs to look at where the problem is. Your parent agency DEQ should be asked to ground apply every drop of wastewater in the state. Address the problem. Address the specific types of vegetation you want to grow. Don't just say SAV. Half of it may have been imported in the last 300 years. Are any of you aware that the jets jettison jet fuel before they come back over this part of the sound? Are you interested in shrimp? How many billions of shrimp could we have in the sound with spawning facilities? We had the third largest aquaculture group in the world in the Sound. The DMF and Environment Natural Resources never took advantage of their expertise. How many places could raise SAV. Are we going at it the wrong way and are we listening to people that have an education from the University and have no common sense.

Dana Beasley: Commercial fishermen from the northern part of the beach. I can't speak on the southern areas and their grasses. But just looking at the numbers you said you wanted about 9.8% or close to 10% of the areas closed to trawling. Looking at 2022 numbers we landed 9.7 million pounds of shrimp, so that means you are going to take possibly 970,000 pounds of shrimp at a value of 2.23 million dollars. It just doesn't seem fair, simple as that. As Mr. Fletcher said I think the problem is fertilizer, golf courses, just overpopulation of the area in general. The aquatic grass isn't the problem, the people have made it the problem. The one thing that is endangered here we haven't talked about is the commercial fisherman. I believe there were close to 7,000 licenses in 1980, now there are roughly 6 maybe 5 thousand, and those are duplicative, and a lot of those are not used, so you might have 3,000 licenses landing what we catch. Everybody eats shrimp. If you cut our production out where is the shrimp going to come from? People aren't going to stop eating it. Where is it going to come from? China, Asia, Thailand? We should be promoting local seafood production.

Barry Sawyer: I run a charter boat in summer, gill net in spring and fall. Drag a shrimp net summer though fall when I'm not chartering, and I guide duck hunts in the winter. I do a lot of this in the small creeks, sounds, and rivers. So I'm out there all the time. A rational talking person would have to put at least a little bit of credit to what these people say that work on the water all their lives. What they say would have to be relevant as much as a study from 1981, by some biologist from who knows where. This sea grass thing or whatever you want to call it is a farce, it's not fact, not accurate, and basically a lie. I look at your proposed areas and I challenge you or anybody to take you to any of these areas in this part of the state and you will not find any seagrass. And I challenge you or anybody on the commission or anybody to let me take you to any of these areas on this end of the state that we tow a shrimp net and you will not find me with one blade of grass, none and I mean none, the salt water has killed it. Your biologist should have told you that. So basically, you want to stop the ones that make a living commercial shrimping, stop the guys that take hundreds of families on shrimping charters in the summer, and stop the recreational guy from going out and just catching a few shrimp to put in his freezer. You want to stop all that because of something that is not even there, it's unbelievable. We should not even be here, we should not even be having this meeting, wasting all my time your time whoever's time. Your goal can't be improving fish stocks because there's the most speckled trout there's ever been, the schools of drum down the inlet you run through them all the time, the flounder stocks incredible regardless of what you say, mullet I could go on and on. So we all know it's about getting the nets out of the water, but it doesn't matter to you people. A lot of the public and recreational people are starting to see through this stuff, it is uncalled for. Some of the public still believes it but an old timer said one time you can fool the fans but you can't fool the players. We know the truth. So in your advisory capacity go back and advise the commission that instead of pushing this untrue proposal do something that they are charged with, do something that would really help the fish stocks, and help people use what God's put here to improve theirs and other people's lives, not take it away from them. I'm done.

Steve House: Thank you I'm Dare County Commissioner Steve house I'm also chairman of the Dare County Working Water Commission and also chairman of the Oregon Inlet Task Force. I can tell you that a lot of the SAV situations around Dare County with potential shrimp closures should not happen at all. And I'll tell you why I believe this, number one: there's a definite reduction in shrimp trawling in North Carolina period. SAVs are there they've always been there with the Oregon Inlet Task Force we have the Miss Katie dredge a first ever public private partnership that keeps the Oregon Inlet open. Our permitting process was fine everything was going smooth no problems. All of a sudden at the very last minute, "oh wait a minute there's a buffer zone around the SAVs", that nobody even knew about. They weren't there, they weren't on any situational map, they weren't drawn anywhere on any of the permits, but all of a sudden, we've got SAVs to worry about. It took us 6 weeks to clear that subject up. And the SAVs that are around Oregon Inlet and around Walter's Slough which is one of the channels we will be dredging we've got documentation those SAVs have not grown and have not decreased. And there has been no shrimping in those waters for a very, very long time. And I would challenge your staff to look at the areas

that have been closed to shrimp trawling and have those SAVs changed, have they grown, have they diminished, and if there is a change, why is it, it's not shrimping. These guys behind me shrimp. And most of them have the small boats and not the big shrimp trawlers, and they go out and pull these sounds SAVs only grow to uh maybe four feet. The places you're planning on closing are deeper than that. The grass wouldn't even grow in there anyway. There are other areas to look at than just our shrimpers. And I agree with several of our people that have spoken before it's just another attempt to get nets out of the water. It's just another attempt to get shrimpers out of our Sounds. Look at the economic impact this would have. There's been no economic impact study on this. None. We're already down 23.4% from last year's numbers, trust me our Representatives in Raleigh are looking at those numbers. Thank you.

John Silver: my name is John Silver I run shrimping charters in the summertime and I'm a commercial shrimper for the rest of the year. So based on scientific data do you expect these shrimp trawl closures to result in SAV restoration? The answer is no. DMF cannot use scientific data to support a reasonable expectation of SAV restoration after closing these areas, because that data doesn't exist. There's no science to support the areas and closed bottom are showing an increase in SAV. I don't even think DMF staff can verify a slowing in the decrease of SAV in a closed bottom. We're talking about areas that have been closed for decades. If shrimping was a problem you would expect to see a direct correlation between a decrease in shrimping and an increase in SAV. In 1995 I heard Marine Fisheries paperwork indicated there were 1,080 shrimpers who made 23,890 trips. In 2022, 299 shrimpers who made 3,349 trips. With such a decrease in shrimping why is the SAV continuing to decrease? Like is said in DMF Amendment 2, I quote, in the absence of shrimp trawling SAV may still be covered by sediment and SAV growth may be impaired by poor water quality or wild disease. That's on page 63. There is no correlation. So what happens when you close these areas to shrimp and the grass continues to decrease as well? What's next crab pots, gill nets something else going to be disturbing in the bottom there? It's just like everything else you give an inch a mile is going to be taken. Thank you for your time

