

Committee Reports



MEMORANDUM

TO: N.C. Marine Fisheries Commission
Northern Advisory Committee

FROM: Kathy Rawls
Katy West

DATE: April 22, 2013

SUBJECT: Northern Advisory Committee Meeting for April 18, 2013

The Marine Fisheries Commission (MFC) Northern (AC) met on Thursday April 18, 2013 at 6 p.m. at the Department of Environment and Natural Resources Washington Regional Office. The following attended:

Advisers: Gilbert Tripp, Riley Williams, Dell Newman, William Mandulak, Everett Blake, Sara Winslow, Keith Bruno, and by phone Frank Folb, and Bill Van Druten

Staff: Kathy Rawls, Capt. Steven Anthony, Sgt. Brian Long, Katy West, Jason Rock, Garry Wright, and Casey Knight

Public: None

Sara Winslow, serving as chair, called the meeting to order at 6 p.m. Phone access was provided to Frank Folb and Bill Van Druten. There were no changes to the agenda.

APPROVAL OF MINUTES

Dell Newman moved to approve the Sept. 27, 2012 meeting minutes as written. Riley Williams gave the second. Motion carried without objection.

SHEEPSHEAD PROCLAMATION AUTHORITY ISSUE PAPER

Chip Collier, Division of Marine Fisheries Southern District Manager, gave a presentation on the issue of establishing proclamation authority to manage sheepshead, as requested by the Marine Fisheries Commission. Sheepshead’s removal from the South Atlantic Fishery Management Council’s snapper-grouper complex invalidated the previous authority to manage the species by proclamation. Collier reviewed the Atlantic Coast and North Carolina landings; sheepshead life history information; sheepshead trip, bag and size limits by state; and potential management options. The potential management options include:

- Status quo
- Proclamation authority for size, bag, and trip
- Proclamation authority for size, bag, trip, season, gear, and area
- Rule to establish a size, bag, and/or trip limit
- Recommend Atlantic States Marine Fisheries Commission (ASMFC) conduct a stock assessment

After selection of preferred management option by the committee (discussed below), Collier went over estimated reduction for a size limit from 10-14 inches combined with a bag limit ranging from 5-20 fish. Commercial reductions were also presented for size limits ranging from 10-12 inches.

The committee had a number of comments and questions. Collier stated his intention for the committee to first consider their stance on the proposed rule action and then follow with advice on possible size and bag limits. Collier clarified for Bill Mandulak that the ASMFC has no jurisdictional authority for sheepshead. Newman reconfirmed that Florida was the only state with an assessment which found the species is not at risk and was the primary player with the majority of the stock in those waters. He does not see a problem in North Carolina because it is not a species often sought by the commercial or recreational fisheries. Van Druten noted in the Hatteras area sheepshead is bycatch in the flounder and king mackerel fisheries and that any of the trips shown above 500 pounds are coming from pound nets. Keith Bruno also confirmed sheepshead are not fished hard by commercial or recreational. Collier noted a possible concern in the spear fishery for increasing targeted effort.

From a process standpoint, Everett Blake confirmed granting proclamation authority would streamline implementing regulations until a problem is shown in the fishery. Bruno wondered why North Carolina does not see a lot of these fish because they appear to mature early and there isn't much fishing pressure on them. Collier explained younger fish may not be as fecund as older, larger sheepshead. Tagging results also indicate North Carolina inside fish are from spawns in near-shore North Carolina waters and that snapper/grouper sampling in the ocean has not turned up many individuals. Blake noted Florida had more of the habitat types preferred by sheepshead. Mandulak noted the fluctuations in landings and wondered if that was due to changes in effort.

In response to a question from Bruno, Collier explained how the proclamation authority would be used if granted. Given that it is a data-poor species it is unlikely there would be an aged based stock assessment; instead, the commission would solicit input from the advisory committees. Bang stick measures was given as a possible example of something that might be addressed. Newman is not a fan of proclamations because he and the rest of the public cannot keep track of what is in effect. Mandulak was not comfortable without having a minimum size on all fish. Folb said he had the opposite opinion and did not want more regulations without data to support the need/actions. He said there are too many unknowns right now with sheepshead and a stock assessment is needed to gage the right level of response. Newman agreed with Folb. Collier explained the limitations of possible assessments. Winslow noted it will be at least two years before a rule authorizing proclamation could be in effect. Blake spoke in support of not implementing changes until we know the full situation with sheepshead. Tripp also supported that idea. He liked the recommendation that came from the Southern Regional AC.

Collier stated it is highly unlikely the North Carolina sheepshead are sustainable and that most fish require some regulation to be sustainable. The proclamation authority would provide the tool to address issues in the future. Bruno did not feel, even in two years, that there will be much more data. Folb asked to see the Southern Regional AC motion again, which is, **“Establish proclamation authority for gear, season, area, size, bag, and trip limit to manage sheepshead provided the issue is vetted through the Finfish and Regional advisory committees to solicit public input on management measures.”**

Bill Mandulak moved to approve the same motion the Southern Regional AC made. Frank Folb gave the second. Motion carried 7-2.

Collier noted the Southern Regional AC decided to withhold comment until the proclamation authority was available and to come back to them in two years when there would be more data. Bruno mentioned any restriction should be a landing limit and not a possession requirement due to concern about culling on the water. Williams agreed with waiting for two years. Winslow noted size limits would increase discards. Van Druten mentioned putting in place the 20 fish bag limit that was in effect when sheepshead were part of the snapper complex, Collier mentioned the need for a maturity study for this North Carolina area.

Everett Blake moved to take no action (no comments on size and bag limit) at this time. Keith Bruno gave the second. Motion carried unanimously.

MARINE FISHERIES COMMISSION UPDATE FEBRUARY 28TH 2013

Kathy Rawls gave the following highlights from the Feb. 28, 2013 Marine Fisheries Commission (MFC) business meeting. The commission:

- Voted to allow the director to transfer some of summer flounder quota reserved for the fall season to the current fishing season
- Adopted management measures to address conflicts between net fishermen and residents who live along Deer Creek and Schoolhouse Creek (Rocky Run Creek) in Cape Carteret
- Approved a rule change that replaces the harvest limit of 100 shrimp per person per day for shrimp taken with a cast net from a closed area with a volume harvest limit of two quarts per person per day.
- Approved a rule to require electronic reporting of landings from all fish dealers that report an annual average of greater than 50,000 pounds of finfish for the previous three calendar years.
- Forwarded sheepshead management options to regional and finfish advisory committees for consideration
- Was informed ASMFC is currently developing Black Drum FMP

FMP UPDATE/ACTIONS

Rawls reviewed the progress on several ongoing state Fishery Management Plans (FMP):

- The MFC gave final approval of Southern Flounder FMP Amendment 1.
- The MFC approved the draft Oyster FMP Amendment 3 to move forward for rulemaking
- The Shrimp FMP is underway with three meetings to date. MFC will be asked to approve the draft amendment to go out for public meetings at its August 2013 meeting.
- The Bay Scallop FMP Amendment 2 plan development team is updating sections and working on issue papers. The MFC will be asked to approve the draft amendment to go out for public comment at its November 2013 meeting.
- River Herring FMP Amendment 2 is a joint-plan with the Wildlife Resources Commission. The MFC will be asked to approve the draft amendment to go out for public comment at its November 2013 meeting.
- The MFC approved the Estuarine Striped Bass FMP Amendment 1. The associated rules are slated to be effective June 1, 2013.

- The proposed rules in support of the Blue Crab FMP Amendment 2 are pending approval of fiscal analyses by the Office of State Budget and Management before notice of text can be approved and submitted, which is scheduled to occur at the May MFC meeting.
- The Striped Mullet FMP Amendment 1 is in the early phases. The draft results of the stock assessment are being finalized and readied for peer review.

ATLANTIC STATES MARINE FISHERIES COMMISSION UPDATE

Rawls reviewed the progress on several addendums and amendments for ASMFC FMPs as follows:

- Smooth dogfish:
 - The ASMFC Addendum II proposes measures to:
 - Establish state shares
 - Allow commercial fishermen to process smooth dogfish at sea with a 12 percent maximum fin to carcass ratio, which is consistent with the 2010 Shark Conservation Act
 - National Marine Fisheries Service Highly Migratory Species (HMS) division is working to amend the HMS FMP to include measures from the 2010 Shark Conservation Act.
 - At the federal level, effective 2012 smoothhound shark season, smooth dogfish and the Florida smoothhound were grouped together into the “smoothhound” complex and are managed as such.
- Draft addendum III for American eel includes a range of options including:
 - Possible moratorium or quota allocation on glass, yellow and silver eel harvest
 - Reductions in eel catch and effort for all life stages
 - Seasonal closures
 - Habitat recommendations
 - Future monitoring requirements
- For striped bass Addendum III to Amendment 6 effective January 2014 for North Carolina establishes a mandatory commercial tagging program:
 - Timely catch reporting
 - Increased accounting of used tags
 - Improved standardization of tag type
 - Use biological metrics for determining state/jurisdiction tag quantity
- As part of Amendment 3 to the American shad sustainable fishery plan (SFP) which was approved in May 2012 by the ASMFC Shad and River Herring Management Board, the following management measures have been implemented:
 - Commercial American shad season Feb. 15-April 14, except the Cape Fear River (CFR) system
 - CFR system 25 percent reduction for both commercial and recreational sectors
 - Commercial season Feb. 20-April 11
 - Recreational bag limit of five fish.
 - The Wildlife Resource Commission rule regarding this does not become effective until August 2013 which caused confusion on the CFR this year. Everything should be consistent next year

In other business, Winslow asked about the review status of the Martin Marietta gravel mine proposal and whether the Habitat and Water Quality AC was going to comment. West explained due to budget constraints the Habitat and Water Quality AC meeting had been cancelled, but the division had submitted comments in opposition to the applicants preferred alternative of discharging nine million gallons per day of ground water into the creek. Sampling had shown the discharge area to be a river herring spawning area.

Meeting adjourned by consensus at approximately 7:30 p.m.

Cc: Catherine Blum
Dick Brame
Frank Crawley
Louis Daniel
Jess Hawkins

Dee Lupton
Nancy Marlette
Meredith Wilson
District Managers

Committee Staff Members
Marine Patrol Captains
Section Chiefs

DRAFT

MEMORANDUM

TO: N.C. Marine Fisheries Commission (MFC)
MFC Southern Regional Advisory Committee

FROM: Mike Marshall
Chip Collier

RE: MFC Southern Regional Advisory Committee April 17, 2013 Meeting Minutes

DATE: April 23, 2013

The MFC Southern Regional Advisory Committee (AC) met 6 p.m., Wednesday, April 17, 2013 at the Department of Environment and Natural Resources Regional Office, Wilmington, NC. The following attended:

Advisers: Jerry Dilsaver, Pam Morris, Randy Proctor, Fred Scharf, Tom Smith, Ron McPherson, Dave Kielmeier via web conference

Staff: Alexander Batchelder, Chip Collier, Capt. Jim Kelley, Mike Marshall, Stephen Taylor

Public: Elwood Pierce, J.M. Mosley, Rodney Simpkins, Joe Hifko, Chris McClean

Sammy Corbett, Phil Smith, Chris Hunt and Seth Vernon did not attend the meeting.

Fred Scharf, serving as chair, called the meeting to order.

MODIFICATIONS TO THE AGENDA

There were no modifications to the agenda.

APPROVAL OF MINUTES

Tom Smith moved to approve the Sept. 12, 2012 meeting minutes with one modification. Jerry Dilsaver gave the second. The minutes were approved as amended without opposition.

PUBLIC COMMENT

Scharf explained that the public could comment at this time on any issue or they could wait and comment after the presentation on sheepshead. Scharf called on each member of the public to determine their interest in making comments.

Elwood Pierce indicated he understood from contact with the Morehead City office that the issue

before the committee concerned implementing size limits on all species. Chip Collier, Division of Marine Fisheries (DMF) Southern District Manager, responded that the division was working on a request from the commission concerning implementing other size limits, but the issue is not ready to go out for public comment.

J.M. Mosley also complained that they did not get information on the issues soon enough to make plans to attend. Scharf encouraged the public to contact Collier or himself for information on meetings in the Wilmington office. Each member of the public wishing to speak indicated they wanted to comment on the sheepshead issue after the presentation.

MARINE FISHERIES COMMISSION MEETING UPDATE

Mike Marshall, DMF Central District Manager, updated the committee on the the commission's actions at its February business meeting, and informed the committee on topics of interest for the May business meeting.

REVIEW AND MAKE RECOMMENDATIONS ON SHEEPSHEAD PROCLAMATION AUTHORITY ISSUE PAPER

Collier presented the information for adoption of a rule to allow for sheepshead management. The request for the rule came from the commission due to the removal of sheepshead from federal management authority under the snapper-grouper complex. **There is concern about an increase in the commercial fishery and there is a substantial recreational fishery.** Collier stated that sheepshead range from Nova Scotia to Brazil. There is one stock along the entire range. Sheepshead reach 10 inches fork length by year-one, 12 inches by year-two, and 14 inches by year-three. The maximum age for the species is 23 years. Spawning begins at age one (50 percent mature). Most fish are mature at age two and all fish are mature between ages three and five.

Recreational harvest dominates the landings with 1.6 million pounds harvested per year out of a total harvest of 1.9 million pounds per year. Florida lands more sheepshead than any other South Atlantic state. North Carolina is probably second overall and second in commercial landings to Florida. Florida and North Carolina account for 97 percent of the South Atlantic commercial sheepshead landings.

Collier presented data on length frequency distribution of commercial and recreational sheepshead landings in relation to 10 inch fork length size limit or age at 50 percent maturity. Scientists typically look at the size at 50 percent maturity as the minimum size for protecting the stock. A size limit of 10 inches fork length will affect fishermen differently in different years according to the data presented.

Most recreational fishermen caught less than 15 sheepshead per trip from 2006-2011 and 90 percent of the fishermen had less than 10 fish. Less than one percent of the commercial trips landed more than 500 pounds; most trips were less than 50.

Other states' regulations:

State	Size Limit (Total Length)	Recreational Limit (Per Person)	Commercial Limit (Pounds)
Maryland	None	Still has 20 fish aggregate from SAFMC	
Virginia	None	4	500
North Carolina	None	None	None
South Carolina	14 inch	10; 30 per vessel	None; little harvest
Georgia	11 inch	15	None; little harvest
Florida	12 inch	15	50 as shrimp trawl bycatch

Collier then described the various management options and the pros and cons of each. He explained the division position is to establish proclamation authority for the management of sheepshead including areas, means and methods, size, season, and quantity management measures. The position includes a request to solicit input from the Regional and Finfish committees on the management measures.

Collier then asked for questions or comments on that portion of the presentation.

Tom Smith asked if there is a difference in size-at-maturity for male and female sheepshead. Collier responded that he only looked at females; they are the portion of the stock that is most important for protection. Also, there is little size difference at age for porgies in general and they are maturing at a small size. Smith followed up by asking if there is a percentage number increase between 12, 13 and 14 inches where the percent mature is almost 100. Collier responded that no information on that question is available for North Carolina and that data are likely to vary by latitude. Scharf opined that given the information provided a reasonable assumption would be that sheepshead with a 12 inch total length would be around 75 percent sexually mature. Smith stated that many of the plans he worked on attempted to protect spawning fish up to 75 or 85 percent maturity.

PUBLIC COMMENTS

J.M. Mosley stated there is no reason to change from status quo because North Carolina does not have adequate data and sheepshead are spawning at a small size. Mosely also questioned the accuracy of the recreational data since recreational fishermen do not fill out trip tickets. Scharf and Collier explained the principles of representative sampling used in recreational sampling. Mosley said he felt that more data needed to be collected to back up any proposed management measures.

Rodney Simpkins asked Collier to expand on the statement he made about putting a size limit on all species. Collier and Marshall explained the process the division is going through to respond to a request by the commission chairman to establish authority for managing unregulated finfish, and that it is premature for the advisory committee to consider the issue at this time. Simpkins stated that the public in attendance is there to discuss size limit authority on all fish tonight and that he felt proclamation authority for size limits on any species would be too much power in a single place or for a single person.