Jamie Parker Jr.: Before I get on the clock can they get the map up for the Roanoke Sound area please. I'm Jamie Parker Jr, I'm a commercial fisherman and a charter captain in the summertime months. I'll start out they were talking earlier about nothing on the bottom. Why does a farmer till his land? Why do you mow your grass? It gets overgrown and you end up with a bunch of trash in your yard. It's the same thing we're doing with nets on the bottom. So I run a charter business in the summertime taking people from all over the United States on shrimp and crab charters that is what I specialize in. We're running 100 to 150 charters in the summer months. Economic impact study, it's been said multiple times. How many, who's done it? It hasn't been done. Look at all the money that's being brought in by these charters to every business in town. You would completely shut me down with what you're showing in Roanoke Sound. I don't leave that area, I stay in that area, very seldomly I'll leave that area. You'd shut my whole business down. I have a son here that works for me all summer, he'd be out of a living. You know with everybody else, I'm not the only one, there's multiple people that that's never been factored in numbers. On the economic side, the mullet rule was just shut down because an economic impact study was never done. Small boat you could time this and areas that the grass is growing, they're unusable. I don't go in there where grass is. It will stop up your shrimp net and you can't pull a shrimp net in there. One of the options was just Roanoke Channel. Look at the transit boats that come through there all year so how am I going to get by with two boats going to pass each other and then I'm going to have to sit there and get a ticket because I'm 10 feet out of a channel. I mean it's just nonsense. You know where the grass was, the salt water killed it, are they going to build a wall north of Oregon Inlet and stop the salt water from killing the grass? You know things have changed since I was a kid. You know the saltwater's pushing further north. We're having to move to different areas because the saltwater's killing things and different things are moving further north. Crabs one year, fish one year depending on salinity they're going to move. The saltwater's pushing further north you know y'all acknowledge that the salt flush. You got oysters growing in places that they've never grown. You're opening oyster areas further north, why is everything else not moving north. Thank you.



Wesley Peele: my name is Wesley Peel I'm a commercial fisherman the whole pink area behind Roanoke Island that's my backyard, that's where I grew up. And the whole Manteo Bay has been nursery area for years and years and years and as of today no net has been drug in there for years and there is no grass in there now. Part of the problem is Manteo Bay was a nursery area and it's still a nursery area but there's 300,000 gallons of chlorinated water dumped in there daily, so let's talk about water quality, instead of trying to close stuff with grass. That chlorine water kills everything and there's no shrimp industry around Manteo. It is going downhill since that water has been dumped in there. I run a shrimp charter in the summertime. I try to teach people the ins of outs of how to catch seafood, crab pots, shrimp nets and I'm trying to be educational and tell people where seafood comes from. I stay all in this area here, most of it in the pink and never see grass there anyway. The green area there Manteo Reef it used to be grass there years ago but because of salt water now it's all gone. Just keep that in mind, please sir. Thank you.

Steve Albright: Good evening, I am Steve Albright, Kill Devil Hills, Colington Island. I'm one of the recreational fishermen that's been enjoying pulling the shrimp trawl in Kitty Hawk Bay for about 25 years. Wonderful way to raise the kids standing around the cull box and watching the sun go down. One of my favorite three weeks of the year and that's all we get. It's not like, maybe down in Wilmington they shrimp year round, it's a narrower window here I think. And the other thing that struck me and I did a little sketch for you, this pink line on here that shows the six foot depth in Kitty Hawk Bay and all down here which in your data says there's no SAV development in six foot or greater because of the sunlight penetration and turbidity. So that map shows probably 75% of the closure area is greater than a depth of six feet and you're never going to get any SAV there. The other thing that's interesting is Currituck Sound and Albemarle Sound have been closed for 30 or more years to trawling there's no great proliferation of SAV within that area, so I don't think you're going to get the benefit that you foresee. And as Jamie just said there's a number of party boats and other boats that are working if you put everybody into that channel you can have a mess. So then there is a group of RCGL licensed folks that enjoy shrimping up in this area. It's nice being around Colington no matter which way the wind's blowing you can get in the lee in a small boat and kind of do it safely. And like I said the drawings tonight were a little better than this map, and the other thing if I can clarify, is that we're getting another season right because it's got pushed to August? So no closures until after this year that is kind of what I heard? It's not going to the May meeting so there's going to be a proclamation that shuts us down this year. Steve Poland: no there's no action until after August and there's no timeline on action, but it won't go to the commission till after August.

Carson Creef: I am your newly elected Dare County Commissioner Carson Creef. Your mind's already made up sir and I'm aware of that here I would like to talk about the general assembly 1997 session which the marine fisheries board was put into place and the opening statement was "whereas the state of North Carolina has one of the most diverse Fisheries in the United States and whereas the general assembly recognizes that commercial fishermen perform an essential function by providing wholesome food for citizens of the state and thereby properly earn a livelihood and whereas the general assembly recognizes the economic contribution important heritage and traditional full-time and part-time commercial fishing and whereas the general assembly recognizes that for many citizens fishing is an important recreational activity and that recreational fish enjoyment satisfies a need and recognizes the importance of providing plentiful fishery resources to maintain and enhanced tourism as a major contributor to the economy of the state. That was the original Board of marine fisheries goal. So if I'm speaking to the board of marine fisheries then why is our new vision statement as of this year "as a model fisheries management agency the North Carolina Division of Marine Fisheries ensures healthy sustainable marine and estuarine fisheries and habitats through management decisions based on sound data and objective analysis. Sound data from 1981? Monitors and evaluates coastal waters for the safe harvest of mollusks and shellfish and recreational uses to safeguard the public and the health of shellfish consumers and recreational bathers. Recreational bathers that's a little bit different than the commercial fishing that they spoke of in 97?

Provides excellent public service by motivated employees in an open and healthy working environment. Views public participation as essential for successful management of North Carolina's Fisheries resources and enforces marine fisheries statutes and laws. If we go back to the North Carolina Constitution, our declaration, our original Bill of Rights in section 38 says right to hunt and fish and harvest wildlife. The right of the people to hunt fish and harvest wildlife is a valued part of the state's heritage and shall be forever, forever, preserved for the public good. The people have a right, including the right to use traditional methods, to hunt fish and harvest wildlife subject only to laws enacted by the general assembly. Only subjected to laws enacted by the general assembly. You don't have to wait another disqualification for office is the following person shall be disqualified for office: first and foremost any person who shall deny the being of an almighty God. OSHA NOAA here we go, in 2016 the National Oceanic and Atmospheric Administration established the US seafood import monitoring program SIMP. Through import monitoring program simp OSHA's analysis found that in 2022 the United States imported over \$30 billion worth of seafood from 150 countries and the top contributor was China. Only about 13% of the total volume of U.S. imports from China were covered by SIMP and subject to documentation. Also our second biggest contributor to imports was Russia nearly exported a billion dollars of seafood to the United States and only 48% were covered. I will. My problem is they are made up, and that's fantastic, but those are Governor appointed positions and when Mark Robinson wins election in 2024 I would ask that the governor completely redo and reappoint the marine fisheries board to serve the original purpose that was put in place in 1997 by the general assembly, fire all of these biologists.

Ralph Craddock: A lot of pink areas and I had some questions about the water depth and where this stuff grows. And it's kind of been answered was it four foot, six foot, six foot or less, six foot and it can grow in slightly deeper water depending on water clarity. Okay but anyway if I'm understanding correctly these are places that you took from 1981 to now, I guess maybe did you go there and check that grass or was it satellite pictures where eel grass had shifted and moved around and settled in deeper water how did you sample that in 1981? DMF staff response: so they go out a group of collaborators APNEP staff, DMF staff, University staff, NOAA staff they ground truth the aerial photographs they take, they look at it under different resolution and then these lines were developed based on that entry. Mr. Craddock: and how many of these is in six foot or I mean you take that shoreline right there I mean you pretty well got to touch the bank in places so I mean you just took and magically drew a line obviously, correct? Staff: these lines line up with the channel markers. Ralph Craddock: Channel markers what I don't understand, there are no damn channel markers over there on left side of Roanoke Island. Tell me where a channel marker is right there back of the airport, there's one out there in the middle of the sound there's one up there above the bridge they're in the middle of the sound I don't know what channel markers you're talking about maybe they magically appeared last night I didn't see it. But anyway, there's a lot of it that yall got to take back to the commission and he pretty well summed it up, I had a lot to put into it, but he can't control nothing but the trawl boats is his exact words. Well if you go down and look at those areas where grass is, there's a kazillion damn outboard motors that goes through that grass. It looks like a man went down there and prepped it to plant corn. There's grass then no grass about the size of a damn prop. Where is this going to lead to? Your opening up a big can of worms for nothing that they can back up, none of the science they come up with. Whether it be fishing, no flounders, holy crap they're thicker than they've ever been. But what I'm saying is you take Croatan Sound is deeper than six foot in most places. You're just cutting the people out because you got jurisdiction over a trawl boat you set right here, stood right here and said that's the only people we can control but if you close this, when it's going to go to your crab potters but when you pull the pot off the bottom I'm sorry but it's going to disturb the bottom. Your gillnet but you're trying to take them out anyway. You need to go tell the MFC that this advisory can't accept what they're trying to put out.

Micah Daniels: Good evening I just want to thank everybody for being here. I want to thank this group for showing up. It just means so much to me that our community is here and that you are taking the time to listen to all the concerns that are being expressed. I would like to say to you I really genuinely believe there's a water quality problem and I thought at one point in your presentation you said that we are going

to address water quality and I hope that's a commitment of this group because we have a huge water quality problem. And I understand this is really complicated, I mean I don't think it's that complicated, but it's a lot involved what can be managed and what cannot. But I'm actually not even a shrimper, I'm just here because I'm well I'm in the seafood industry, but I'm a consumer I am concerned about the attack on the food producers and this group is a whole group of people who produce food for America. And so I just want to say as a consumer when these people can't harvest product then I can't access that product and that's a concern for me. I don't personally shrimp and I cannot go harvest shrimp myself and that leaves me as some people have talked about tonight about the imported shrimp. So as we said we're not going to change the demand of shrimp but we're not going to harvest shrimp and we're going to close areas off our coast because we're concerned about the ecological foot print, the footprint right where we're going to be like here's our Global footprint, our carbon footprint we're going to protect it here and then we're going to fly it in or import it in from Indonesia and from foreign countries and China and Russia. So is that the same I mean it's really hard for me with that Global footprint. We're going to protect the grass here and to protect the grass here we will fly in more shrimp or whatever which is really bad for the environment just as bad for the environment. And my other issue is it's like just on the basis of health. I think this is correct in 2019 Louisiana declared by law they would not stop shrimp trawling in the state of Louisiana not on the basis of economic but on the basis of health. These shrimp have banned antibiotics. The amount of chemicals that are put on them and the lack of. I mean it's just harmful so what we're saying is like Hey we're going to protect we already know we got a huge water quality problem we're going to aim for the grass we're going to aim for this small group of trawlers and I want to say and I mean this so respectfully this is not a young group like you're taking out a group. I mean this is not a group of 20 year olds, this is people that's been their livelihood they have they have managed the water and so I just want to say as a consumer I want their food. I want what they produce. And when you if we choose to eliminate these people then I don't have access to that food and I am just one person here but there are hundreds, thousands, millions of people who eat the food that they produce and I just want to say please consider the consumers. Thank you.

David Wilson: I got some questions for Mr. Stewart. first question: what problem have you seen for us to be in this meeting? Have you found a problem? Do you have a problem for us to be here at this meeting? Could you and why did you not bring any information showing us the problem? Okay where's the information papers that was not up there for nobody? We got to get on the website? Oh my goodness you come to a meeting without being prepared. Okay here's my next question who's behind it? What brought this about? Okay they brought it about for what reason? You told me you just told me you ain't got information on the problem tell me where the information of the problem is? Okay so what is problem back to seagrass. Where is the problem with the seagrass that we got right now it's all over. Wait a minute is there a problem right now is there a problem right now with our seagrass? What problem is there with seagrass? Is it there's not enough of it? Is that what you're telling me we have lost seagrass in certain areas okay from what hurricanes? Okay how about ducks? If you're driving a boat how about boats? Do you have proof that shrimpers done it? We know that these areas are unprotected. That doesn't make any difference, I want to know if they've been harassed by shrimpers. So basically what you're telling me is you don't have a problem they are unprotected so you've got to do something whether there's a problem or not. I would let the Lord protect the seagrass because I have faith and trust in him. I mean he's been doing it since he created it and what makes you better than he is? I'm just saying I know you're the speaker, I know you're just the speaker, but the people you work for common human beings that are selfish and self-righteous and this committee here, find a problem before you try to resolve it.