Scharf raised a question about how proclamation authority works. Scharf also asked about the

procedure for moving away from proclamation authority and into a fishery management plan or rulemaking process. Mosley asked why sheepshead was dropped from management under the snapper-grouper process. Collier responded that most of the harvest was coming from state waters. Mosley stated that we are trying to control things that we cannot control because fish fluctuate based on cycles. Mosely also expressed his opinion that protecting female spawners to 50 percent maturity at 10 inches fork length is adequate. Collier responded that although 50 percent are mature at that length, the spawning output is low due to their small size. Scharf supported the assertion that the reproductive output of a 10 inch fish is very small. Mosely suggested consideration of a slot limit similar to red drum because the quality of meat is not as good in very large sheepshead. Mosely reiterated his concern that there is not enough data for effective management of sheepshead at this time and the uncertainty created with proclamation authority is a burden on the fishermen because they would not know what size net to make.

Simpkins asked if the limits on the recreational guide were set in any way other than by proclamation. Collier responded that it depended on the species of fish; some are by proclamation and some are by rule. Simpkins followed up by asking for a definition of proclamation authority. Collier responded that the definition is that the director can issue a proclamation in order to manage the fish. Marshall added that proclamation authority is only authorized in cases where the fishery is affected by variable conditions. Jerry Dilsaver asked if the proclamation authority would give the director the ability to enact management actions with 48 hours notice. Collier responded that in this case the division is recommending that the management actions be reviewed by the advisory committees prior to the issuance of a proclamation. Scharf asked if the director is required to do that. Collier responded that it is not required, but the division is recommending that committee review occur prior to issuance of a proclamation. After further discussion, Scharf reiterated that review by the advisory committees was not required. Marshall advised that the provision for committee review could be included in rule if approved by the commission and the commission has the authority to hold emergency meetings to change or rescind proclamations if a majority requests that action.

Pierce expressed concern over the possibility of having to change the size of nets due to proclamation authority and preferred to have provisions in rule. Pierce complained that if net sizes change and are no longer useful for fishing the division will not reimburse him for the cost of the nets. Collier explained that no net size changes are anticipated with sheepshead management and any other changes would likely be in rule.

Scharf closed the public comment period.

COMMITTEE DISCUSSION

Scharf expressed his understanding of the issue. The division is concerned with an increase in harvest rates of sheepshead and has no authority to manage them. There is no way to control harvest rates and no way to control sizes. Fisheries can evolve quickly and often results in reactive rather than proactive management. The division is already collecting data on sheepshead and getting out in front of it as the fishery is developing. It is important to have data before biomass levels decline. Scharf expressed the need to have the authority to manage the fishery is important even if action is not required at this time.

Smith asked for information on what gear is used to take sheepshead commercially. Collier responded that it is primarily a gill net harvest but gear also included gigs, pound nets and fly nets. Smith asked if the harvest was directed. Pam Morris responded that it is not. Smith offered that his experience with Louisiana fisheries indicated fishermen did not direct on black drum until restrictions were placed on red drum.

Morris asked why the committee has been asked to consider the issue. Collier responded that commissioner Joe Shute asked that the sheepshead issue be considered. After further questioning by Morris, it was determined that the subject of sheepshead no longer being a part of the snapper-grouper complex was mentioned as a part of the South Atlantic Fishery Management Council report given by Michelle Duval at a commission meeting. Morris stated she did not feel there is a problem with sheepshead on the commercial or recreational side. Morris expressed a belief that this proclamation authority would allow the director to put on rules for which there is no basis in reality. Morris expressed a concern that any size limit would hurt commercial fishermen and that stops for inspections would increase.

Randy Proctor stated he did not see a problem with a 10 inch size limit because no one would want to keep a 10 inch sheepshead anyway and that we need to let them mature like other fish.

Dilsaver said that he did not see this as a request to take any specific action, but a request to be able to take action. He also pointed out the ability of the commission to take action on proclamation matters with which they disagreed. Collier reminded the advisors that the commission was looking for feedback on proposed size limits of 10 and 12 inches total length and on a 10 fish recreational bag limit. Dilsaver stated that he was not ready to recommend a size or number limit until we have more data.

Smith pointed out that the North Carolina size data showing mostly 8-15 inch fish indicates that we have a depressed population and do not have many larger, older sheepshead. The stacking of young adult fish that have long life spans and do not have a normal distribution indicates that they are getting caught in huge numbers in the first few years of age. Smith also stated that the mortality of these fish is pretty high and the only reason nobody is fighting over it is because it is not of extreme commercial importance.

Following discussion about the targeting of larger fish by divers and the fecundity of larger females, Dilsaver opined that a slot limit may be appropriate for this species.

Dave Kielmeier stated that there seemed to be more important things to work with than this issue. He also stated that the minimum size limit that should be considered is 10 inches. Collier explained that the rules are typically based on total length rather fork length that is used in the maturity schedule and the 10 inch fork length generally corresponds to an 11 inch total length.

Scharf asked if we could attach a rule to the proposed proclamation authority that proclamations have to go out for committee and public review and if that has been done before. In the case of a data poor fishery that is developing like this one that is showing some signs of increased participation, this may be a unique way to have some authority in place with the caveat that it has

to go out for public review so that it alleviates some of the concerns of the director having too much power. Marshall responded that the proposed wording is not in rule, but it is in some of the fishery management plans and division directors treat fishery management plan provisions as rules. Marshall also offered some wording to achieve the proposal. Morris asked if the commission would approve such a measure and stated that she did not think the division would propose it. Collier responded that it is the current division proposal. Scharf restated the proposed position and its implications for implementation.

Scharf stated he was not ready to make a recommendation on size limits without a more thorough analysis in terms of life history and also impacts to the landings on a more comprehensive basis. Collier stated that the focus currently is more on the process side of things. The focus should be on whether rule, proclamation, or status quo is the best way to manage this fishery.

Scharf moved to go with the division recommendation; not recommend a specific size limit at this point; but just to recommend proclamation authority with the language change, “We recommend the commission establish proclamation authority for gear, seasons, area, size, bag and trip limits to manage sheephead provided the issue is vetted through the Fishfish and Regional advisory committees to solicit public input on management measures.” Second by Jerry Dilsaver. Motion passed with 5-2.

The meeting adjourned.

/cc

Cc:	Catherine Blum	Allen Jernigan	Committee Staff Members
	Dick Brame	Dee Lupton	Marine Patrol Captains
	Frank Crawley	Nancy Marlette	Section Chiefs
	Louis Daniel	Meredith Wilson	
	Jess Hawkins	District Managers	

MEMORANDUM

TO: N.C. Marine Fisheries Commission
Finfish Advisory Committee

FROM: David L. Taylor
Kathy Rawls

DATE: May 13, 2013

SUBJECT: Finfish Advisory Committee Meeting Minutes for April 23, 2013

The Marine Fisheries Commission (MFC) Finfish Advisory Committee (AC) met on Tuesday, April 23, 2013 at 10:30 a.m. at the Division of Marine Fisheries Central District Office located at 5285 Hwy. 70 W. Morehead City. The following attended:

MFC: Chris Elkins, Kelly Darden

Advisers: Jerry James, Jeff Buckel, Pat Finn

Staff: David L. Taylor, Kathy Rawls, Chip Collier, Nancy Fish, Catherine Blum, Capt. Steve Anthony

Public: None

Kelly Darden, serving as chair, called the meeting to order. A quorum was not present.

MODIFICATIONS TO THE AGENDA

There were no modifications to the agenda.

APPROVAL OF THE MINUTES

The AC approved the September 26, 2012 draft meeting minutes as presented by consensus.

PUBLIC COMMENT

The only person in attendance from the public to provide comment was Commissioner Chris Elkins. He provided comments as a public citizen, not as a commissioner. Elkins advocated implementing a requirement to use circle hooks in the cobia fishery around the inlets, particularly Beaufort and Barden, to reduce interactions with sea turtles. He suggested the Finfish AC discuss this issue

SHEEPSHEAD PROCLAMATION AUTHORITY ISSUE PAPER

Chip Collier, Division of Marine Fisheries (DMF) Southern District Manager, provided a PowerPoint presentation about the sheepshead proclamation authority issue paper. Collier said

the issue originated when the Marine Fisheries Commission directed the division to develop an issue paper to start the process for implementing proclamation authority to manage sheepshead. The species was previously managed as part of the South Atlantic Fishery Management Council (SAFMC) Snapper-Grouper Complex. Sheepshead was removed from the Snapper-Grouper Complex in 2012. Currently, the division does not have authority to manage harvest of sheepshead.

Collier provided an overview of the life history of sheepshead, as well as information about harvest, length frequencies, bag and trip sizes, and regulations in other states. He reviewed the potential management options for the species, including status quo, establishing proclamation authority, establishing a rule, and recommending a stock assessment be conducted by the Atlantic States Marine Fisheries Commission (ASMFC). He reviewed the division recommendation of establishing proclamation authority for gear, season, area, size, bag, and trip limit to manage sheepshead, and to solicit input from the Finfish and regional advisory committees to solicit public input on specific management measures.

Darden asked Collier why sheepshead were removed from the SAFMC complex. Collier said the majority of landings occur in state waters. Pat Finn asked if the division has guidance beyond a 10-inch size limit. Collier explained that he would like a recommendation on the proclamation authority first and then the AC could discuss the size and bag limit recommendations. Jerry James asked if a proclamation would provide what is needed. Collier and Kathy Rawls explained that if proclamation authority was established additional input would be sought regarding the specifics to be contained in such a proclamation. Jeff Buckel asked about the recommendation for an ASMFC stock assessment. Collier said one of the problems is the lack of sufficient information to do a North Carolina stock assessment that would be sound enough on which to base management measures. Collier explained that due to lack of data, any stock assessment would likely be highly uncertain. Size-at-maturity data is based on South Carolina data, which could be problematic. Darden asked about specific management measures the MFC discussed. Collier said he would present that next. Finn asked if size-at-maturity changes as you move north. Collier said the trend actually shows faster growth rates in colder waters. The committee discussed growth differences for vermilion snapper, white grunts and other species. Collier said the sheepshead is different because the majority of the fishery is occurs in state waters, not in federal.

Finn recommended the same measures as the Northern and Southern ACs. The measures are reasonable and could prevent a seven-inch fish from being harvested. James echoed the same sentiment. Darden confirmed that the committee agreed with that recommendation by consensus. He said that option prevents being backed into a corner and seems like the best approach.

The committee agreed by consensus.

Collier proceeded with the remainder of his presentation. He reviewed the recommendations from the MFC of potential 10-inch and 12-inch total length size limits for both the recreational and commercial fisheries, with a 10-fish recreational bag limit. The commission did not discuss trip limits for the commercial fishery. He also reviewed comments from the Northern and

Southern advisory committees to wait for more data before recommending specific size and bag limits.

The committee discussed personal experiences with sheepshead. Finn said more data is needed to make recommendations on size and bag limits. Collier asked Catherine Blum, the division's rulemaking coordinator, when a rule containing proclamation authority would be effective. Blum said the earliest effective date would be April 1, 2014. Finn said that is a good amount of time in which to obtain more data. Buckel asked what measures are in place in the interim. Collier said there is currently no authority to manage sheepshead.

The committee continued to discuss and express the importance of obtaining additional data and what data may be possible to obtain. **The committee agreed by consensus to wait for more data before making specific recommendations on size and bag limits.** Buckel asked for additional information about catch per unit effort and size frequency by gear.

MFC UPDATE AND DISCUSSION OF CIRCLE HOOK TOPIC

David Taylor, DMF Fisheries Management Chief, provided a brief update on activities of the MFC at its February business meeting. He informed the committee a gamefish bill was introduced in the General Assembly the previous week.

Darden asked the committee if there were comments about the issue Chris Elkins had mentioned earlier during public comment regarding the cobia fishery in the Barden and Beaufort Inlet areas and the use of circle hooks to reduce deep hooking and hooking in general. Finn said he catches rigs from other fishermen in his large mesh gill nets. He has seen both J-hooks and circle hooks. He said most anglers are using such small line they will not catch the fish they are seeking. He said he catches red drum in his nets that have rigs in them. He agreed that avoiding deep-hooking is certainly preferable, but he cannot directly speak to the use of circle hooks. Buckel said he also cannot speak directly to circle hook use for preventing interactions with sea turtles. James said he uses circle hooks and loves them to avoid deep hooking fish.

Darden suggested that staff could look into the issue further and provide more information at a later time. Finn suggested the Sea Turtle AC may be an appropriate group to consider the issue.

Darden adjourned the meeting at 11:15 a.m.

cc: Catherine Blum
Dick Brame
Frank Crawley
Louis Daniel
Jess Hawkins

Allen Jernigan
Dee Lupton
Nancy Marlette
Meredith Wilson
District Managers

Committee Staff Members
Marine Patrol Captains
Section Chiefs

MEMORANDUM

TO: N.C. Marine Fisheries Commission
Sea Turtle Advisory Committee

FROM: Chris Batsavage

DATE: May 8, 2013

SUBJECT: Sea Turtle Advisory Committee Meeting

draft

The Marine Fisheries Commission (MFC) Sea Turtle Advisory Committee (AC) met on Thursday, March 21, 2013 at 6 p.m. at the North Carolina Division of Marine Fisheries Central District Office located at 5285 Highway 70 West, Morehead City, NC. The following attended:

Advisers: Bob Lorenz, Matthew Godfrey, David Pearson, Adam Tyler, Sammy Corbett, Lori Brinn, and Craig Harms

Staff: Louis Daniel, Dee Lupton, Nancy Fish, Chris Batsavage, Vicky Thayer, John McConnaughey, Derek Berhalter, Brent Sutton, Kevin Brown, Derris Warren, Tom Wadsworth, John Hadley, Kelly Price, Meredith Wilson, Rex Lanier, Harold Knudsen, Steve Anthony, Dean Nelson, Curt Woolston, and Jessica Marlies via phone

Public: Bill Hooper, C.R. "Buzz" Frederick, III, David Jarvis, J.M. Moseley, Rodney Simpkins, Elwood Pierce, Sam Meadows, III, Robert Cummings, Nancy Eden, Brent Fulcher, Earl House, James Phillips, Tommy Lewis, Ronald McCausley, Ryke Longest, Ainsley Smith, Tom Roller, Leighanne Boone, Tony Chaney, John Harris, Earl Ray Sweeny, Jackson Wyrick, Wayne Odum, John Skinner, Marvin Newman, Lee Collins, Sammy Meadows, Donnie Eden, John Coston, Jeremy Skinner, Gerry Smith, Alton Norris, Larry Andrews, Joel Norris, Jeffrey Fryt, Matt Mitchell, Steve Davis, William Davis, Billy Thompson, Ted Smith, Elaine Davis, Patrick Finn, Jody Powell, Kenny Rustick, Allen Jernigan, Jonathan Brady, Corrine Brule, Alexa Harvell, Adam Hawkins, Zachary Husek, Daniel Williams, David Allen of the Wildlife Resources Commission, and Kristy Long of the National Marine Fisheries Service via phone

MFC: Chris Elkins and Bradley Styron

Bob Lorenz, serving as chair, called the meeting to order. He recognized commissioners Bradley Styron and Chris Elkins; Louis Daniel, North Carolina Division of Marine Fisheries Director; and Dee Lupton, North Carolina Division of Marine Fisheries Deputy Director.

He then asked the AC to be aware of funding limitations and reasons the AC was formed when making any recommendations. The primary focus of the meetings is how to continue the large mesh gill net fishery and provide adequate protection for sea turtles.

MODIFICATIONS TO THE AGENDA

Lorenz modified the agenda as follows: promoted the discussion of the proposed expansion of the Hammocks Beach State Park Sea Turtle Sanctuary on the agenda; received public comment period after the discussion of the proposed sea turtle sanctuary expansion; and tabled the “Review Role of Sea Turtle Advisory Committee” item due to time limitations.

APPROVAL OF MINUTES

Lori Brinn asked staff to add her name to the list of advisers in attendance at the Nov. 29, 2012 meeting.

Lori Brinn motioned to approve the modified minutes of the Nov. 29, 2012 Sea Turtle Advisory Committee and was seconded by Sammy Corbett– motion passes.

PROPOSED EXPANSION OF THE HAMMOCKS BEACH STATE PARK SEA TURTLE SANCTUARY

David Pearson presented background information on the existing sea turtle sanctuary at Hammocks Beach State Park and information on the proposed expansion of the sanctuary. The current sanctuary is on the oceanfront of the state park out to 1,000 feet from shore; this includes Bear and Browns islands. No commercial fishing is allowed in the sanctuary from June 1 through Aug. 31 each year. The proposed sea turtle sanctuary expansion would extend out to three miles from shore in the ocean and also include estuarine waters from the Highway 58 Bridge in Bogue Sound to the east side of New River Inlet, including Queens Creek and the White Oak River up to Stella. The time period for the proposed sea turtle sanctuary is May 1 through Oct. 1. In addition, the proposed expansion of the sea turtle sanctuary only restricts trawls and large mesh gill nets. Pearson stated that Management Unit E (Highway 58 Bridge in Bogue Sound to the South Carolina state line) is a very large area, and one sea turtle interaction in the gill net fishery could shut down the entire management unit. The proposed sea turtle sanctuary expansion is designed to avoid widespread closures for Management Unit E. He also commented that fishing is already prohibited on military base property.