## **SHRIMP FMP AMENDMENT 2 – ADAPTIVE MANAGEMENT – PROTECTION OF CRITICAL SEA GRASS HABITAT THROUGH SHRIMP TRAWL AREA CLOSURES**

The Chair now opened the floor to the Advisory Committee on further questions for staff and discussion. Jon Worthington said he's heard water quality mentioned several times. I've also heard it said water quality is not under our purview. Can we get with the agencies that do have control over water quality and

work with them to get at some of the root causes? Staff: Right now they're working on the water standards so that is a step in the right direction when that gets incorporated it can offer other protections. I would like to encourage members of these ACs, as well as Commissioners, to go to the EMC, the CRC, and all these other commissions and tell them we need their support, we are trying to do it on this end by protecting areas based on direct and indirect impacts from fishery related gears, now we need others to step up. I would offer that as a suggestion, they're working on these different standards and there's other standards in place as far as dredge and fill. This is our chance to do it in the purview of the shrimp FMP. Thomas Newman talked about the area south of Stumpy Point and noted the grass in that area is right up on the shore, so trawlers can't work there anyway because it's just too shallow and close to shore. They work farther out so turbidity shouldn't be a problem. So why close these areas if the trawlers can't work there anyway? Staff answered to create a buffer to protect the SAV that is there. Newman went on to say DMF has shown data that over a third of Hyde county is going to be underwater 30 to 40 years anyway, and if that's the case you're going to have the most SAV on the east coast in 30 years, so why are we closing these huge areas for just little fingers of grass that may not be there as sea level rises. Discussion turned to asking about using a method that would not create such a huge buffer, such as a distance from shore rule. Staff pointed out we were open to other options and were here looking for feedback. The chair pointed out that they have heard a lot of comments about the 6 ft contour, but that creates an enforceability problem. Plus that 6 ft contour can change with tides. Staff pointed out that's why we tried to go with straight lines where possible to make it easier for enforcement but also for fishermen to know where the line is. Wayne Dunbar pointed out that the 6 ft contour goes way out into parts of the sound in some locations up here, and that might take up a lot of bottom. Staff also mentioned distance from shores could be an option, but like our nursery areas the best way to create these lines is usually using points and straight lines off bays and landmarks. Jamie Lane was wondering in the Albemarle Sound, specifically the end where she works near the Albemarle Sound Bridge, that it's been closed to trawling since around the 70s, can we quantify the difference in SAV then versus now to quantify what the difference is? Staff mentioned APNEP has a series of papers out here they looked at the difference between surveys possibly in 2006 and then 2012 and 2013 (not 100% sure of the dates) that's available online, but could not quote those numbers to you right now. Jamie: from my perspective fishing that area regularly for the last almost 20 years, there is no SAV and there's been no trawling for about 50 years and there was quantifiable SAV at least in the 1990s, so from my understanding it couldn't be the trawlers who have destroyed the SAV in Albemarle Sound. We can't change hurricanes that's mother nature but you always say that water quality is outside of your purview so we just shut down fishing, we shut down trawling, we take away nets, we close the Neuse for the CCA whim, and I think this is just another way of them trying to take another chunk out of the commercial industry. But there's no scientific data to back up the closure in the Neuse and there definitely doesn't appear to be any data scientifically that you can quantifiably say that shrimp trawling is killing the SAV. Staff indicated there's lots of data out there showing that we've gained and lost SAV in certain areas, and we can't always put our finger on exactly why we lost it or gained it, as I mentioned at the start of the presentation. There are some data gaps we just can't put our finger on, but we can prevent it from getting impacted by direct disturbance from shrimp trawls and indirect sedimentation and turbidity changes and that's what we can do inside of this plan. Jamie Lane: Since we can't say that the shrimp trawling is directly without a doubt the reason SAV is gone, because we can see in my area of the Albemarle Sound it's gone over the last 30 years with no trawling over the last 50 years, so I would say until we can prove it without a doubt that we should not take any of these options. I would like to make a motion that we take none of these options take them all off the table and until we can 100% say its shrimping that causes SAV loss I think it should be tabled. I don't know if I can make that motion but I am requesting that. The chair asked Jamie if she would repeat the motion to make sure the AC members heard it.

**Motion by Jamie Lane: I would like to make the motion that we as an advisory committee do not accept any of the options on the table and furthermore that we wouldn't consider any options to close shrimp trawling or SAV areas to shrimp trawling until we can 100% without a doubt quantify**

**that they're the one causing the loss of SAV. Second by Thomas Newman. The motion passed unanimously.**

The Chair asked if there was any further discussion or information the AC wanted to bring back to the MFC. Thomas Newman: I would just like to comment to the division, to please before you draw lines, talk to us, talk to your constituents that are paying your salary. We pay taxes, you are employees of the state. Jon Worthington: To staff who presented this, somebody did a disservice to you. There should have been a procedure followed, it's like coming in here from the governor asking can we help you? We have a solution in search of a problem. I'm going to go with anything in marine fisheries if it comes out of the puzzle palace in Raleigh or Morehead, you got to have an economic impact, I mean commissioner House touched on that he's heard me say it every time I've been up here, you got to have economic impact you got to show us economic impact you got to show us who's guilty of doing what it is. I use the analogy of a deer getting shot by a neighbor and I'm getting blamed for it, we haven't proven or anybody hasn't proven that the shrimpers are causing all the decline in seagrass. I mean we got environmental factors, we got climate change we got wildlife, a whole host of other things. And the biggest thing is when you do something like this from coming from Raleigh which I mean we're all paid for and, get with the stakeholders and say, hey what can we live with, because you may be closing something up here and it's not even on the board and you can come in here and just swap out a whole thing we're not going to go for that. Why don't I go to the point, the first thing the governor closes. We need to look at these guys that's been talking about less effort tonight so there's less trips so and theoretically you I'm think as Mr. Midgette said something about one of the educated guys, well that's me, but it did take my common sense out of my head when I was at University. You got less effort we should have some correlation to improvement in the environment or the grass. That's what I want, I want like you said, we need more open communication I hate the word transparency, but we need more open honest communication, so you don't have a triangle here where everybody's looking at each other and we got our arms crossed and we, I mean these guys here are trying to make a living. I worked in the government where I signed the back of the check, I had my own business where I signed it on the front. And what they want, they want to be heard and they want to be respected. And I think over the years from what I've seen that hasn't been happening from Raleigh or Morehead. And that's all I got to say. Chair: I think pretty much everybody who spoke tonight mentioned water quality or habitat or fertilizer or run off but you know when the CHPP habitat protection plan was developed originally and when the rewrite was done I think it was last year and the push was made to try to get the Environmental Management Commission the Coastal Resources Commission and those agencies essentially to step up to the plate and kind of work towards a collaborative effort to make habitat better the people of the state of North Carolina are the ones that could have made that difference. As you said essentially, we've been waiting around for this to have some teeth in it for years. SAV is protected by the Coastal Resources Commission, essentially it cannot be destroyed or impacted. So there are a lot of things that need to be moving forward simultaneously for the overall good of the environment. and I think Director Rawls would like to say a few things. Director Rawls: Thank you, madam chair. I just wanted to take a couple of seconds to speak to both of your comments relative to the Division working backwards on this issue. The Division is working on this issue exactly as the Marine Fisheries Commission has directed us to. This is not a Chris issue, this is not a Steve issue, this is a Marine Fisheries Commission Fishery Management Plan issue, and that's what we're doing here. We have done exactly what the Marine Fisheries Commission asked us to do. This is what working with the stakeholders looks like and we talked about the meeting that we had last night to work with some stakeholders. We had some intentions to maybe have some additional meetings with stakeholders but I'm going to be rethinking that. This is what that looks like for us. These are the directions that we got, this is what we're doing. And if your recommendation is you don't want any closures, same for the public if that's the recommendation of the public, then we can absolutely take that back to the Marine Fisheries Commission and we will, and that will be our recommendation that you don't want any additional closures. And that is a fine recommendation. But we are doing exactly what this commission addressed us to do in the Fishery Management Plan and that is what we work by. We do not just sit around our offices

and come up with these things to come to you with. And we absolutely do not sit around our offices and come out here to close fisherman down. That is not what we do. Our job as an agency is to collect data. That is our job. Our job is to collect the science, put it together and take it to the commission. That is our job. And the Commissioners, they have the tough job, we don't really have the hardest job. They have the tough job of making the decisions. That's where the decisions come from, from the Marine Fisheries Commission. So we are trying to work on this issue we are trying to work with the stakeholders so that we can take the best management recommendation back to the Marine Fisheries that we possibly can, because they then are the ones that have to make the decisions on this. Thomas Newman: I understand that's the directive. My biggest concern and the public's biggest concern is that these lines were drawn and as soon as you first presented them, light bulbs are going off in everybody's head and everybody is scared to death they are going to lose everything they got when you draw these lines. I personally feel like the Division should have reached out and said, hey these are our protected areas what can we do with them? If you'll put your feet on the ground in Parched Corn Bay or the north side of Manteo and guys go look at that grass, where grass is supposed to be, you might chuckle because it isn't deep enough for boats to work. I mean it's 18 inches in the biggest place. These guys are scared of that you know. Director Rawls: So and I absolutely appreciate those comments we have talked, we talked about this even internally this morning and some one of the staff said I don't remember who it was made the comment that perhaps we should have just started by presenting the mosaics, the SAV mosaics and go from there and say okay here's where the SAV is, let's talk about these lines. We learned a lot yesterday meeting with those few shrimpers down in core sound about the area and the areas that are valuable to them why and the fact that they don't feel like they can move to other areas. We absolutely learned that in a very small group. And we absolutely appreciated those comments, but what we say over and over again, is that our recommendations, and all division recommendations don't naturally just come at first. Different directors are different. Some directors don't want the division to have to do it till late in the process. I like our recommendations to come out in the very beginning so that people know what we're thinking and that they know where we're starting from. Our recommendations we say it over and over they are just drafts right out of the gate. They are drafts we can change them, we will change them. We have. Striped mullet is a perfect example of us listening to the stakeholders, listening to the fishermen and trying to come to some sort of agreement where we can work together, and this was no different. I recognize that these area closures can be, to your point, can scare people, and that is not our intent. Our intent is just to get what we're thinking out there so that people have something to start with and that was our intent with putting these out here. And again it is not our decision, and it is absolutely not this guy's decision, but this is what you know this is a lot of times what kind of reception we get. And I get, I get, that y'all are upset, but respect goes both ways. And that is something that I just want to leave on the table here. But we are doing our best to work on this issue, it's a tough issue and the Marine Fisheries Commission is going to struggle with this issue. They did when we did Amendment 2 it was a struggle. This is going to be a struggle for them we know that, so we are even more conscious of what we carry back to committee. The message from the committee, the public has been documented it's been recorded we've taken it down we'll absolutely take it back to them and that'll be a piece of the information that they use to make their decision. Thomas Newman: And I greatly appreciate you sitting down with the stakeholders and that's a super important thing but you could skip all these angry people by walking in the Manteo office say hey this is a draft we put together. We got 700 miles of coastline nothing is the same you know up here versus what it is down in the southern area and that's all I'm asking. It's just you know you ain't got to show it that way, you know all everywhere at once, but you know when you put these things out there I mean it's on public record and that's what I was scared of when we came here. I was like man these lines are already drawn I said they've already presented to MFC so we can't change anything on that. That's how I came in here and when I saw lines were changed here this evening that weren't on the original documents that went out, I thought I guess they're out working on changing the lines. Director Rawls: We're always working on changing our recommendations and again our recommendations come out in the beginning so that people know what we're thinking. Thomas Newman: But this was outside the FMP process that scared me because usually when we go through the FMP process stuff is sent to the MFC and then we get

some comments from the public and then next meeting that's where get hammered next month at MFC if we didn't go out here and fight this tooth and nail. Director Rawls: And I understand that because this is an Adaptive Management piece and really quite frankly, the marine fisheries commission adopted a fishery management plan in February of 2022, and it just took us a little bit of time to get to this so it seemed disjointed but this absolutely came directly from the fishery management plan and very specific to the motion in the plan was that we work with the habitat and water quality committee and stakeholders and then come back to them, so that was the specific guidance that was provided in the Marine Fisheries Commission's plan, and our job as an agency is to do exactly what that plan tells us to do. And so that's exactly what we've done. So I thank you Madam Chair for allowing to make comments. Chair: thank you Director. Any other issues from the Advisory Committee? Lee do you have any kind of update relative to the Marine Fisheries Commission? Lee Paramore: the Chair already covered the fact that you were given information in your packet about the Marine Fisheries Commission update of the last meeting and the action that was taken at Marine Fisheries Committee meeting in February. The Marine fisheries commission will meet again in May, the 22<sup>nd</sup> through 24<sup>th</sup>, in Beaufort. The agenda items will be coming out shortly. One of the things that'll be on the agenda that probably will interest you is the Striped Mullet Fishery Management Plan that you guys reviewed at your previous meeting, they'll be voting possibly to adopt that plan at the May meeting, so that's when that'll happen. Spotted Seatrout we are working on the FMP for that. There's an AC Workshop it's going to be April 22<sup>nd</sup> through the 24<sup>th</sup> that's going to be in New Bern. We don't allow public comment of that but it's open to the public to attend and listen. There's going to be an FMP Advisory Committee that's already been appointed and that'll be like a two and a half day meeting and they'll be reviewing the draft FMP, going through the issue papers, and that'll be the first step in that process of beginning to put that together. That could potentially come back to you in October so that'll probably be the next agenda item that I know for sure is on the slate to come back to the advisory committees will be the spotted seatrout draft plan. And that's what I have unless you guys have a question on the update. And you are always welcome to reach out to me or Charlton with any questions, we are the staff leads for the Northern AC.

#### **ISSUES FROM AC MEMBERS**

No issues were provided by the Advisory Committee.

Jon Worthington made a motion to adjourn, seconded by Carl Hacker. Passed unanimously. The meeting ended at 8:03 p.m.

# DECISION DOCUMENT

## **Blue Crab Fishery Management Plan Amendment 3 Adaptive Management**



This document was developed to help the MFC track previous activity and prepare for upcoming actions for Blue Crab FMP Amendment 3 Adaptive Management.