Corbett explained his experiences fishing in this area. Fishing is allowed in the military zones as long as military exercises are not taking place and if the boat is not anchored; however, no fishing is allowed along the ocean front due to unexploded ordinances. He also commented that some of the best sea mullet fishing occurs in the ocean portion of the proposed sea turtle sanctuary expansion. In addition, Corbett believes that more sea turtles are harmed by boat strikes and recreational hook-and-line gear than by gill nets and trawls in this area; therefore, all activities should be restricted if the sanctuary is expanded.

Lorenz reiterated that this is information presented by Pearson to inform the AC about the proposed sea turtle sanctuary expansion. He also asked if boats and jet skis are restricted in the existing sanctuary and staff replied that only commercial fishing gear is restricted.

Corbett commented that an expansion of the current sanctuary would restrict all commercial gear, not just trawls and large mesh gill nets. Pearson stated that the expansion only looks to restrict large mesh gill nets and trawls.

Nancy Fish, the MFC Liaison, explained the petition for rulemaking process and the status of the request to expand the sea turtle sanctuary. The MFC received a letter from the Friends of the State Parks requesting the expansion of the sea turtle sanctuary at Hammocks Beach State Park. The MFC responded that the request requires a petition for rulemaking. After the petition is received and deemed complete, the MFC will review it and take action, either accepting or denying the petition. Pearson stated that he is currently working on the petition for rulemaking.

Lorenz asked if the public gets an opportunity to comment on a proposed rule, and Fish said that the MFC could ask its advisory committees to review the proposed rule. In addition, there is a public hearing held for any proposed rule during the rulemaking cycle.

Lorenz then asked if the Coast Guard or other federal agencies need to be involved with a proposed rule. Fish responded that the division would consult with these agencies but there would not be much involvement from them.

Pearson handed out a map he made of the sea turtle strandings in the proposed sanctuary expansion that was created from data provided by Matthew Godfrey with the N.C. Wildlife Resources Commission (WRC).

Adam Tyler asked how many years of data were included and what the causes of these strandings were. Godfrey responded that he thought it was five years of data (**Note: data included strandings from 1998 to 2012**), and it is difficult to determine the cause of death for most of the strandings.

Lorenz asked Godfrey what the WRC would do if the petition for rulemaking was accepted, and he replied that he did not know what WRC's involvement would be.

Pearson commented that more involvement from the commercial fishing industry is needed on this AC.

PUBLIC COMMENT

Chris Elkins, MFC commissioner, asked how much flounder fishing occurs in that area and when it begins. Corbett responded that flounder gill netting only occurs in estuarine waters and will begin in May, but as early as April in some years.

Bill Hooper, a commercial fisherman, commented that the Sea Turtle AC final report from 2006 listed large mesh gill nets, trawls, pound nets, and hook-and-line as the primary gears of concern regarding sea turtle interactions. He is not in favor of closing any more areas. He said to truly protect sea turtles you need to find ways how sea turtles and any gear, commercial and recreational, can coexist. He challenges the AC to be fair and equitable when making recommendations.

C.R. "Buzz" Frederick, III has been a commercial fisherman for 35 years. He wanted to know how one interaction would shut an entire area down. He said that efforts to protect sea turtles should be fair and equitable, such as speed limits to prevent boat strikes. He has witnessed a sea turtle interaction with a recreational angler before. He also commented that the overnight soak time provision for large mesh gill nets is very effective at reducing interactions.

Rodney Simpkins said that nobody has mentioned the Recreational use of Commercial Gear License (RCGL) so far in this discussion. This proposed sea turtle sanctuary expansion would also affect RCGL holders, but he does not think they're aware of this issue. He also stated that proposed sea turtle sanctuary expansion cuts back some of the best commercial fishing waters in the area.

J.M. Moseley supported the previous comments.

Elwood Pierce has fished for over 55 years. He wanted to know how many turtles that were treated at the sea turtle hospital were harmed by commercial fishing gear and by boat strikes.

Lorenz asked Craig Harms to address Mr. Pierce's question, as veterinarian for that hospital. Harms replied that it can be difficult to determine if a hospitalized turtle was injured in commercial fishing gear because nets and forced submergence may not make obvious marks like boat strikes and embedded hooks do. Furthermore, unlike commercial fishermen, recreational fishermen and boaters incur no negative consequences for reporting sea turtle interactions and notifying authorities for initiating rescues. Finally, dead turtles aren't hospitalized. Therefore, using the hospital case load as a proxy for fishery interaction is fundamentally flawed. He added these are reasons we need an active observer program.

Sam Meadows, III, Mayor Pro-Temp from Cedar Point, stated that he expressed many of his concerns in an email to the AC and that earlier speakers also had the same concerns. He is glad to see the AC seeking answers. He believes Pearson might have some misinformation, but he has not had time to meet with him. He also commented that the proposed sea turtle sanctuary expansion would devastate the shrimpers in this area.

Robert Cummings wanted to know if this AC had a goal or will it always meet. He also commented that more user groups need to be involved.

Nancy Eden said she agrees what Sammy Corbett said earlier, and also commented that no one has talked about the large increase in sea turtle nests along Hammocks Beach. She thinks the increased nesting is because of the use of turtle excluder devices (TED) for so many years. She also said she does not support the proposal.

Earl House described the importance of shrimping and fishing to the communities in this area. He also stated that fishing is allowed when there are no military exercises. He commented that maybe the Marine Corps should be asked to stop shooting due to the impact it has on nesting sea turtles.

James Phillips of Clyde Phillips Seafood said closing this area to commercial fishing would be a big economic loss.

Brent Fulcher of B&J Seafood said he purchases fish, crabs, and shrimp from many fishermen who fish in this area. He wants to serve on the Sea Turtle AC because he's involved in the sea scallop fishery, and they have sea turtle interactions north of here, so he would like to learn more. He also commented that fishermen are seeing more turtles than ever, which has hindered the crab pot fishery.

OBSERVER PROGRAM BUDGET PRESENTATION

Dee Lupton gave an overview of the budget for the Observer Program. Funding from the Observer Program comes from state appropriations and commercial license receipts with federal grants providing limited funding. Marine Patrol also helps observe the commercial estuarine gill net fishery, but those costs are covered by Marine Patrol. Marine Patrol involvement with the Observer Program is temporary, so a permanent solution is needed to relieve them from this responsibility. A total of 2,609 observer trips were made from July 1, 2011 to June 30, 2012 with 1,050 of these trips observing fishing activity. Over twice as many fishing trips need to be observed in order to achieve 10 percent coverage for the large mesh gill net fishery and two percent coverage for the small mesh gill net fishery so additional staff and resources are needed to accomplish this. The division requested additional funding through license and permit fee increases to raise \$1.5 million. If no additional funding is available, then the division will have to consider other alternatives.

Pearson asked if some people would no longer purchase a commercial fishing license if the fee increased and if that has been factored into the requested increases. Lupton responded that is a concern, but North Carolina's commercial license fees are relatively low. She said it is hard to predict future license sales and the division needs to be aware that future revenues could decrease.

Pearson asked how much licenses in the Gulf Coast states cost, and Lupton said that a shrimp trawl license for Texas costs thousands of dollars.

Corbett commented that many people own a commercial fishing license but do not fish, and they would be willing to pay more for it. Lupton concurred that there is an intrinsic value to owning a commercial fishing license.

Tyler asked if it is more cost-effective for observers to conduct an observer trip aboard a commercial fishing boat or to use a division-owned boat (alternative platform) to observe a fishing operation. Chris Batsavage replied that both types of observer trips are necessary to meet the required observer coverage. The trips aboard a commercial fishing boat, however, are preferred because there is less cost to the division and because the observer collects valuable biological data on the commercial catch, which cannot be obtained on an alternative platform trip.

Batsavage also stated that for the observer program to become more cost-effective, the division needs to continue becoming more efficient at getting trips, and the commercial fishermen need to be more cooperative in allowing the observers to get these trips.

Lorenz asked how much an observer trip costs the division and Batsavage replied that a trip during fiscal year 2011-12 (June 30, 2011-July 1, 2012) cost between \$480 and \$580 per trip. The different cost estimates included those with and without the purchase of a truck, boat, and trailer for the Observer Program that fiscal year.

Lorenz commented that it is important to keep an eye on the cost of a trip versus additional requests for observing, which can add up. He also commented that reducing observer coverage during times of low sea turtle abundance may be prudent.

Tyler stated that there is no gill net activity in Core Sound in March so sending an observer out to look for fishing activity does not make sense.

Director Daniel responded that the division has data that show that observer coverage for sea turtles during the winter months is a waste of money, and the money is needed for sturgeon observer coverage. He said we know we are going to experience closures, and they could be lengthy, but we need a sense of what the closures will look like before we talk about additional work for the observers. The division needs to fulfill its settlement agreement obligations.

Tyler asked if the division staff collecting fish house samples get observer trips, and Batsavage responded that has been done in the past, but their sampling responsibilities limit their availability for observer trips. Daniel emphasized that these samplers are needed to fulfill core mission duties for the division. Lupton commented that the sampler's source of funding can limit what sampling activities they can participate in.

Pearson asked why observers are making trips in December when the commercial southern flounder season is closed because there should be no large mesh gill nets in the water. Batsavage responded that the large mesh gill net definition under the settlement agreement is four-inch

stretched mesh and greater, which includes mesh sizes used by fishermen targeting other fish such as spotted sea trout. He also said that some small mesh gill net trips are also observed in December. Kelly Price added that there were federally-funded observer trips during this time for purposes other than sea turtle observations.

Ryke Longest of the Duke Environmental Law Clinic said the clinic would welcome a modification request to the settlement agreement by the division as it has in the past. He also said if the division does not follow the settlement agreement, then the clinic will explore its options.

OBSERVER PROGRAM UPDATE

Batsavage gave a summary of the Observer Program in 2012. There were a total of 963 commercial gill net trips observed with a total of 26 sea turtle interactions. Most of these were live green sea turtles (16) and there were only four dead sea turtles observed (one Kemp's ridley and three green sea turtles). In 2011, a total of 25 sea turtles were observed and seven were dead. Kemp's ridley sea turtles were the most common turtle seen that year. Batsavage also informed the AC that information on the Observer Program was just added to the division's website to get the word out about the program and its importance in terms of the Endangered Species Act and for obtaining Incidental Take Permits (ITP).

Lorenz had several questions about the information in the tables provided to the AC and Batsavage answered those questions.

SEA TURTLE ITP APPLICATION UPDATE

Batsavage updated the AC on the progress of the ITP application. An updated version of the application was sent to National Marine Fisheries Service (NMFS) on Jan. 18, 2013 that contained clarifying information NMFS requested during a conference call on Nov. 14, 2012. The AC received the updated application back in January. It is likely that the division will have another conference call or two with NMFS before that agency decides whether or not we receive an ITP for sea turtles.

OTHER BUSINESS

Batsavage informed the AC that there are currently two vacancies for this committee. A few members of the public expressed interest in serving on this committee, so division staff will send applications to them.

Tyler raised his concerns regarding sea turtle interactions with the recreational hook-and-line fishery. There are reportedly many interactions in the spring cobia fishery in Carteret County. He has seen free-swimming sea turtles with hook-and-line gear on them, and he thinks observer coverage is needed to quantify the interactions. Harms commented that would be difficult to

accomplish due to limited funding, but any information from this fishery regarding sea turtle interactions is useful. Godfrey said that the original Sea Turtle AC discussed this issue in 2006. Corbett claimed there was less recreational fishing effort in 2006 compared to now, and Batsavage said they would need to look at recreational effort data to verify.

Lupton informed the AC that the division submitted a proposal to the Atlantic Coastal Cooperative Statistics Program (ACCSP) to observe the recreational cobia fishery last year, but the proposal was not funded. Lorenz asked if recreational fishing license money could be used to fund this research. He also commented that a recreational fishery observer program could interest other states.

Tyler raised concerns about the data recorded on observer trips because the fishermen have no way of knowing if the data matched what was caught on the trip. He would like to see a verification process implemented. Batsavage responded that fishermen have requested copies of the data sheets from trips on their boats to ensure the data was accurately recorded. Harms mentioned that a digital picture of the data sheets might work as verification. Batsavage said that the Marine Recreational Information Program (MRIP) randomly contacts anglers who were interviewed by a creel agent to verify the information recorded was valid. It is possible that a similar system could be developed for the Observer Program. He will discuss this with staff to determine the best way to accomplish this.

NEXT MEETING

The next meeting will be held on Thursday June 20, 2013.

The meeting adjourned at approximately 9 p.m.

Cc:	Catherine Blum	Kristy Long	Gerry Smith
	Dick Brame	Dee Lupton	Meredith Wilson
	Frank Crawley	Jessica Marlies	District Managers
	Louis Daniel	Scott Conklin	Committee Staff Members
	Jess Hawkins	Nancy Marlette	Marine Patrol Captains
	Allen Jernigan	Michelle Nowlin	Section Chiefs

MEMORANDUM

TO: N.C. Marine Fisheries Commission
Bay Scallop Fishery Management Plan Advisory Committee

FROM: Tina Moore
Trish Murphey

DATE: March 18, 2013

SUBJECT: Bay Scallop Fishery Management Plan Advisory Committee Meeting Minutes

The Marine Fisheries Commission (MFC) Bay Scallop Fishery Management Plan (FMP) Advisory Committee (AC) met on March 18, 2013 at 12:30 p.m., at the N.C. Division of Marine Fisheries Central District Office located at 5285 Highway 70 W in Morehead City, NC. The following attended:

Advisers: Troy Alphin (via phone), Dennis Spitsbergen, Stephen Fegley, Ami Wilbur

Staff: Tina Moore, Trish Murphey, Sergeant Dean Nelson, David Taylor, Kevin Brown, John Hadley, Greg Allen, Stephen Taylor, Mike Marshall

Public: Ainsley Smith, Mark Bartholomew

Bay Scallop co-chair, Stephen Fegley, called the meeting to order. The arrangement of the agenda items with presentations did not follow the order on the agenda due to technical difficulties.

APPROVAL OF THE MINUTES

A motion was made by Dennis Spitsbergen and seconded by Ami Wilbur to approve the minutes from the meeting on February 4, 2013. The motion passed without dissent.

PUBLIC COMMENT

No comments.

MFC UPDATE

Tina Moore indicated the MFC approved the goals and objectives and are aware of the timeline for the FMP. Upon the MFC's approval of the goal and objectives the plan development team (PDT) issued the public information brochure to gain input from the public and members of the advisory committees of the MFC. The deadline for input is April 11, 2013. Comments can be sent to Tina Moore via email or phone.

ENVIRONMENTAL FACTORS SECTION

Trish Murphey presented information on the environmental factors. Information for this section is derived from the Coastal Habitat Protection Plan (CHPP). Submerged aquatic vegetation (SAV) is important to scallops and other species. It provides protection from predators, acts as

nursery and foraging areas. It also can reduce siltation, reduce wave energy, and cycle nutrients. North Carolina has more SAV than all the other states with the exception of Florida with about 196,000 acres of grass. Overall, the high salinity SAVs appear to be stable with increases in range to the south and some seeing increases of the more low salinity areas. The biggest threats to SAV are sediment and nutrients, blocking sunlight, dredging, fishing gear impacts, prop scarring and non-native species. Eighty-two percent of the scallops found during bottom mapping sampling were located in sub-tidal areas with vegetated, hard bottom without shell. Although scallops can survive in other habitat types, survival is higher in algae and SAVs than in oyster or rubble bottom types.

The bottom mapping program also shows that scallops occur at low densities on shell bottom. Similar to SAV, shell bottom provides some structure for attachment and cover. Shell bottom provides important functions that enhance the health of the entire ecosystem by filtering sediment, and can also reduce wave energy and stabilize shorelines from erosion. Threats to shell bottom include overharvest, destructive gear, sedimentation and disease. Scallops spawn in high salinity areas when water temperatures decrease. Scallops have a narrow range of environmental tolerances, such as temperature extremes, reduced salinities and high turbidity, with larvae and juveniles being the most sensitive. Current and water flow are important for scallops at all stages of its life cycle for suitable settlement and food transport. Threats to water quality include channelization that can change salinities and flows.