September 2024



## Background

The original [North Carolina Blue Crab Fishery Management Plan \(FMP\)](#) was adopted in December 1998, [Amendment 1](#) was adopted in December 2004, and [Amendment 2](#) was adopted in November 2013. The Amendment 2 adaptive management strategy relied on annual updates to the Traffic Light Assessment (TLA) to provide information on relative condition of the stock. Based on results of the TLA update with 2015 data, management action was required by the North Carolina Marine Fisheries Commission (MFC). To improve the condition of the blue crab stock, the MFC adopted management measures documented in the May 2016 [Revision to Amendment 2](#).

Comprehensive review of the Blue Crab FMP was originally scheduled to begin in July 2018, but at its August 2016 business meeting, the MFC voted to begin formal review immediately to assess the status of the blue crab stock and identify more comprehensive management strategies. Consequently, development of Amendment 3 began in August 2016.

## Amendment 3 Background

As part of [Amendment 3 to the North Carolina Blue Crab FMP](#) a benchmark [stock assessment](#) was undertaken using data from 1995-2016. Based on assessment results, the N.C. blue crab stock was classified as overfished in 2016. The probability the stock was overfished was 98% with the average spawner abundance in 2016 estimated at 50 million crabs (below the threshold estimate of 64 million crabs). Overfishing was also occurring in 2016 with a 52% probability. The average fishing mortality in 2016 was estimated at 1.48 (above the fishing mortality threshold of 1.46).

The North Carolina Fishery Reform Act of 1997 requires the State specify a time period not to exceed two years to end overfishing and achieve a sustainable harvest within 10 years of the date of adoption of the plan. To meet the legal requirement, the division determined reductions in commercial harvest were necessary. A harvest reduction of 0.4% (in numbers of crabs) was projected 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 with a 50% probability of success (Table 1).

Table 1. Catch reduction projections for varying levels of fishing mortality ( $F$ ), based on 2016 data from the stock assessment, and the probability of achieving sustainable harvest within the 10-year rebuilding period defined in statute. The bolded row indicates the minimum requirement defined in statute.

$F$ (yr-1)	Catch Reduction (%)	Probability of achieving sustainable harvest within 10 years (%)	Comments
1.48	0.0	31	2016 average $F$ from stock assessment
1.46	0.4	45	Catch reduction to meet $F$ threshold and end overfishing
1.40	1.7	46	Catch reduction to meet spawner abundance threshold and end overfished status
<b>1.38</b>	<b>2.2</b>	<b>50</b>	<b>Catch reduction to meet minimum statutory requirement for achieving sustainable harvest</b>
1.30	3.8	67	
1.22	5.9	90	Catch reduction to meet $F$ target
1.10	9.3	96	
1.00	12.3	100	
0.90	15.7	100	
0.80	19.8	100	Catch reduction to meet spawner abundance target
0.70	24.3	100	

The MFC adopted Amendment 3 to the Blue Crab FMP in February 2020 to rebuild the blue crab stock. Prior to adoption, the division recommended that, at a minimum, the MFC should adopt a commercial harvest reduction of 2.2% (50% probability of success) but encouraged the MFC to consider a further reduction to at least 5.9% (90% probability of success). Further, the division encouraged the MFC to adopt a management strategy that included a prohibition on immature female hard crab harvest, a 5-inch minimum size limit for mature females, and a continuous closure period resulting in a reduction of at least 4.6% to make up the remainder of the preferred reduction. A comprehensive list of Amendment 3 sustainable harvest options can be found in [Table 4.1.12](#) and [Table 4.1.14](#) of Amendment 3.

**The management strategy that the Marine Fisheries Commission ultimately adopted was estimated to result in a harvest reduction lower than the initial recommendation and provided an estimated 2.4% harvest reduction with a 50% probability of success.** This reduction would be just above the statutorily required minimum (2.2%), but below the harvest reduction level needed to reduce  $F$  to the target (5.9%) and the reduction needed to increase spawner abundance to the target (19.8%). Amendment 3 management strategies have been fully in place since January 2021. Amendment 3 also maintained all measures implemented with the May 2016 Revision to the Blue Crab FMP. The management changes adopted in Amendment 3 were:

- Season closures (pot closure periods):
  - January 1-31 north of the Highway 58 bridge
  - March 1-15 south of the Highway 58 bridge
  - Possession of blue crabs is prohibited during the season closure period.
- A 5-inch minimum size limit for mature female crabs statewide.
- Remove all cull ring exempted areas.

- New crab spawning sanctuaries were established in Beaufort, Bogue, Bear, Browns, New River, Topsail, Rich, Mason, Masonboro, Carolina Beach, Cape Fear River, Shallotte, Lockwoods Folly, and Tubbs inlets with a March 1-October 31 closure.
- Crab trawls prohibited in areas where shrimp trawls were already prohibited in the Pamlico, Pungo, and Neuse rivers.
- Crab bycatch allowance in oyster dredges reduced to 10% of the total weight of the combined oyster and crab catch or 100 pounds, whichever is less.
- Criteria were approved for designating Diamondback Terrapin Management Areas where use of approved terrapin excluders will be required.
- The adaptive management framework was revised (more details about this are below).

A summary of all management measures in place through Amendment 3 can be found in the annual [FMP Update](#) or in the [Amendment 3 flyer](#).

## Amendment 3 Adaptive Management

1. Update the stock assessment at least once in between full reviews of the FMP, timing at the discretion of the division
  - a. 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
  - b. If the stock is not overfished and overfishing is not occurring, then management measures may be relaxed provided it will not jeopardize the sustainability of the blue crab stock
2. Any quantifiable management measure, including those not explored in this paper, with the ability to achieve sustainable harvest (as defined in the stock assessment), either on its own or in combination, may be considered
3. Use of the director's proclamation authority for adaptive management is contingent on:
  - a. Consultation with the Northern, Southern, and Shellfish/Crustacean advisory committees
  - b. Approval by the Marine Fisheries Commission

Upon evaluation by the division, if a management measure adopted to achieve sustainable harvest (either through Amendment 3 or a subsequent Revision) is not working as intended, then it may be revisited and either: 1) revised or 2) removed and replaced as needed provided it conforms to steps 2 and 3 above.

## Post Amendment 3 Stock Assessment Update

Following full implementation of Amendment 3 management measures in 2021, division monitoring programs continued to observe historically low [commercial landings](#), coupled with continued [low abundance of all blue crab life stages](#) (e.g., male and female juveniles, male and female adults, mature females). In response to stock concerns expressed by commercial crabbers and continued poor trends in abundance since adoption of Amendment 3, the division began updating the stock assessment with data through 2022, adding six years of data to the benchmark assessment. As an assessment update, there were no changes to model parameters and a peer review was not conducted, as the model configuration of the prior peer reviewed model was maintained. Results of the model update indicate the magnitude and trends for estimated recruitment, female spawner abundance, and fishing mortality were similar to the prior benchmark assessment (Figure 1), however, the Maximum Sustainable Yield (MSY)

based reference points used to determine stock status for both female spawner abundance and fishing mortality both drastically changed with the update time series (Figures 2-3). Due to the magnitude of the change in reference points, the division requested an external review of the updated stock assessment.