We do not find scallops in wetland habitats, but scallops indirectly benefit from wetlands because of the ecosystem services they provide including: filtration of pollutants, slowing runoff and trapping sediment that could otherwise be damaging to bay scallops. The primary threats to wetlands are shoreline stabilization such as bulkheading, dredging, filling, ditching and sea level rise. Soft bottom with its abundance of benthic microalgae, zooplankton, and detritus provides food for juvenile and adult scallops when they become re-suspended. Soft bottom is important for SAV to colonize. Threats to soft bottom include dredging, fishing gear and shoreline stabilization.

Good water quality is important for bay scallops and the sustainability of those habitats that sustain scallops and the estuarine system. As the human populations grow around the coast, water quality is impacted from things such as: stormwater and agricultural runoff, dredging, industrial discharge, etc. which, can increase nutrient loading and harmful algal blooms. Toxic chemicals can also impact water quality and most originate from human activity. Heavy metals, pesticides, petroleum hydrocarbons, and pharmaceuticals can cause mortality and inhibit growth in bay scallops. Endocrine disrupting chemicals can alter an organism's reproductive physiology and morphology. Endocrine disruptors are found in North Carolina waters, and they include: flame retardants, plasticizers, estrogen, antibiotics, pesticides, ibuprofen, caffeine, fragrances, and others. The federal policy for disposing of unwanted medications is to flush them, and many states including North Carolina have created drug take-back programs for more proper disposal. Effects on the total habitat system may be individually small, but cumulatively large.

The status of the 2007 Bay Scallop Fishery Management Plan (FMP) habitat and water quality recommendations is ongoing and some have been completed. The SAV mapping was digitally updated in 2007 including ground-truthing. The strategic habitat areas outlined in the CHPP are

moving through the analysis. We have two dedicated permit positions and continue to have restrictions of bottom-disturbing gears. The coastal stormwater rules have been revised and new research is ongoing on alternative bay scallop habitats, impacts of harvest type on bay scallops and SAV, and endocrine disrupting chemicals. There are eight habitat and seven water quality recommendations specific to bay scallops from the CHPP. Also there are seven research recommendations that request specific information on SAV and alternative habitats that support bay scallops, impacts of endocrine disrupting chemicals on bay scallops, impacts of nutrient loading and algal growth on the life history of bay scallops, and water quality standards needed for optimal SAV growth.

Spitsbergen asked why Snead's Ferry did not show scallop presence on the map. Murphey responded that the scallops on that particular map are based on bottom mapping sampling, which is a snap shot and may not have captured them at the time it was sampled. Spitsbergen asked how the SAV map was created. Murphey responded that it was a compilation of multiple studies over the years, with flyovers and ground-truthing in the field. Fegley stated that on page eight of the section the citation is incorrect and that it should be the Peterson, Summerson, and Fegley paper written in 1987 instead. Fegley also mentioned that the recommendations are a long list. He asked if it was appropriate for the AC to prioritize the items in order of importance to emphasize items that can be completed and may be of more importance to bay scallops than others. Murphey indicated that the AC could certainly prioritize these recommendations. Fegley stated to the AC that this may be something we want to think about in the review later, so keep it in mind.

ASSESSING THE RELATIVE IMPORTANCE OF THE SPRING SPAWN

Fegley presented research on quantifying demographic information to assess the importance of a second spawn to bay scallop populations in North Carolina. Generally it is thought that the spring spawn is a small component of the overall bay scallop population. Juvenile scallops also suffer higher mortality in the spring because of predators. In this study we could not come to an estimated total size of the spring spawn. The goals of this study were to:

1. Quantify scallop settlement in the fall and spring using spat collector bags;
2. Estimate fall and summer survival rates, realized growth rates, and absolute abundance of the size classes through suction-dredging in undisturbed seagrass beds;
3. Compare size-frequency and abundance by size from suction dredging results to scallop dredge sampling results taken within the same time period; and
4. Grow late-summer and spring-spawned bay scallops in upwellers and protective bags in a predator-free area to determine the maximum lifespan and duration of reproductive capacity.

Four locations, two in Bogue Sound and two in Core Sound, were chosen for collecting spat using an onion bag with netting and Styrofoam inside. Four arrays of five bags were set at each location in mid-September. After one month two arrays of bags were retrieved, two arrays were left from the previous month, and two new arrays of five bags each was set out. In mid-November the two arrays of collectors were retrieved and all species inside each bag were evaluated by species, size, and disposition. The retrieval and deployment system allowed for three samples with different soak times and windows. The same retrieval and deployment system was set up in the spring months. If single valves were found, their total numbers were divided by two so they would account for only one individual scallop. Dead scallops included gapers,

clappers, and single valves. Gapers were identified as open scallops with meat attached and no response. Clappers were identified as recently dead, no tissue inside, but both shells still attached to the hinge, a hinge will break within 1 to 7 months.

The bags set out for two months in the spring had substantially higher mortality. Blue crabs were also found inside most of the bags; although, the one site with the highest mortality had the least amount of blue crabs present. There were not as many dead scallops in the bags left out for two months in the fall period. One other factor that may be related to survival in these bags is space competitors, such as bryozoans and tunicates. Bogue Sound had more tunicates and bryozoans present than in the Core Sound samples. The samples with the highest mortality in the spring had a low number of tunicates and bryozoans.

The seasonal suction dredge sampling isolates the bottom area and water column up to a depth of 1.2 meters. It is the same sampling method used in the 1980s. It captures all scallops and mobile bottom species in very specific space and there is a 90 percent return rate for scallops greater than 25 millimeters in size. Looking at the seasonal suction dredge sampling scallop size frequency there was no evidence the spring spawn was adding to adult abundance in 2012.

Seasonal suction dredge sampling of blue crabs is a confusing story. Blue crabs were highly abundant in Bogue Sound from fall through the spring. Core Sound blue crab abundance was highly variable. Blue crabs were most abundant in both systems in the summer months.

The grow-out of scallops in predator-free areas showed spat collected in the fall and spring did not have consistent growth. It takes spat spawned in the fall 28 weeks to grow from 10 to 40 millimeters and only 20 weeks for spring spawned spat to grow between the same sizes. Survival of the fall versus spring spawn is a different story. The fall spawn had an excellent rate of survival, the spring spawn scallops not so good.

Comparing the Division of Marine Fisheries scallop dredge sampling to the suction dredge sampling conducted in April 2012, there were smaller individuals in the suction dredge as expected because there is no selection with the gear. Overall the range in the length frequency of scallops greater than 15 millimeters were the same between the two sampling programs.

In summary there is more spat available in the fall than in the spring. Spat grow better if spawned in the spring, but they are not as fit and we do not see strong evidence that the spring spawn is adding to the adult harvest season. We also saw a substantial spat set in the fall of 2012 in Core Sound.

Spitsbergen asked if this study is showing natural losses and not from fishing effort. Fegley responded no fishing activity was allowed on bay scallops during our sampling time periods. Ami Wilbur mentioned the spring spawners were too close to the metabolic edge and could not take the temperature fluctuations and would die. The smaller the scallop, the closer they are to the metabolic edge of survival. Reproduction also causes them to be on the metabolic edge for survival. Spitsbergen noted there is not a lot of growth through the winter.

Moore asked Fegley what he believed to be the cause of the highest mortalities in areas where space competition and blue crabs were not present. Fegley responded that it is not likely other organisms, but more often metabolic issues, is causing mortality.

OVERVIEW OF THE UNCW HATCHERY

Wilbur provided a presentation on the University of North Carolina Wilmington Shellfish Research Hatchery. The building is designed for the propagation of the early life stages of marine bivalves, including bay scallops. The mission is to conduct and facilitate research that will both inform and contribute to North Carolina's efforts to restore declining populations of ecologically and commercially important shellfish and to build a sustainable shellfish aquaculture facility. Currently there are four temporary full-time staff members at the facility. The heart of the hatchery is the 40 bag (250 liter) continuous flow system bringing in water from the Intracoastal Waterway, maintaining the salinity at 30 parts per trillion and a temperature of 24 degrees Celsius. Food bags of different algal species (3 species) are harvested every day using 30- 40 percent of one bag daily.

Broodstock for oysters were collected in five locations. Broodstock for bay scallops have been collected with limited supply from Chadwick Bay. The broodstock room provides filtered seawater to four tanks 400 liters in size and a constant supply of microalgae. We have had upwards on 50 million bay scallop embryos at a time per tank as they transition to a larger stage.

The production room is used for strip spawning of oysters, but scallops do not do well in a strip spawn and instead are much more prolific in the number of larvae they produce than the other shellfish species. Scallops also can be turned around much quicker. The setting tanks are which the process for bay scallops has not been optimized yet. They settle on the sides of cones and set on shell, too; but, it is not being used yet.

There is also a quarantine room to work with non-local species and diseases without impacting local populations. This allows double capacity and independent broodstock animals to be separated. For oyster we brought in four broodstocks from different areas for grow-out, and attempted 15 spawns. We failed in our attempts because the spawns did not last due to infestation by mussels. We tried to grow broodstock from Chadwick Bay for bay scallops with three spawns and produced over 57 million embryos with grow-out success.

Oyster performance trials were conducted and we had better growth on floating cages. The Hewlitt Creek oyster broodstock grew better, but did not last. The Cedar Island broodstock of oysters lasted longer, but did not grow as well. We think it may be related to their habitat type, Hewlitt Creek is an intertidal situation and Cedar Island is a subtidal area. Scallop performance trials grown in nets showed the round nets did better in high energy areas than squares ones. The nets would become infested with tunicates and we do not have grow-out data on scallops.

Thanks to N.C. Sea Grant we were able to continue oyster production in 2012 to continue developing broodstocks. The Cedar Island spawn did not survive through the larval stage and Lockwood Folly oysters did not set in sufficient numbers to deploy. We have concerns on the flow through system. In January 2013 we have taken high performers from three of the sites in the state and added two lines from Virginia. Later this year we hope to have created broodstock

for grow-out later this year. Scallop production in 2012 had a good amount of broodstock from Chadwick Bay. We had three spawns producing about 57 million embryos. Over one million made it to the 1 - 4 millimeter spat size in 3 months. We will repeat the cage design and density study with the 60 thousand spat that were culled out of the batch. March 27 is the first scheduled spawn for oysters with the funding source we have in place. Scallop production has no funding source at this time, and we are living hand-to-mouth to keep it going. Even with staff working daily at the facility it is not enough to continue, and therefore we rely on a small army of volunteers to keep things going.

FURTHER DISCUSSION ON THE LIST OF ISSUES

No further discussions were had.

PLAN AGENDA ITEMS FOR THE NEXT MEETING

Moore indicated the bay scallop harvest management issue paper will be the only item on the agenda and will require quite a bit of discussion at the next meeting on April 15. The May meeting is scheduled to have the aquaculture section and private culture issue paper and then the June meeting the stock enhancement issue paper. The deadline to receive input from the public and advisory committees is April 11 from the public information brochure process, so we should have all the comments provided to the AC at the next meeting as well. Our agendas are somewhat light to allow us the opportunity to add any new issues that may arise from the public information brochure process. So far, I have received one comment from Mark Bartholomew about habitat restoration. I mentioned that this meeting will be going over the habitat and water quality information and it would be a good opportunity to listen to this information and provide us with feedback during this meeting. He is in attendance here today. We are on schedule with the timeline and the expected time period to give the MFC a full overview of the FMP at its November meeting and request approval for it to go out for public comment. The June to November time window will allow staff to compile the complete document, with an internal review and another review by the AC.

Spitsbergen noted he had talked with Murphey last week about further ideas he has about management of dredges. He is compiling the information on paper. He will send something to the AC before the next meeting since we will be discussing that issue in more detail in April.

Spitsbergen moved to end the meeting and Wilbur seconded the motion. The motion passed without dissent.

The next meeting is scheduled for April 15, 2013 at 12:30 p.m. and the Central District Office

TM/lm

Cc:	Catherine Blum	Jess Hawkins	Kathy Rawls
	Dick Brame	Allen Jernigan	District Managers
	Frank Crawley	Amanda Little	Committee Staff Members
	Louis Daniel	Dee Lupton	Marine Patrol Captains
	Chris Elkins	Nancy Marlette	Section Chiefs

MEMORANDUM

TO: N.C. Marine Fisheries Commission
Bay Scallop Fishery Management Plan Advisory Committee

FROM: Tina Moore
Trish Murphey

DATE: April 22, 2013

SUBJECT: Bay Scallop Fishery Management Plan Advisory Committee Meeting Minutes

The Marine Fisheries Commission (MFC) Bay Scallop Fishery Management Plan (FMP) Advisory Committee (AC) met on April 15, 2013 at 12:30 p.m., at the N.C. Division of Marine Fisheries Central District Office located at 5285 Highway 70 W in Morehead City, NC. The following attended:

Advisers: Troy Alphin (via phone), Dennis Spitsbergen, Stephen Fegley, Ami Wilbur, Bert Speicher

Staff: Tina Moore, Trish Murphey, Sergeant Dean Nelson, Kevin Brown

Public: No one was in attendance.

Bay Scallop co-chair, Ami Wilbur, called the meeting to order. There were no modifications to the agenda.

APPROVAL OF THE MINUTES

A motion was made by Stephen Fegley and seconded by Dennis Spitsbergen to approve the minutes from the meeting on March 18, 2013. The motion passed without dissent.

PUBLIC COMMENT

Ella Ruth King provided Tina Moore with a written letter via email fifteen minutes before the meeting. Moore read the letter to the group; King would like to see an open season for bay scallops in the Core Sound area once a year or at least every two years even if the season is for just a week or two for personal consumption. King wrote she has seen firsthand the destruction of the skates that come in and feed on our bay scallops and would prefer to eat the scallops before the skates feed on them. Moore explained she had talked to King on the phone earlier in the day and explained the reasoning behind opening the season in the winter months to allow scallops to spawn at least once before allowed harvest.

BAY SCALLOP HARVEST MANAGEMENT ISSUE PAPER

Moore presented information on the bay scallop harvest management issue paper. This is the Advisory Committee's first opportunity to bring forward recommendations and ideas on harvest management and other opportunities will be provided to review the recommendations and make modifications. The issue is to consider specific triggers to determine an open season in areas

south of Bogue Sound and review current harvest measures in place for all areas for both the recreational and commercial user groups. The first part of the issue is a recommendation as a holdover from Amendment 1 and the second part is to review all the current measures in place from this AC and also our staff. Commercial landings have been very low for bays scallops the past twenty years and likely as a result of several environmental disturbances. First was a red tide event in 1987/88 which greatly reduced the population in Bogue, Back, and Core sounds. Then in 1999 and 2003 hurricanes came through and commercial landings declined to extremely low levels. There are only two data sources available for estimating annual bay scallop abundance: commercial landings and a fishery independent sampling program. No data are available on recreational harvest. This was the first year for collecting recreational harvest information through mail and intercept surveys. These surveys are not the most precise method for accurately determining the recreational scallop participant universe. Some recreational harvesters purchase the shellfish license to take more than the limit for just personal consumption. This also is a loss in data for the amount of scallops taken in a season.

Next we will review the management history through the Fishery Management Plan (FMP) process. Prohibited take began in 2006 and continued until 2008 as part of the 2007 FMP until a fishery independent sampling indicator could evaluate adult abundance and ultimately determine if the fisheries could be opened. This strategy was initiated because widespread low levels of scallop abundance indicated scallop populations should be protected until we could see some sort of recovery. Division of Marine Fisheries (DMF) sampling continued after the FMP was finalized; the sampling was standardized at set stations 4 times a year in Bogue, Core, and Back sounds. Sampling began in Pamlico Sound, New River, and Topsail Sound in 2009. In 2008 DMF and the public noticed increased numbers of scallops in Core, Bogue, and eastern Pamlico sounds and many from the public contacted the DMF in late 2008 about opening the scallop season in 2009

The Marine Fisheries Commission (MFC) selected an opening target level in January 2009 which included the 1984-1985 time series for Bogue, Core, and Back sounds, the main harvest areas, because it reflected abundance levels prior to the red tide event, when the typical average annual harvest was about 30,000 bushels of scallops. The target opening level for eastern Pamlico Sound was set by default by opening the area in 2009 based on only one sampling estimate in January 2009. A commercial and recreational harvest season occurred in Pamlico and Core sounds from January 26 through April 1, 2009. Commercial harvest was limited to hand harvest only three days a week, and five bushels per person per day not to exceed ten bushels per fishing operation a day. A total of 5,801 bushels were harvested in 2009, 69% of the harvest was from Core Sound. Recreational harvest was limited to Saturday and Sunday only at ½ bushel per person per day not to exceed 1 bushel. In 2010 only Pamlico Sound was opened and less than 100 bushels were commercially recorded.

There were concerns raised by the public that the established targets for Core, Bogue, and Back sounds are too high and attaining population levels before the red tide is no longer possible because of changes in water quality, habitat, and predation pressure. In 2008, the annual lnCPUE for Core Sound exceeded the target level based on the 1984-1985 time series.

Amendment 1 was finalized in 2010 to establish progressive triggers with specific harvest measures at each opening level to the target chosen in 2009 to allow more flexibility for management, consider population variability in all areas each year, and allows for limited bay scallop harvest while maintaining the FMP goal of rebuilding the stock to pre-red tide levels. Adaptive management targets and progressive triggers were also desired for all areas south of Bogue Sound but limited sampling could not determine target abundance indicators for this region. The MFC selected the Bogue Sound progressive triggers for re-opening areas south of Bogue Sound until triggers could be developed for this region.

Fegley had several technical questions about the index and other components. Fegley was curious as to why the 1984-1985 time period was chosen. Looking at Figure 2 the years are high and not representative of the time series. Spitsbergen asked also whether the index is based on an average of the two years. Moore responded that it is a combined 2-year average using only the years prior to the red tide, after the red tide the numbers are really low. Fegley responded so those are the years in which you have the best representative data. Fegley directed discussion to Table 1, the correlation analyses of the data. He asked what was the purpose of the analysis. Moore answered in order to determine which months were the best indicator of adult abundance. Fegley then asked why is effort being expended by DMF beyond the October sampling. Moore stated so we have real-time estimates for the public on what is out there. Fegley added the reason that he is pursuing this is because of being concerned with using the Pearson correlation. He stated that he would think you realize the Oct-Dec time period is the most appropriate for the next harvest season. Pearson correlation requires the data to be normal and be close to linear. The Pearson correlation is very sensitive if non-linear and you have said these are highly variable data. You have other options to use for an analysis and Pearson will often give a higher correlation of the data if these violations are occurring. The Pearson numbers are higher than the traditional r-squares. How good was the previous fall at predicting the harvest? For the purpose to drive the triggers, from a design component, it would be better to expand the sampling to 10 sites in each of the regions to be a better measure or more robust measure of abundance. Sampling 101, sample only at the best time for getting the harvest estimates. Moore stated we do additional sampling in each of the areas, but we do not use it in the estimate because we are assessing like with like. Fegley added that it does not matter, you need more robust sampling. Moore also stated DMF has no funding beyond state funded directives for all our shellfish. Also in Pamlico Sound we do five set and five 'at-will' with fishermen following staff around as the sampling occurs telling staff where to go. In a perfect world we would want to do a systematic sampling method in each area. We were under pressure to get a target opening index made for the MFC to select an opening index in less than one month in 2009. It was unfortunate that we were under such a time constraint; it would have been better for more time to develop and discuss the opening index and sampling methods in more detail. Fegley said he would likely add in something to a motion with the agreement of the other AC members to expand on the sampling. Troy Alphin had an additional suggestion that stratifying the sampling would be useful where you know the scallops exist. Fegley said he agreed with keeping the constant stations and adding to the sampling the areas beyond within the sounds. Moore explained further the variability with the sampling through time was an issue. Spitsbergen felt the lnCPUE may not be representative with what is out there. Moore asked what is representative of the sampling. Tow 2 stations or 20? Fegley said not many more would be needed, it is reasonable to take a target in the past that scallops were more abundant and probably in more places. Now the scallops are

more compressed in one or two locations, if you reach the trigger level it would be a good idea to give the DMF the opportunity to say wait a minute and close the fishery if you think the scallops are being taken too quickly in a compressed area. You need to have the best estimate possible to use on deciding what to do for the fishery. Spitsbergen said he was asleep at the switch with the amendment and now realizes the management does not have the flexibility beyond the FMP. Proclamation authority is used to work within the season but management is bound by the FMP. Alphin added the ability to open up sections within the large areas would be a good idea because they are a patchy organism. Unless we have greater coverage in the sampling then it would be difficult to determine the smaller locations for opening and also deal with the indirect effects of harvest on habitat.

Moore continued with the presentation. All commercial and recreational management measures are put in place through proclamation set in Amendment 1 of the FMP. The open season is allowed only from the last Monday in January through April 1st. The MFC allowed hand harvest methods at all triggers with trip limits starting at 10 bushels per person per day not to exceed two harvest limits per fishing operation on Monday and Wednesday, with an additional day for harvest as abundance reaches the higher triggers. The maximum allowed individual harvest limit is set at 15 bushels after reaching the 125% trigger. Scallop dredges are only allowed when the trigger is met at 125% of the target level from March 1 through April 1 at 15 bushels per day only on Tuesday and Thursday. The recreational fishery is opened at the same season with a harvest limit of 1 bushel per person per day not to exceed 1 bushel per vessel with four days a week open to harvest.

There are two components to review with this issue: 1. Look at whether we can choose triggers for opening areas south of Bogue Sound; and 2. Look at all the current harvest measures and explore any other measures for both user groups. Many public comments have been received since the adoption of Amendment 1 to introduce scallop dredges earlier in the harvest triggers as a management measure.

Looking at both the sampling and landings in areas south of Bogue Sound, these areas are not known as main harvest areas for bay scallops. During the 1972 to 2012 time series, the maximum annual harvest from areas south of Bogue Sound was 6,676 bushels of bay scallops and accounted for 10% of the statewide landings. Fourteen of the 34 years from 1972 to 2005, when the season was opened annually, no commercial landings were recorded for any of the areas south of Bogue Sound. For most years, commercial harvest of bay scallops from the southern region accounted for less than 5% of the statewide total commercial landings.

Sampling was initiated in New River and Topsail Sound in October 2009, using the same gear and sampling design as used in Core, Bogue, and Back sounds. The number of scallops per 2-minute tow in October 2009 ranged from 0 to 198 scallops and is the highest number seen for the entire time series since. Since 2009 the majority of the tows in October retained no scallops. The lnCPUE of the October 2009 samples was calculated as 0.95 scallops per minute. If this is determined as the target to achieve re-opening the season in these areas, then the progressive triggers set at 50%, 75%, and 125% of this target level, as used in all other regions of the state, are 0.48, 0.71, and 1.19 lnCPUE respectively.

Not every specific management option is listed in this paper, but that doesn't preclude us from discussing or bringing forward anything outside of the list. We were trying to keep list manageable and encompass as much of the information as we could. For instance we didn't get into opening days of the week for the two user groups. Due to the small quantity of scallops available this past winter during the open season we did hear some grumblings from recreational harvesters that were worried the commercial users would take them all before they had access to them later in the week. On opening day there were about 40 vessels working around the Emerald Isle Bridge where we saw the most scallops. I talked to a few recreational harvesters throughout the season and they said they were able to go out and get what they wanted even after a month into the opening period. Second hand information on commercial harvest we heard that most people could not get their daily harvest limit of ten bushels. I did hear of one reaching 9 bushels on the second open day for commercial harvest.

Now we will go over each of the management options presented in the issue paper. The first is *status quo* which is to continue with how everything is within Amendment 1. The second option is continue with the current target and triggers but modify the management measures. We have not had the new measures in place for very long and we are having growing pains with the public knowing what the regulations are or why we are managing scallops differently now than from the past. Changing management measures often could create more confusion. The third option is to look at completely different targets and triggers. Option four considers prohibited take. Prohibited take removes all fishing effort and allows the population to have no fishing pressure on it. We had a two year prohibited take period and the population did show expansion afterwards but we do not know if this no take period can be directly linked to the higher abundance of scallops. The fifth option is eliminate the August 1 through September 15 season open period in rule. We want all species to spawn at least once, contributing to the growth of that population before capture. Spawning in North Carolina occurs primarily in the fall during decreasing water temperature. Adults reach 50% maturity by August when the gonad weight begins to increase for the spawning period. Shorter openings in a small area of Back Sound, North River, and the Straits occurred in 2002 and 2003 to allow harvest before the cownose ray migration and resulting predation. Four days were open for commercial hand harvest from August 19 through August 28, 2002 and two days in September. Less than 700 bushels were landed. One weekend in August and one weekend in September were opened for recreational harvest in 2002. Harvest was allowed again in the same small areas in 2003 with four days in August and two days opened in September with no recorded commercial landings. Recreational harvest was allowed for two weekends in August in 2003 also in these small areas. This rule is still in place to allow opening of the season from August 1 through September 15 by hand methods only and allows harvest before the fall spawning period of bay scallops. The current season opening under Amendment 1 is allowed from the last Monday in January to April 1st. The season allows for the completion of spawning and an increase in meat size in order to obtain the highest yield. Fegley mentioned at a previous meeting (2/4/13) that protection for spawning is imperative and that this time is the worst period to allow harvest before spawning occurs.

Management option 6 is to consider a specific target level and progressive triggers for areas south of Bogue Sound based on limited sampling. Or use an abundance target and triggers specific to the area where they occur. We know that scallops are not as abundant in the southern area as they are in the main harvest areas. The seventh management option is closures. Closures

in general, whether seasonal or area, can provide a safe haven for shellfish to live and reproduce and can protect habitat that is essential to a portion of the life history of the species. Shellfish are particularly vulnerable to exploitation because they reoccur in specific areas that can be well known to harvesters. Seasonal closures are currently used in the management strategy. The paper shows two specific types of closures that we do not have in place in the management strategy. Other types of closures can still be considered in the discussions even if not included in the management option list. One type of closure not included in the paper is seasonal closures. Seasonal closures are intended to protect a portion of the stock in order to increase biomass and/or potential spawning for the next generation with the least impact to fishermen. This management measure has been used for bay scallops in order to also improve the economic yield to fishermen by opening the season when meat counts (number of scallop adductor meats/pound) are increasing. In bay scallops, adductor meat weights tend to be lowest during the fall when gonad development is high. Maximizing the yield from the resource by delaying harvest until the size of the scallop meat reaches its optimum weight may increase the value of the fishery. A study conducted by Kellogg and Spitsbergen developed a predicative growth model for bay scallops meat size during the harvest season and incorporated it into a bioeconomic model. Simulation runs from the model indicate that by delaying harvest in January improves on the value of the harvest. The type of closure, a permanent closure, is used to protect a portion of the stock or habitat that is essential for their continuation. Determining what area or how much of an area should be closed is very difficult and can often cause one area or group to be more impacted over others because of the closure.

Rotational area closures have been used in the sea scallop fishery with some success in the United States. This approach has also been used in the mechanical clam harvest fishery of North Carolina to allow clams to repopulate in the New River and White Oak River and also the northern and southern areas of Core Sound. This strategy is considered a precautionary approach to management in that it allows some harvest to continue in areas where lower productivity occurs and protects areas where abundance and spawning is higher. The rotational area management strategy for sea scallops has shown that it may balance higher yields of meat, maintain recruitment, and reduce habitat damage. Determining high and low productive areas of bay scallop abundance is essential in establishing this strategy.

Economic impacts on fishermen from a closure will vary by area and gear type. Core, Back, and Bogue sounds are the primary areas where bay scallops are harvested in North Carolina and accounted for 97% of the landings from 1994 to 2004. The areas where bay scallops exist now have become more compressed than in the past and the specific spatial distribution of bay scallops in North Carolina has not been quantified. Quantifying productive scallop “beds” in North Carolina would be a positive step in identifying essential areas to protect recruitment and survival to adults. Alphin suggested at a previous meeting (2/4/13) that maybe we should consider further partitioning the bays and allow harvest in only parts of the bays in designated areas and possibly even consider rotation of harvest in these smaller areas.

Gear restrictions are already in place to reduce impacts on seagrass beds where bay scallops are found. Hand rakes are limited to no more than 12 inches wide or weighing more than six pounds to harvest scallops. Bay scallop dredges cannot weigh more than 50 pounds and cannot be equipped with teeth. Any other instrument or device designed to drag the bottom to aid in the

taking of bay scallops is also prohibited. There are no restrictions on the number of scallops dredges that can be pulled at a time, and fishermen have been known to use up to six on a vessel. Concern for habitat loss makes scallop dredging an intensely managed portion of the fishery in the past and typically was only allowed to harvest two days a week. No dredging was allowed in Bogue Sound from 1993 to 1997. Beginning in 2000, dredging was delayed until later in the season after scallops were harvested out of the shallow areas. No mechanical harvest occurred in 2001.

Current management of the commercial fishery under Amendment 1 delays opening to scallop dredges until the 125% trigger is met in a region. The recreational fishery is limited to hand harvest methods only now, as in the past. The intention of delaying harvest to dredges was to reduce propeller scarring and dragging dredges through grassbeds (submerged aquatic vegetation) in the shallow water areas because scallops will likely have already been removed by hand harvesters. Higher bay scallops catches occur from dredges than from hand methods. Public comments have been received that scallop dredges are more effective at reaching their daily harvest limit with less impacts to habitat and leaves some scallops behind for further spawning in the spring time. Also hand harvesting methods exposes commercial fishermen to cold water conditions that could impact their health and safety. Spitsbergen is on the record at other meetings and has provided further information in a handout to you all today on his thoughts about allowing scallops dredges sooner in the harvest measures.

The final option is require recreational shellfish harvesters to be licensed to provide a sampling universe for surveys. This option is a holdover from the 2007 FMP, which was its own issue paper that the plan development team felt needed to be considered in this update so it will not get lost. The option is worded to require a license but really what we need is some mechanism, whether it is a license, a permit, a survey, something in order to capture the actual recreational shellfish participants' universe for data collection. When the Coastal Recreational Fishing License was first introduced legislatively shellfish was included as part of this license but it was removed in the final version and only includes finfish. There is an optional question that is asked when people purchase their license as to whether they shellfish. Their response to this question is used to base the sampling universe. We have two surveys in place that we presented to you in February (mail and intercept survey) and this was the first season it was completed for bay scallops. So we don't have the information for that yet since it just finished. But looking at the survey for other shellfish it is apparent that there are a lot of non-responses that cause the expansion estimates to unrealistic. We support these surveys but they need to be improved upon in order to provide better estimates on recreational harvest of shellfish.

The plan development team met and discussed this issue paper back and forth on email for quite a few weeks and this is our first draft recommendations. These could change because of input we receive from the AC, the public, or the management review team, and director. The plan development team recommendations are:

- Produce a mechanism to obtain data on the recreational scallop harvest
- Eliminate the August 1 through September 15 season open period in rule
- Expand sampling in the southern region and continue to use the Bogue Sound harvest trigger for determining opening to harvest in areas south of Bogue Sound

- Continue current progressive triggers with adaptive harvest levels in all areas and modify harvest management measures as seen in tables 4 and 5 of the issue paper.

The plan development team discussed rotating closures but we came to the conclusion that this species is highly variable in abundance from year to year and it would be difficult to create a strategy to use this option. The enforcement aspect too for this option was considered to be very difficult.

One other item the plan development team did not discuss and it came forward during our discussions on rule changes with the Rules Advisory Team Subgroup, the rule 03K .0501 we have a daily harvest limit of 20 bushels per individual, maximum 40 per operation. Amendment 1 recommends a maximum commercial daily harvest limit of 15 bushels per person and 30 bushels per operation. Looking at proclamations back through to the early 1980's we did have a few years that had a individual limit of 18.25 bushels max 37.5 bushels. But most years were less than the maximum of 30 bushels for 2 license limits in a commercial operation. We will need to still talk about this further with the plan development team and this may be something the AC would like to consider now as well.