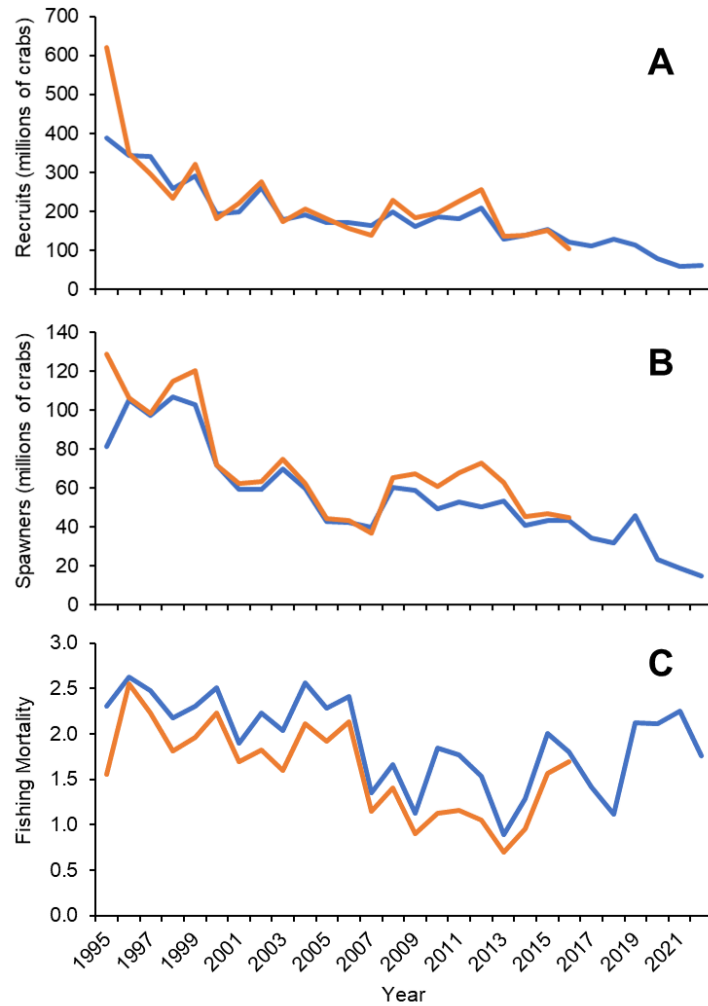


Figure 1. Comparison of estimates of (A) total recruitment, (B) female spawner abundance, and (C) fishing mortality between the 2023 stock assessment update (blue line) and the 2018 benchmark stock assessment (orange line).

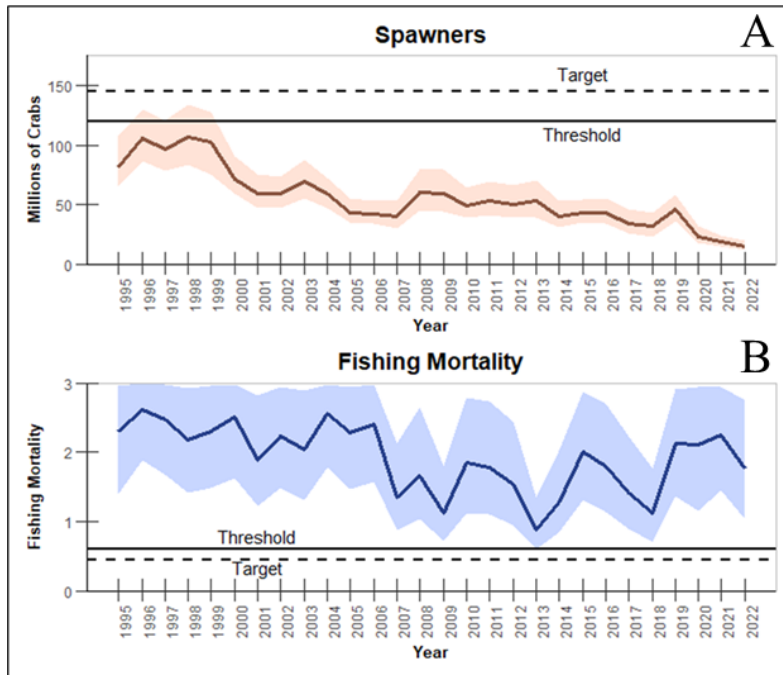


Figure 2. Annual estimates of (A) mature female spawner abundance and (B) fishing mortality relative to associated reference points for hard blue crabs in North Carolina from the 2023 stock assessment update.

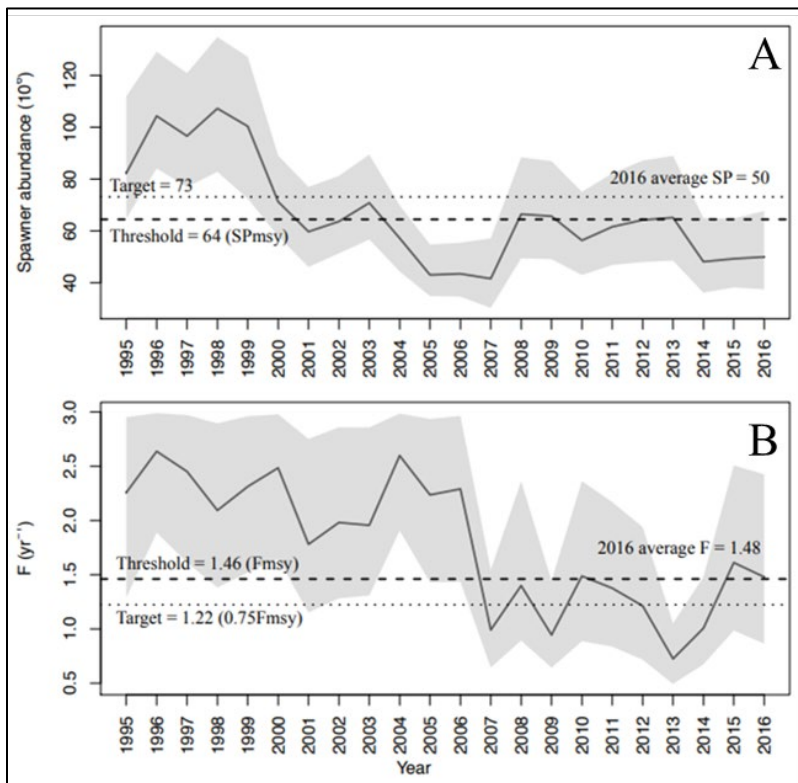


Figure 3. Annual estimates of (A) mature female spawner abundance and (B) fishing mortality relative to associated reference points for hard blue crabs in North Carolina from the 2018 benchmark stock assessment.