Spitsbergen noted he was the person responsible for putting the summer opening in rule to be used in areas around the inlet before the rays came through and ate the scallops that would not have the opportunity to spawn. Fegley said if there were large numbers of rays and they were consistently coming through the sounds that would make sense. What we have found is we often do not know if the rays are coming in the sounds all the time and there are other ways to stop the rays from taking scallops such as the stockades that would allow the scallops to reproduce. There is also an issue of dispersal of scallops critical for reproduction and cannot contribute to the population because they are not close enough to other scallops. Fegley thinks in the past this open season would work if there were a lot of scallops but now scallops are not as abundant and it is integral to use other options to allow as many scallops to be available to reproduce in the population. We need to decrease the impacts of rays by some other method. Spitsbergen asked if this was under proclamation authority. Sergeant Nelson stated that the Director is still bound by the open harvest season under the proclamation authority. Wilbur said there is a real danger for opening the season at this time because you do not know the reproductive potential that is available if they avoid predation. Also the cownose rays should be able to eat the scallops because that is a part of nature. Spitsbergen said that rays are expanding in population because of fewer predators eating them. Wilbur responded is that really true? Speicher agreed that the summer opening should be taken out of rule. Fegley stated as long as it is on the books then people will want this season opened but when this FMP is under review in years to come that AC can address whether to re-open the season before reproduction can occur when there are many more scallops available. Alphin added that there is always the push to grab what is there before they are gone and leaving them in the environment to reproduce is imperative to rebuilding these populations. Fegley stated it is clear case where we see stable points in the population that was much higher pre-red tide and now scallops are at a much lower level. We may only need one really bumper crop year to get them back on track. But we have to set this population up to have this happen. Sergeant Nelson said it is best to remove it from the rule if it is not to be used. Spitsbergen noted that he realized most other members are not for this time period in rule and he is on the losing side of this issue. Murphey mentioned that when we did open those few years some harvest occurred and but the second year hardly anything was there to be harvested out of

this area. Moore mentioned she had heard the meat count was not so good. Sergeant Nelson from what he remembered in those open years it was really hot and he did not know how they were going to get shucked before they cooked. Fegley mentioned rays are not consistently coming into the inlets every year.

Moore continued on to finish up the presentation. The draft harvest management measures that the plan development team is suggesting would be put into place for commercial harvesters at the 50% 75% and 125% triggers. Anything that changed from Amendment 1 is underlined in the tables showing the harvest measures. Only the changes in the commercial and recreational harvest measures were addressed. At the 50% trigger the plan development team suggests lowering the commercial daily harvest limit to 5 bushels per person per day not to exceed 10 bushels per operation for hand harvest only. At the 75% trigger the plan development team suggested allowing dredges with a daily harvest limit of 10 bushels per person per day not to exceed 20 bushels per operation and open the season to dredges the first full week in March through April 1st. And then at the 125% trigger hand harvest is bumped up to a daily harvest limit of 15 bushels per person not to exceed 30 bushels per operation a day and a open season for dredges from the third full week in February through April 1st. For recreational harvest measures the plan development team suggests ½ bushel per person per day not to exceed 1 bushel per vessel, but it would allow recreational harvest 7 instead of 4 days a week. A research recommendation is also included to survey fishermen who use a commercial license for personal consumption. So now we need to know the recommendations from the AC for bay scallop harvest management.

Spitsbergen identified a correction in his handout that it should be 15 bushels. Moore also identified an error in the issue paper on page 6, 3rd paragraph; third sentence should read only the 125% trigger and not the 100% and 125% triggers. Spitsbergen discussed his email further and comments that were part of the mail out items. His calculations determined that more bushels should be harvested at the higher trigger. The plan development team seemed to have come closer to what he was thinking but he wanted to see the season go beyond April 1st. Moore stated the reasoning behind the plan development team's recommendation on the timing for ending the season on April 1st because when you look at the commercial harvest data after April most harvest is done. Spitsbergen noted that a lot of the harvesting occurred prior to mid-January because of the December opening so adding time into April now that the season opens at a later date. So really that is false information because the season was starting in December in the past rather than late January now. Spitsbergen's concern is that they may not get all that is out there with such a short season.

Fegley stated he was struggling with the bottom paragraph with Spitsbergen handout. That you are often harvesting the adults at the same time the smaller ones are growing into next year's crop. We do not know the effect of harvest on next year's crop or how good it will be. Fegley's concern is as we increase the intensity of the harvest then we may have a negative effect on next year's crop. Speicher also stated that this is a real concern. Fegley said this year was a classic example, where the scallops were in such a compressed area and the area was harvested very hard and the habitat may have been ruined. Which brings me back to the cost by increasing intensity of harvest could impact the next year's crop. And secondly, the triggers are for big areas and since this year the trigger was met but for a very compressed area it would be good to

be able to say although we met the trigger we still will not open the region because they are only in one small area. It is a much better scenario to harvest in a much broader area than in one confined area for next year's crop and also the habitat. Fegley supports adding in more dredging and wished we could add only tunnel drives if we could. We have to specify our management to get the scallops through this critical phase that allows some harvest. Spitsbergen noted there are already some safe guards set in the management scenario and also he is not sure if the sampling lnCPUE is representative of this population. Also there are issues with grass attachment. Fegley said he was amazed of the re-attachment ability of spat as long as they are not damaged. Wilbur concurred that smaller spat can re-attach quite readily and as they get larger they do not re-attach as high. Fegley mentioned that predation from crabs etc. is the reasoning for attaching higher up on the grass and in the winter the predators are not as widespread. Fegley added that he was not sure if the dredges affect the scallops as much as stepping on them.

Speicher asked about the recommendation for collecting information on recreational harvest. Is there a way to do this? Moore responded we already have two surveys in place and the information is still not verified for scallops yet. What we are saying here is a mechanism that can be a license, permit, a survey, or something that allows us to get a better idea on the number of participants that are actively shellfishing. Speicher responded that he did not think it would be worth the effort. Wilbur stated that the real question is how much recreational harvest is occurring and what would we need to do to manage fisheries. We will never know the actual number of scallops taken by this group. Murphey said we do not have any information on shellfish recreational harvest. Moore stated we support the mechanism of the surveys that we have now and we want to improve on it to produce reasonable numbers. Fegley said as long as it does not take a lot of effort and does not alter the plan. Moore also mentioned that shellfish were included in the original legislation for the recreational finfish license and was removed in the final version. Alphin added that this was brought up during the oyster and clam FMPs and identified that there was concern for cost although the data are lacking. Fegley mentioned a very similar scenario in Maine where the cost becomes an issue where it can drive either the cheating, if it is too expensive and people will not buy it, or the opposite where it is cheap and everyone gets it although they may not harvest shellfish. Moore re-iterated the plan development team supports the surveys in place for shellfish but we want to improve on them so that we can get a ballpark estimate of how many scallops are being taken for recreational purposes. Fegley also mentioned that recreational harvest is also occurring beyond the actual harvest season and it is not confined to the harvest season. Moore added that Fegley's stockades proved that poaching does occur outside of the open harvest season.

Wilbur re-directed the AC towards a recommendation. Fegley said he did not support a license but he did support making this information more accurate. Speicher said he could support that. Alphin said he supports getting this data as long as the cost is reasonable.

A motion was made by Fegley and seconded by Spitsbergen to move to set as a committee as a whole to allow the chair to vote on the recommendations. The motion passed without dissent.

A motion was made by Alphin to eliminate the August 1st to September 15th season in rule and seconded by Fegley. The motion passed without dissent.

A motion was made by Fegley and seconded by Spitsbergen to support improving the reliability of the data for the recreational scallop harvest. The motion passed without dissent.

A motion was made by Fegley to expand sampling in the southern region and continue to use the Bogue Sound harvest trigger for determining opening to harvest in areas south of Bogue Sound. The motion was seconded by Alphin.

Alphin would like to see more intensive sampling in the southern area. Fegley wished to add the caveat that more sampling effort is needed in the core areas in the fall and if there is limited funds or personnel, then would rather see the effort in the main harvest areas than in the southern area. Alphin responded that we should ask for increased sampling in all areas. Fegley said he would like expanded sampling for all areas but make sure it occurs in the core areas first if sampling effort is limited. Alphin would like to have a better answer for the patchiness of the scallops. Speicher stated we should probably focus on areas where scallops are more abundant. Murphey stated it may be better to focus on each of the areas separately to make recommendations clearer. Wilbur re-iterated that the motion is concentrated on the southern areas. Fegley asked whether the Bogue Sound triggers are dictating the opening of the season in the southern areas. Moore responded as the amendment stands now yes from the Newport River to Bogue Inlet. Alphin said it is flowing only in one direction because of the lack of data in the southern region. If there is enough resource in Bogue Sound it will open the southern but does not go the other way. Wilbur said we could make the recommendation that we think the area south of Bogue Sound is a separate area from Bogue Sound and it should not be opened until a sampling trigger can be defined for the areas south of Bogue Sound. Fegley said he liked that recommendation. Moore stated you already have a motion on the floor that says something else. Wilbur suggested that the AC vote down the motion on the floor and re-do the motion with the new language.

The motion failed. All members voted against the motion.

A motion was made by Wilbur to expand sampling in the southern region but separate Bogue Sound from areas south of Bogue Sound as a separate unit and prohibit harvest in areas south of Bogue Sound until adequate sampling can determine a reopening trigger. The motion was seconded by Fegley.

Spitsbergen asked if Hammocks Beach is included in the southern region. Moore responded Hammocks Beach is part of Bogue Sound. The area includes Newport River with the line at the Coast Guard Station and coming across to a point on Front Street in Beaufort heading south to Bogue Inlet. Sergeant Nelson said many of the rules consider the southern line at Emerald Isle Bridge. Fegley said the separation should be to the inlet where a natural break occurs in the population. Murphey mentioned that one of the Bogue Sound sampling stations is below the bridge. Sergeant Nelson wanted clarification about the motion whether it means we will not open areas in the southern area to bay scallop harvest. Wilbur responded that means no opening in the southern areas until sampling can determine an opening index of abundance. Spitsbergen stated he was concerned with prohibiting take and what should be used to open the areas in the south. Wilbur stated we could use the trigger for Bogue Sound to open an independent unit in the south

but still consider the areas as separate management units. Moore stated that the limited sampling numbers show the southern region has less scallops than the main harvest areas. The partitioning for areas south of Bogue Sound is a natural break of the scallops. The sampling in the southern area has a lot of zeros like the Pamlico Sound region. Alphin says this discussion supports the separation of the areas south of Bogue Sound from Bogue Sound. Wilbur said also that we have to be comfortable with proposing prohibited take in the areas south. And we also have not stated what is an adequate amount of sampling to determine re-opening.

The motion passed without dissent.

A motion was made by Wilbur and seconded by Speicher to continue current progressive triggers with adaptive harvest levels in all areas and modify harvest management measures as shown in Table 4 and Table 5 in the paper.

Fegley stated he would like to extend these triggers and measures if we are collecting better data.

A friendly amendment was added to the motion on the table and included:

Contingent upon increased October to December sampling can improve the statistical rigor of the lnCPUE. The friendly amendment was accepted by Wilbur and Speicher. The motion passed with a unanimous vote.

Alphin had additional research recommendation he wished to be added to the issue paper. First he would like to determine the patchiness and evenness of bay scallops in the population. Alphin said we need to get an idea on where the source and sink areas are and then measure them consistently. Fegley suggested it may be best to compile all the research recommendations into one list. Alphin also would like to see the research recommendation to collect more information on the value of the spring spawn to the population. The temperatures in the winter and spring may be pushing the survival of the spring spawn and may vary from one region to another. Also more information is needed to determine how important the spring spawn is to the population and also to harvest. Wilbur stated the spring spawn may be more important in the south than they are in Core Sound. Fegley mentioned the spring spawn is very different in Bogue versus Core sounds. Alphin added if we could spread the population out more spatially the spring spawn may be what pushes the population out more spatially. Fegley said the spring spawn is essential to the population when the fall spawn is incomplete. Alphin said the spring spawn could be critical to the population. Wilbur said some of these things sound like they are not harvest management research recommendations. Maybe it would be more appropriate to add to the list of research recommendations and then parse them out to the appropriate sections because some of these are ecological recommendations. Moore added that we put all the research recommendations under an overarching section from all the issue papers and sections. Murphey stated this will also give us the opportunity to prioritize the research recommendations too. Fegley responded that something that is harvest related and relative to this paper should be included such as examine the direct and indirect effects of harvest methods on juveniles less than 10 mm. Alphin wanted to see these reflected somewhere as we are moving through because some of these ideas have appeared in our discussions. Alphin also wanted to add the direct and indirect effects of harvest methods on juvenile scallops.

OVERVIEW OF COMMENTS RECEIVED FROM THE PUBLIC INFORMATION BROCHURE

Moore told the group that no public comments were received to address any new issues. One email was taken from Mark Bartholomew who had questions about habitat and water quality items. Bartholomew attended the March 18, 2013 AC meeting to listen to the information on the environmental factors section. He did not have any comment during the meeting. Moore stated that she has continued to forward him the mail out items for the meetings and will continue to do so, so he will be informed.

FINALIZE LIST OF MAJOR ISSUES

The list of major issues was provided as a hand out to the AC today. Once the AC has provided their final approval this will go to the management review team and director for the DMF's final approval. The list includes:

- Bay scallop harvest management
- Impacts of treading on submerged aquatic vegetation while harvesting bay scallops
- Allow bay scallop season, harvest limit, and pre-dealer sale of seed exemptions for shellfish leaseholders and aquaculture operations
- Stock enhancement

Speicher wanted to know where in the FMP would the cownose ray predation issue come into their discussions. Moore responded the cownose ray issue was an issue paper in the 2007 FMP and a lot of the information was incorporated in the life history section under predator and diseases. Fegley stated it should be a part of the stock enhancement issue paper and he wanted to make sure his paper from 2009 was included in this issue. Moore responded the author received Fegley's paper a few weeks ago while he was working on the document and the draft issue paper will include information on cownose ray predation and sanctuaries. The AC had no additional issues to add to the list.

Moore mentioned at the next meeting the AC will be given an overview of the aquaculture section and the issue paper to exempt leaseholders from daily harvest limits and seasons like we do for oyster and clam leaseholders. Also an agenda item will include a review of the research recommendations that we have presented in the sections and issue paper so far to gain AC input and to prioritize them.

Fegley moved to end the meeting and Spitsbergen seconded the motion. The motion passed without dissent.

The next meeting is scheduled for May 13, 2013 at 12:30 p.m. and the Central District Office

At the May 13, 2013 meeting the AC wanted to include an email discussion among the members clarifying the indices triggers. The email string is provided on the next few pages.

From: Gene Ballance [mailto:geneb12@embarqmail.com]
Sent: Thursday, April 18, 2013 11:59 AM
To: Stephen Robert Fegley
Cc: Moore, Tina; Murphey, Trish; Troy Alphin; Bert Speicher; Dennis Sptisbergen; Ami Wilbur
Subject: Re: 125% trigger

Hi Steve,

Thanks for your response. Yes, I see I misread the scale which said (scallops/minute) instead of (scallops/m²), but as you say, that makes no difference in my argument.
The number didn't phase me, because in the "thick" places, we all know there are many more than that per sq meter.

I was just looking at $(131,898-80,000)/80,000 = \text{about } 65\%$ "probable" increase required for 125% trigger.
That DMF is scaling the data at all, shows the wide variability of abundance. Just seems to me a bit excessive, being that the baseline was an exceptional year.
At least, there should be a discussion of this in the plan, and to be consistent, other similar examples of where this has been used in FMPs.

Gene

Hi Gene,

Two comments. The first, which all of us missed, is that Gene's math is correct. Increasing a ln scale by 25% results in a greater than 25% increase in the associated linear scale (bushels for harvest). The second, is a quibble, given the way NCDMF collects the data I do not think the antilog units are per m². The units are probably the number of scallops per average 2-min tow of the scallop drag. Regardless of the exact units, the bushels of scallops available at the higher trigger would be almost 33% greater (on the arithmetic scale) than at the middle trigger level.

Steve

From: Gene Ballance [<mailto:geneb12@embarqmail.com>]
Sent: Thursday, April 18, 2013 7:00 AM
To: Tina Moore; Trish Murphey; Troy Alphin; Fegley, Stephen Robert; Bert Speicher; Dennis Sptisbergen; Ami Wilbur
Subject: 125% trigger

All fellow members,

Sadly, I don't have a smart phone so I missed Tina's email with the dial-in info. However, I did study the information packet and have the following comment as the only commercial fisherman on the advisory committee.
I understand the efforts of DMF to be conservative in the FMP, but also consider the 125% trigger excessive.
Dennis states (attached) that if the 1984-85 baseline equated to around 80,000 bushels, then at the 125% trigger, sampling pointing to 100,000 bushels probable harvest would be necessary to open for dredging. Seems to me it might require even more than this, since if :

$\ln\text{CPU} = 2.0 \rightarrow \text{scallops per m}^2 = 7.39$, equates to 80,000 bushels probable harvest
if $\ln\text{CPU}$ was 25% greater, then
 $\ln\text{CPU} = 2.5 \rightarrow \text{scallops per m}^2 = 12.18$, equates by proportion to 131,897 bushels probable harvest, = 1.65 X 80,000

I hope someone can point out some error in this reasoning, or if not, explain why the probable harvest would have to be so high.