This external review was completed in late December 2023. The reviewers identified concerns with model specifications and results and strongly recommended resolving these issues before basing any management decisions solely on the assessment update. Suggestions provided by reviewers can only be incorporated with a new benchmark stock assessment. Given concerns with the assessment update identified by the division and external peer reviewers, **the division does not recommend using results of the 2023 stock assessment update to inform harvest reductions.**

Regardless of the availability of management advice from an updated stock assessment, stock concerns raised by commercial crabbers and trends in available data clearly show Amendment 3 management measures have not worked to reverse declining population trends as intended. Amendment 3 adopted management measures were only projected to result in a 2.4% harvest reduction with a 50% probability of achieving sustainable harvest, the minimum required by statute.

In addition, declines in the North Carolina blue crab stock are not unique, as blue crab stocks in other Atlantic coast states have shown similar declines. 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. Concerns for the [Chesapeake Bay blue crab stock have also persisted](#). While the Chesapeake Bay 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 been started to better understand the population.

## Adaptive Management

All available information suggests the blue crab stock has continued to decline since adoption of Amendment 3 management measures in February 2020. The Amendment 3 adaptive management framework will be used to immediately address the overall declining trends in the blue crab stock. This action is appropriate given the Amendment 3 adaptive management framework states: *“upon evaluation by the division, if a management measure adopted to achieve sustainable harvest is not working as intended, then it may be revisited and either 1) revised or 2) removed and replaced as needed...”*.

Because the 2023 stock assessment update cannot be used to inform management, the division will develop recommendations based on results of the 2018 stock assessment. Using 2018 assessment results provides some guidance on appropriate management in lieu of a current stock assessment.

The Amendment 3 adaptive management framework allows any quantifiable management measure, including those not discussed in Amendment 3, with the ability to achieve sustainable harvest either on its own or in combination to be considered. The division has begun reaching out to stakeholders about fishery perceptions and management ideas and has conducted preliminary analysis of potential management measures (Table 2). Prior to implementation, the division will consult with the Northern, Southern, and Shellfish/Crustacean advisory committees and management recommendations will be brought to the MFC for approval.

Table 2. Summary of potential quantifiable management options that can be considered through Amendment 3 adaptive management including pros, cons, and anticipated level of complexity to analyze and implement.

Management Options	Pros	Cons	Complexity
Limit Crab Trawls	<ul style="list-style-type: none"> <li>• Quantifiable</li> <li>• Protects females prior to spawning</li> <li>• Possible habitat protections</li> <li>• Low effort</li> <li>• Low market demand from fishery</li> </ul>	<ul style="list-style-type: none"> <li>• Limits already small segment of fishery</li> <li>• Small harvest reduction</li> </ul>	Low
Extend existing closure period (e.g., statewide closure January 1-March 15)	<ul style="list-style-type: none"> <li>• Quantifiable</li> <li>• Protect females prior to spawning</li> <li>• Low market demand when fishery occurs</li> </ul>	<ul style="list-style-type: none"> <li>• Increased market price due to VA and MD having no harvest</li> <li>• Crabbers active during winter months have close relations with direct markets</li> <li>• Could affect “peeler crab season”</li> <li>• Small harvest reduction</li> </ul>	Moderate
Bushel/Trip Limits, sex specific or life stage specific bushel/trip limits, season specific bushel/trip limits	<ul style="list-style-type: none"> <li>• Quantifiable</li> <li>• Implemented in other states</li> <li>• Limit harvest of vulnerable or important life stages (e.g., mature females)</li> <li>• Limits total harvest</li> <li>• Could reduce effort</li> </ul>	<ul style="list-style-type: none"> <li>• Requires additional culling</li> <li>• Actual reductions may not be realized</li> <li>• Likely longer soak times of pots</li> <li>• Likely to affect some areas more than others</li> </ul>	Very High
Regional Closures	<ul style="list-style-type: none"> <li>• Quantifiable</li> <li>• Current closure periods are split north and south</li> <li>• Accounts for region specific fishery differences</li> </ul>	<ul style="list-style-type: none"> <li>• Creates inequity between regions</li> <li>• Possible effort shifts</li> <li>• Data uncertainties</li> </ul>	Moderate
Size limit changes/Female max size limit/Peelers min size limit	<ul style="list-style-type: none"> <li>• Quantifiable (for max size)</li> <li>• Size limits currently used</li> <li>• Protect biologically important crabs</li> </ul>	<ul style="list-style-type: none"> <li>• Requires additional culling</li> <li>• Loss of market value</li> <li>• Likely to affect some areas more than others</li> </ul>	High
Limit sponge crab harvest or life stage closures	<ul style="list-style-type: none"> <li>• Quantifiable (can estimate reduction with fish house data)</li> <li>• Implemented in other states</li> <li>• Protect biologically important crabs</li> <li>• Some past support from public</li> </ul>	<ul style="list-style-type: none"> <li>• Likely to affect some areas more than others</li> <li>• Unknown success of clutch once potted</li> <li>• Requires additional culling</li> </ul>	Moderate

## Amendment 3 Adaptive Management Timeline (gray indicates a step is complete)

May 2024	Division presents results of stock assessment update and adaptive management plan to MFC
May 2024 – August 2024	Outreach and analysis
August 2024	Division updates the MFC on progress
September 2024	Division updates Northern, Southern, and Shellfish/Crustacean advisory committees
September 2024 – December 2024	Additional outreach and analysis. Division drafts Revision to Amendment 3
February 2025	Update MFC on draft Revision
March 2025	Public and MFC AC (Northern, Southern, Shellfish/Crustacean) review draft
May 2025	MFC approves Revision to Amendment 3

Current step →

### Key Takeaways

- Amendment 3 management strategies have been fully in place since January 2021.
- The Blue Crab Stock Assessment Update was completed in 2023, but given the concerns expressed by the external peer reviewers, the Division does not recommend using the results of that update to inform harvest reductions.
- All available information suggests that the blue crab stock has continued to decline since the adoption of Amendment 3 management measures by the Commission in February 2020.
- The Amendment 3 adaptive management framework will be used to address the overall declining trends in the blue crab stock.
- The division will develop management recommendations that would have resulted in higher harvest reductions with a greater probability of achieving sustainable harvest based on 2018 assessment results and apply them to the current fishery.
- The Amendment 3 adaptive management framework allows any quantifiable management measure, including those not discussed in Amendment 3, that has the ability to achieve sustainable harvest either on its own, or in combination, to be considered.
- Prior to the implementation of any management, management recommendations will be brought to the MFC for approval.