Otherwise, the data was explained very well.

Gene Ballance
[252.921.0123](tel:252.921.0123)

Good morning,

MEMORANDUM

TO: N.C. Marine Fisheries Commission
River Herring Fishery Management Plan Advisory Committee

FROM: Amy Larimer
Kathy Rawls

DATE: May 14, 2013

SUBJECT: River Herring Fishery Management Plan Advisory Committee Meeting

The River Herring Fishery Management Plan Advisory Committee (AC) met on Thursday, May 9, 2013 at 6 p.m. at the Chowan County Agricultural Center located at 730 North Granville, Edenton. The following attended:

Advisers: Sara Winslow, Roger Rulifson, Ronnie Smith, Terry Pratt, Gregory Biggs, Riley Williams

Staff: Kathy Rawls, Sarah Watts, Beth Egbert, Cynthia Rountree, Robert Corbett, Garry Wright, Amy Larimer, Brian Long

Public: Earl Ward, Walt Rogers, Jillian Osborne

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

MODIFICATIONS TO THE AGENDA

Sara Winslow proposed one modification at the Division of Marine Fisheries' (DMF) request, to move the Life History Section presentation to the beginning of the meeting and to have an additional public comment period at the end of the presentations.

PUBLIC COMMENT

There were no public comments during the first public comment period.

Approval of March 21, 2013 Meeting Minutes

Sara Winslow said that the committee received the information packets in the mail two weeks ago and asked for a motion to approve the meeting minutes from the March 21, 2013 River meeting. She also asked for any changes and said she had some changes as well. She asked for clarification on page three as to how many herring the Wildlife Resources Commission (WRC) stocked. She suggested we include that number, and Kathy Rawls said she would try to find it.

The March 21, 2013 meeting minutes were approved by consensus.

LIFE HISTORY SECTION OF THE RIVER HERRING FISHERY MANAGEMENT PLAN

Beth Egbert reviewed the life history section of the plan. River herring collectively includes both alewife and blueback herring. The two species are managed together. They are anadromous, which means they live in the ocean and migrate into fresh water in order to spawn. They are very similar in appearance and habits, both occupying similar habitats at roughly the same time. Alewife tend to spawn first when the water is cooler. Both species are found on the Atlantic Coast, with bluebacks being found further south. There has been a decrease in the mean length at age and a shift in the length-frequency distribution for both species. Gaps in the lines are years where no samples were obtained. The ecological importance is that herring are a nutritional link between zooplankton and top predators in an ecosystem.

Egbert described some research recommendations from the River Herring Plan Development Team (PDT). These recommendations involved filling gaps in what is known about river herring life history, including feeding, spawning and larval and juvenile survival. Other recommendations include conducting research on predation by invasive or other species on river herring and investigating possible causes for the declining size-at-age.

Kathy Rawls asked for comments or suggestions on these recommendations and mentioned that there would be other recommendations for each of the other sections as well, and that the PDT would be listing these recommendations in order of importance. Winslow mentioned that some of these recommendations were in the last FMP as well and that some research has been done on research needs that were identified previously. Work has been completed on some of these recommendations as well. Rawls said that this would affect how these recommendations would be ranked.

Roger Rulifson commented on the recommendation to investigate possible causes for the declining size-at-age. In an overharvested population, we harvest the largest ones first, leaving the smallest ones behind to continue to breed (Lee's Phenomenon). He asked if there were any hypotheses concerning this issue, if the division thought it was Lee's phenomenon or something else we may not be aware of. He mentioned it may be happening that the largest fish might be harvested as bycatch, leaving the smaller ones to spawn. Ronnie Smith said he agreed, that smaller fish continue to escape. Rawls said that the intention of the recommendation was to explore all factors that may be contributing to decrease in size-at-age. The AC had additional discussion on the size-at-age.

Terry Pratt mentioned the conditions in the lower Chowan, nets being coated with a sort of brown slime. There are also no birds generally feeding there either. He was concerned this would have an adverse affect on survival of eggs, larvae and juveniles. Winslow said the slime has been there for decades. Terry said he thought that what happens when the larvae leave the creeks is most important. He said he and Anthony Overton had seen plenty of larvae. Rawls said that

the recommendations presented cover additional studies on larvae. Winslow mentioned that there are several studies to build on from the recent past. Earl Ward, a member of the public, asked what the group thought that slime was and that it affected his shad nets, but not the perch nets. Rawls mentioned that DMF had sent samples off to the Division of Water Quality in the past and that it was brown algae. It is in Little River and the Perquimans. Pratt said he doesn't think larvae can survive swimming through it.

Pratt said he didn't think DMF should concern itself with research on landlocked herring. He asked what the timing difference between hickory shad and river herring is. Winslow said that they overlap, especially with alewife, but that just because hickory shad are doing better it doesn't necessarily mean that herring should be as well, since they spawn in different habitats.; hickory shad in the main stem and herring in the creeks. She mentioned that the DMF juvenile abundance survey rarely captures any juvenile hickory shad. They are mainly caught in the earlier months and are usually gone by July. Rawls said that the research recommendation is just to look at hickory shad and that may help answer some questions regarding river herring and their recovery.

Riley Williams asked what kind of increase we are seeing in hickory shad. He said he didn't think they were really increasing because they haven't been fishing for them in recent years. Winslow said the increase does not mean just Albemarle Sound, but in other areas of the state, such as the Tar and the Neuse and other states as well. Rawls said the PDT would rank the research recommendations in the draft FMP. Williams recommended the PDT include some indication of feasibility. Rawls replied that this is not a research recommendation list for DMF only. She indicated that the ranking is important to let academia and any outside sources know what research is most needed and important to focus on. Winslow suggested that the AC deal with the research recommendations once they are together and ranked in the draft FMP.

Discretionary River Herring Harvest Season

Rawls presented the discretionary harvest issue paper. She said this season was not meeting the purpose for which it had been established, to provide product for local festivals and provide data for stock analysis. Stocks remain depleted and below stock recovery goals as outlined in Amendment 1 of the River Herring FMP. The PDT raised this issue. Rules are not associated with this issue paper. This season is managed by proclamation.

Amendment 1 implemented a no harvest provision for river herring in coastal and joint waters of the state. The Marine Fisheries Commission (MFC) approved a 7,500 pound research set-aside to be implemented at the division director's discretion. It was intended to provide biological data for stock analysis and to provide local product for herring festivals and events. The director allocated a 4,000 pound maximum.

The division created a special discretionary harvest permit for this season, centered on the Easter holiday. Each permit holder has been allocated anywhere from 125-250 pounds, depending on

how many people participated. The harvest is with pound nets or gill nets. About half of the permit holders do not sell the catch. Either they do not use the permit, or they use the herring for personal consumption. Either way it is impossible to quantify. Also, DMF implemented the Chowan River Pound Net Survey in 2008 and all samples needed are collected from that program.

Issues with the discretionary harvest season are:

- These fish are not being used by local restaurants or festivals;
- These fish are not a dependable supply due to length of season, weather and gear restrictions;
- Most herring for the festival have been imported from other states;
- These fish are not being used for biological sampling.

North Carolina river herring stocks are depleted and remain well below recovery goals of Amendment 1 to the state's plan. There is continued concern about removals from depleted stock and a possible listing under the Endangered Species Act.

There are two proposed Management Options. The first is to maintain the season; the second is to eliminate the season and permit. The PDT and the division recommend eliminating the season and permit. Rawls pointed out that AC is free to recommend options aside from these two.

Pratt said that he would like to maintain the season with the caveat that the permit holders be required to either keep a logbook, or require division personnel to be present when those fish are landed and to allow the season to be at the discretion of the fishermen because the weather around Easter week is usually poor for fishing. He also said that 150-200 pounds of fish is not much of an economic benefit, given the expense of going out there. He also said that it would provide a small amount of data. Winslow said that two or three days would not be much data at all. Then Pratt said taking 4,000 pounds out of the population wouldn't make that much difference to the population. There was some disagreement on that and some discussion on the amount allowed to be harvested.

Williams said that he thought the lack of reporting by the permitted fishermen could be corrected. He said he always reports his, although he doesn't sell it, but gives it away. Winslow asked how to address the original intent, which is not being addressed at all. Pratt said that you change the intent of this season. Winslow said that the only reason the commission allowed this before was so the festivals could use North Carolina product, which is not happening. Williams said that for that to happen we would have to increase the harvest. He suggested they be allowed to keep some river herring from perch nets. Winslow asked how the data would be captured. Williams replied that you would use observers. There was additional discussion about the observer program and current coverage.

Rulifson indicated that the pound net survey likely provided better data and a more complete picture. Rawls agreed and reminded the AC that DMF collects river herring from the independent gill net survey in the sound as well. There was considerable discussion about data collection for river herring in the Chowan River. Rulifson concurred with Pratt that the fishermen should be required to keep logbooks as a condition of this permit. He also said that we should remove the intent that this season be used for biological sampling, to get closer to the original intent. Williams said he didn't think eliminating this permit would be the right thing to do, because the amount being removed wasn't as much as those herring eaten by striped bass for instance. Rulifson said to him the issue is that the season isn't being used for the original purpose and that using logbooks would get a lot closer to the original intent.

Rawls said that we cannot legally require fishermen to sell their catch. We could develop some kind of logbook requirement, but not require them to sell it. Sgt. Brian Long with DMF Marine Patrol said that he thought that was correct. Rulifson said we could try the logbook idea for a year or so to see what is going on and this would help quantify the removal. Williams suggested that observers start collecting biological samples. Rawls clarified the observer program already does. Rulifson said that the division has better ways of getting that data and that removing the collection of biological data as part of the intent of this permit gets closer to the original intent. Rawls reminded the AC that this discretionary season was a recommendation of the MFC and was requested by the fishermen.

Terry Pratt made a motion to go with option one. Riley Williams seconded. Motion failed, 3-3.

Rulifson moved for revised option one - remove the collection of biological sampling/data as an intent of the permit and require permit holders to report the pounds and disposition of their catches in logbooks daily. Terry Pratt seconded the motion. Vote was 4-1 in favor.

Rawls asked Rulifson for a clarification on his recommendation, which was to remove biological sampling as an intent of this season and not to remove it as a requirement. Roger confirmed that was correct. The committee took a five-minute break.

POSSESSION OF RIVER HERRING IN NC WATERS

Rawls presented the Possession of River Herring in North Carolina Waters issue paper. WRC passed a rule in November 2012 prohibiting possession of river herring greater than six inches while boating or fishing in inland waters. This rule becomes effective Aug. 1, 2013, creating a discrepancy with MFC rules regarding river herring possession in joint and coastal waters.

The issue deals only with river herring in possession while boating or fishing and does not include those utilized for personal consumption. This issue came from WRC staff serving on the PDT. They asked that we consider a rule to mirror the WRC rule.

Both agencies currently allow possession of river herring purchased from bait and tackle dealers with proper documentation (dealer's name, amount of bait purchased). South Carolina is the main source of herring. The recent rule change is a response to abuse of the mutual "receipt" agreement between WRC and MFC. Anglers falsify receipts; they replace river herring purchased legally with those caught illegally. Both agencies have reported this abuse. The six-inch provision is to allow anglers to cast net stunted reservoir river herring to use for live bait in the striped bass fishery. There is a substantial live bait fishery for striped bass in the upper Roanoke. Anglers and guides travel for miles with special tanks to transport live herring for bait. The current provision also allows the sale of river herring less than 6 inches taken from Kerr Reservoir.

There are four proposed management options:

1. Status Quo – no changes;
2. Prohibit possession of river herring greater than six inches while fishing or boating;
3. Prohibit possession of herring greater than six inches and remove herring from mutilated finfish rule: and
4. Prohibit all possession of river herring while fishing or boating and remove herring from mutilated finfish rule.

The PDT recommends option three because it allows anglers to use stunted small herring for bait. The division does not have a recommendation at this time.

Williams asked about the possibility of live stunted herrings being reintroduced into the systems. Winslow said it happens every day because they come through the dams all the time. WRC considers the stunted herring as a nuisance in the reservoirs. Pratt said that there is not a conflict between MFC rules and WRC rules because they cover different areas and that the WRC rule may be rescinded soon because the WRC members who passed it are no longer on the commission. He said he thinks it should stay the same because it provides some economic benefit to people who sell the fish.

Rawls clarified that WRC has jurisdiction over the recreational striped bass fishery in the Roanoke River. Pratt said that using river herring for bait will not be detrimental to river herring in Albemarle Sound because they do not come from Albemarle Sounds. Rawls said agreed, unless fishermen are taking fish illegally, which cannot be quantified and this has raised considerable concern. Pratt said probably 95 percent of the people abide by the law, and 5 percent are going to do what they are going to do. Rawls said the WRC rule was developed in response to violation of the current rules and because there is unquantifiable removal. This new rule will cut out the loopholes. Rulifson asked for clarification on option three. He asked if the fish were bought already cut up and the answer was no, the anglers cut them up themselves. Sgt. Long said it was an enforcement problem, allowing two fish to be cut. It is up to the officer to

decide what two cut fish look like. Pratt said he thought more restrictions did not really help the resource and that we had too many rules now.

Pratt made a motion to recommend option one, status quo. It was seconded by Gregory Biggs. It passed 4-0.

RIVER HERRING STOCK STATUS INDICATORS

Rawls had one more item to go over, the revised stock status indicators. The PDT recommends changes to the language from the previous FMP.

1. Spawning stock biomass is 30 percent of unfished spawning stock biomass (This language reflects what is current in the field.)
2. Juvenile blueback herring catch per unit effort (CPUE) is a three-year moving average of 60. (This mirrors previous plan.)
3. The percentage of repeat spawners in the Chowan River blueback herring is at least 10 percent (This mirrors previous plan.)

The PDT recommends referring to these as stock status indicators rather than stock recovery indicators and updating the benchmark assessment in 10 years. The PDT will evaluate the utility of updating the stock assessment prior to the recommended 10 year time frame if juvenile blueback herring CPUE reaches a three-year moving average of 60 or greater for three consecutive years and the percentage of Chowan River blueback herring repeat spawners reaches 10 percent for three consecutive years,.

The 2005 stock assessment predicted discernable improvement would take least 14 years. Rulifson asked why bluebacks are used as the indicator. Rawls responded blueback herring was historically the most abundant and was used in the original FMP as the indicator species. She also said they were managed together and if we see increases in blueback herring we would likely see them in alewife, at least in theory. Rulifson brought up the concern that WRC is stocking blueback herring. He was concerned stocking effort would confuse the recovery issue. Winslow said that that was a unilateral decision on the part of WRC. The committee suggested WRC needs to stock alewife instead. Rawls reminded the AC that DMF is collecting genetic samples from river herring to assist in determining how many of the bluebacks are stocked verses wild fish. Rulifson recommended that the PDT look at this issue and discuss it with WRC. Rawls reminded the AC that the stocking was as scoping/pilot project and it is not part of the management. It is an experimental project.

Rulifson made a motion to recommend the PDT discuss using alewife instead of blueback herring for stocking and the possibility of WRC doing the pilot study outside the Albemarle Sound area. Motion seconded by Pratt. It passed unanimously.

Rawls said the next meeting will likely be sometime in July. Rulfison suggested Anthony Overton come and present his work at that meeting. Rawls said we will be presenting the rest of the sections at this meeting and the next several meetings. By September, there should be a draft ready to present to the AC. Tentative dates for the July meeting are the week of July 8-14.

The meeting adjourned.

/abl

Cc: Catherine Blum
Dick Brame
Frank Crawley
Louis Daniel
Jess Hawkins

Allen Jernigan
Dee Lupton
Nancy Marlette
Meredith Wilson
District Managers

Committee Staff Members
Marine Patrol Captains
Section Chiefs

DRAFT

MEMORANDUM

TO: N.C. Marine Fisheries Commission
Shrimp Fishery Management Plan Advisory Committee

FROM: Trish Murphey
Chris Stewart

DATE: May 10, 2013

SUBJECT: Shrimp Fishery Management Plan Advisory Committee Meeting

The Marine Fisheries Commission (MFC) Shrimp Fishery Management Plan Advisory Committee (AC) met on Wednesday, March 20 at 6:00 pm at the Central District Office located at 5285 Highway 70W, Morehead City NC 28557. The following attended:

MFC: Mikey Daniels, Chris Elkins, Bradley Styron

Advisers: Nancy Edens (chair), Scott Whitley (co-chair) Julian Anderson, Steve Parrish, Frank Brown, Joe Albea, Ray Brown, Kenny Rustic, P.D. Mason, John Broome

Staff: Trish Murphey, Chris Stewart, Tom Wadsworth, David Taylor, Don Hesselman, Catherine Blum, Kelly Price, Nancy Fish, Chris Bennett, Kevin Brown, Dean Nelson, John McConnaughey, Derris Warren, Katy West, John Hadley, Holly White, Joe Marlette, Kurt Woolsten, Carter Witten, Blake Price (NOAA), Derek Berhalter,

Public: Doug Cross, James Gillikin, Bill Mandulak, David Jarvis, Sherrill Styron, Richard Wade, Sam Meadows III, Birdie Potter, Tracy Alen Cotte, Pam Morris, Joseph Chance, Tommy Lewis, Tom Roller, Sam Meadows, Donna Anderson, James Phillips, Larry Mize, Larry Kellum, Sandra Kellum, Penny Flowers, Jesse Taylor, Lee Collins, Scott Baker, Ned Smith, Mark Shepard, Jody Powell, Scotty Dudley, Clyde Potter, and Brent Fulcher

Trish Murphey called the meeting to order and introduced the chair, Nancy Edens. Edens introduced the three MFC commissioners in attendance.

MODIFICATIONS TO THE AGENDA

Edens reviewed the agenda with the AC.

Julian Anderson motioned to accept the agenda. Joe Albea seconded the motion. The motion passed unanimously.

APPROVAL OF FEBRUARY 5, 2013 MEETING MINUTES

Edens asked if there were any changes to be made to the minutes from the last meeting. Ray Brown asked Murphey about an item in the minutes about undersized bycatch that cannot be sold. He asked what the rule was that governs that prohibition of sale. Murphey stated that Frank Brown had asked about undersized bycatch. Murphey asked F. Brown if it was worded correctly in the minutes. F. Brown responded that it was incorrect and then clarified that his question regarded the size at which flounder caught as bycatch could be sold and the answer was 14 inches. F. Brown asked for more clarification on the subject of undersized bycatch and wanted to know if flounder under 14-inches could be sold for bait? Murphey said no. F. Brown asked if there is a 10-inch trout on the culling table, can you sell it to a crabber for bait. Murphey said no, but that if it was a small pinfish for example, you could sell it because there is no size limit for fish such as pinfish for bait. If a fish has a minimum size limit, you could not sell those undersized fish for bait. Murphey asked F. Brown if the minutes captured his questions correctly. He said yes. R. Brown said the minutes do not say flounder. Murphey asked F. Brown if he would like the minutes to reflect flounder. F. Brown said yes.

Julian Anderson made the motion to accept the minutes as modified. Steve Parrish seconded the motion. The motion passed unanimously.

MARINE FISHERIES COMMISSION UPDATE

Murphey gave an update on the activities of the MFC at its February meeting regarding the Shrimp FMP. She said the timeline was presented and the MFC's charge to this AC was reviewed, which was to amend the plan but limit the scope of the amendment to bycatch issues in the commercial and recreational fisheries. The goal and objectives of the FMP were also reviewed. Murphey also said there was a vote to approve a permanent rule regarding officer safety and the harvest of shrimp with a cast net in a closed area. The 100-count shrimp was changed to 2-quarts to increase officer safety. During the discussion of this item, a motion was made to change it to one gallon instead of 2-quarts. Since that would have been a significant change, the motion was ruled out of order; therefore, the rule was passed with the 2-quart provision only. The MFC voted to send this issue to this AC for consideration. The Plan Development Team (PDT) will be addressing this matter in an issue paper in the future.

Murphey reviewed travel reimbursement procedures.

OVERVIEW OF TURTLE EXCLUDER AND BYCATCH REDUCTION DEVICE TESTING IN THE COMMERCIAL SHRIMP TRAWL FISHERY

Edens introduced Blake Price who presented information about Turtle Excluder Devices (TEDs) and Bycatch Reduction Devices (BRDs). He works for National Marine Fisheries Service (NMFS) and serves on the PDT. Price gave the committee a PowerPoint presentation with an overview of the history of TED implementation. He provided examples of currently approved devices. He also gave an overview of a few TED projects underway.

TEDs have been around for about 40 years, since the enactment of the Endangered Species Act. In 1978, six species of sea turtles were listed as threatened or endangered. The shrimp trawl fishery was identified as a fishery of concern. Multiple options were considered, including area closures, gear modifications, etc. Gear modification testing was pushed for. In 1978 a "turtle barrier" was tested,

which was essentially a wall of webbing covering the mouth of a net. This was intended to keep sea turtles from entering the net. These reduced interactions by about 79 percent, but there was a very high loss in shrimp harvest.

Further testing looked at a rigid TED, also called the "NMFS TED." It was installed in the cod end of the net to provide an exit for sea turtles from the net. A reduction of up to 92 percent in sea turtle interactions was complemented by only a 0-9 percent loss in shrimp harvest. The TEDs were ultimately too large and cumbersome.

From 1982-1985 gear development goals included smaller sized and collapsible TEDs, which decreased turtles by 70 percent during the day and 53 percent at night. Shrimp harvest had a loss of 2-5 percent. There was very little voluntary use of the gear (~3percent). Litigation ultimately led to required TED use in the fishery that was phased in. Offshore waters were affected first. Industry increasingly got involved in development and design.

Industry design moved away from a large, box-style TED and towards flatter designs that caused less habitat damage (Supershooter, GA jumper). Other designs included soft designs that essentially were nets inside of other nets. In addition to work by gear specialists with NMFS, TED testing protocols were developed. The protocols led to things like candidate TED certification.

There have been multiple design improvements: angle of frame, funnel installation, floatation, flaps/knot orientation. Constricted water flow causes the turtles to exit the net more quickly. The TEDs are also more apt to stay off the bottom, minimizing habitat damage and ensuring flaps will open. Knots angled down increased shrimp retention.

By 1992, inshore fisheries were required to use TEDs. There were increased enforcement efforts, continued improvements in design, NMFS and industry outreach, and TED certification and gear development. There is currently a lawsuit underway that may further increase these efforts. There is also ongoing research, such as looking at a pipe-bar vs. a flatbar TED. Less water is deflected resulting in increased shrimp retention. Work continues on top vs. bottom openings, frame size relative to the trawl, reduced bar spacing and a foreign TED program. The foreign program encourages the use of TEDs in areas outside the bounds of the Endangered Species Act.

In summary, it is a lengthy process from the initial design and testing of gear modifications to the time they are implemented. It may involve litigation. In order for new and modified devices to be successful, collaboration between government agencies and industry is very important. New information can lead to additional changes in management and more gear modifications. This is an ongoing process of research, outreach and development.

Price provided information about BRDs next. There is a bycatch reduction testing manual (2008) that established applicant and certification procedures. It involves comparative testing with control and test nets. BRDs in the Gulf and South Atlantic are required to demonstrate a 30 percent reduction in finfish by weight. Provisional certification for two years is given at the 25 percent reduction level. Price provided a detailed example about red snapper reduction originally being potentially set at 50 percent, but that did not occur and 30 percent was used instead. He mentioned Spanish mackerel and weakfish

as well; due to a low occurrence of these as bycatch, 30 percent reduction was established vs. 50 percent for these two species.

Price showed slides of examples of BRDs as well. A minimum of a 5-inch opening and 36 square inches must be achieved. Distance from tie-off rings in the Gulf of Mexico showed nearly a 10 percent reduction in shrimp for a distance of 8.5 to 9 feet from tie-off rings. This number was closer to 1 percent for 10-11 feet. He showed video of the Jones-Davis BRD and the modified Jones-Davis BRD which provided a close look at many of the specifications. The next BRD was the extended funnel BRD, which received provisional certification, but is no longer certified. The composite panel BRD was discussed next which has square mesh attached to diamond mesh panels with an escape opening between them. The composite panels essentially act like a funnel. These panels alone did not meet the 30 percent reduction, but in conjunction with a square mesh panel or a webbing cone, the reduction may be sufficient and they are still being evaluated.

Price showed a list of the currently certified BRDs: fisheye less than 9 feet from tie-off rings, Jones-Davis, modified Jones-Davis, extended funnel, composite panel with square mesh panel, and composite panel with cone. Like TEDs, BRDs are constantly under development. The bulk of the studies have been in the Gulf, but there are others in North Carolina too.

In conclusion, Price reviewed a couple of current TED projects. The first is reduced bar spacing by Pascagoula, MS lab (Hataway/Saxon): comparison of 2-inch vs. 4-inch flatbar TED. Price showed the reduction of various species with the use of the two sizes, such as stingrays and sharks. The 2-inch resulted in less catch. This was true for several finfish species as well, although the overall catch was very low overall for all species. The difference between 2-inch and 4-inch was less dramatic for finfish species. Reduced bar spacing may increase shrimp catch overall; testing continues.

Skimmer trawl TED testing by Beaufort, NC and Pascagoula, MS labs (Price/Gearhart) is also underway to test the usability, development, and catch with use of TEDs in skimmer trawls. About a 5 percent shrimp loss was seen compared to a 25 percent bycatch reduction. Work with bottom opening and top opening TEDs varied depending on single and double cover, in addition to top and bottom openings. Bycatch for this was broader than just finfish. The range of reduction was 3-47 percent for five studies since 2009.

Skimmer trawl TED testing has allowed the trial of potential workable TEDs in different regions. Much more testing is needed. In summary, there is continuous opportunity for development of bycatch reduction in trawl fisheries through TEDs, BRDs; changing configurations; outreach; regional trials. Further industry examination is needed on currently approved BRD designs to determine effectiveness in various regions. Processes can be lengthy and expensive; one size does not fit all. Localized/regional research is critical.

F. Brown asked why there was no data from Virginia, South Carolina and Georgia. Price explained that there is data but was not included in this presentation. There were no further questions.

OVERVIEW OF THE DIVISION OF MARINE FISHERIES (DMF) SHRIMP FISHERY RESEARCH

Kevin Brown presented information to the AC on DMF shrimp fishery research. He provided a PowerPoint presentation to the group titled "Traps, Trawls, and Tailbags: an overview of NCDMF shrimp fishery research." K. Brown said generally, this research is quite complex and there are many logistics involved. He thanked his technicians and observers for their hard work and invaluable efforts.

K. Brown said the 2006 Shrimp FMP had several research recommendations. The most pressing need was increased data on ways to reduce bycatch. Obtaining mortality estimates (both immediate and post harvest) was also emphasized. He reviewed all six research recommendations briefly.

K. Brown said a shrimp "trap" is a pot or pots with leads, typically anchored, and a shrimp pound is a semi-permanent commercial gear with fixed stakes. In 1990, DMF tested three rigid designs that were not successful. In 1992, a follow-up study tested seven baited designs. The researchers only captured a few shrimp.

There was a FRG that tested pounds in east and west Thoroughfare Bay. In 2003, DMF became aware of a new shrimp trap that has wings, two leads, and was unbaited. The behavior of the shrimp is important with these. When shrimp migrate to the ocean they ride the tide out. The shrimp seek out the milder currents along the shore and along the bottom; the shrimp trap capitalizes on this behavior. Eventually the current becomes too strong and the shrimp bury themselves. The study was two parts: effectiveness of the gear was the first part. Mortality was very low for bycatch, and overall, bycatch was low. The second part of the study examined the effect of distance/spacing between adjacent traps, but that part was inconclusive.

K. Brown listed some of the pros and cons of traps (essentially, passive gear, but less effective). This led to an overview of the shrimp trawl characterization study. First was a near-shore study in 2007-2008 (0-3 miles). Double-seamed and tongue nets were used in spring, summer and fall. A trip was a single day of fishing. He showed a map of the area of the study. Trip ticket data from the previous year was used to select areas to observe. He selected several gear parameters to highlight from the full study, including head rope length, tailbag mesh, depth, towing speed, vessel length, tow time, rig type and BRD type. He said the only type BRD observed was the Florida fish excluder. Species composition was also generalized in the presentation; the full information is in the study. Each subgroup is weighed from the cull table sample. More than 100 species were identified in the study, including croaker, spot and weakfish. Flounder, spotted seatrout and red drum were not seen in quantities greater than one half of one percent. Finally, he showed length frequencies from this first (near-shore) study.

The next study was in Pamlico Sound, July-December 2009. He also showed a map of this study area. Again, he showed selected gear parameters from the full study. Again, the Florida fish excluder was the only device observed. He also showed the species composition; there were 69 species identified. Shrimp, croaker, spot and weakfish were all higher percentages than in the first study. He showed length frequencies as well. Over 30,000 individual fish were measured for just croaker, shrimp, spot and weakfish, demonstrating the intensive work the observers do.

Protected species information was also gathered. The program operates within a Section 7 permit. Birds are constantly around every trip. Three turtle interactions were documented. The lesson learned was TEDs do work. All three turtles were released alive and in good condition. All three were caught in a try-net, which is used to sample if shrimp are present. Marine mammals were also seen. Bottlenose

dolphins were seen on at least 50 percent of the trips. Dolphins will feed from the net and on the discards. One pod of dolphins ripped open the tailbag to feed. He advised the AC that you must also keep in mind that you cannot ensure survival of discards. He describes watching dolphins swimming behind a fish excluder and feeding from that like it was a Pez ® dispenser.

K. Brown mentioned a public comment that was received at the last meeting about every two tows being different. He discussed confidence intervals in relation to that. For this study, a 95 percent confidence level was used. The intervals can be influenced by sample sizes. On any given day, it was not possible to predict what would be in the tow based on the last tow. There is inherent variability present which makes it very difficult to extrapolate the data. It is not that you should not or cannot do this; it just must be done very carefully. A short-term study in a limited area, at about 1 percent coverage, is not sufficient to extrapolate statewide. One way to mitigate this is long-term studies that are statewide.

K. Brown said he applied for and received a grant to study the entire state, including lat/long for each tow, TED bar spacing data is being collected, as well as at-net mortality. This is a two-year study. A baseline for at-net mortality will be established, but post-mortality is much more difficult.

Does shrimp trawl bycatch affect stocks? This is the main question and K. Brown stated that he does not know the answer. The Atlantic States Marine Fisheries Commission Weakfish Management Board states that weakfish is declining coast wide, along the entire Atlantic seaboard. Declines are steeper in states that do not allow shrimp trawling. That indicates that others factors besides shrimp trawling are in play.

K. Brown then discussed Tailbag/BRD testing from 2009 which were five gear modifications vs. 1 1/2 square mesh; 1 3/4 SM; 1 3/4 SM T90; 2-inch SM T90; modified Jones-Davis BRD; and skylight panel. There were only 30 tows, a small number. Usually 100-150 tows are needed to meet certification criteria. He reviewed the results of each of the five gear modifications. He briefly discussed the difference of a net hung on the diamond or the square and how the meshes compress or open. He also discussed the difficulty in tearing the nets and the ease with which they can quickly be repaired. He said part of the loss of shrimp may be made up by the efficiency of the gear. He reviewed the pros and cons of each of the five modified gears and the effects on shrimp harvest and bycatch by major species (Atlantic croaker, spot, weakfish) and finfish as a whole.

He then provided an overview of BRDs allowed in state waters: Florida fish excluders, 8-inch PVC "Sea Eagle" and others. K. Brown entertained questions from the AC. He reiterated Price's point of the gear development process being lengthy and expensive. He repeated that fishermen know better than anyone how to keep the devices practical and non-cumbersome. He encouraged folks with ideas to contact him or Price.

R. Brown agreed no one can predict what is in a tow. But these characterizations are very similar to other studies done in the past. The same species of fish show up in those studies as in yours. Our dilemma is how to keep the industry going while reducing the bycatch. He asked when the two-year study began. K. Brown said August 2012. He added he hopes to continue the study beyond Aug. 2014. R. Brown asked K. Brown to keep the AC up to date as the study continues. K. Brown agreed that his study did not show any ground-breaking information. He stressed how important it is that extrapolations are done carefully. K. Brown agreed that the composition of species is similar among studies.

Kenny Rustic asked if there are subspecies of croaker or spot found in Pamlico Sound. K. Brown said no. Rustic said if the fish are not overfished, juveniles are being caught, so they are reproducing. He said we need to reduce bycatch; gear modifications are in need of a lot more testing. Every tow and area is different. Rustic said we need to know how much of the bottom is trawled, not what is open to trawling. K. Brown said not all of the area open to trawling is trawled. R. Brown asked if there was a reason for that. K. Brown and Rustic said that fishermen work in certain areas and you have to talk to the fishermen to know the nuances of certain areas.

R. Brown asked for the presentations to be sent to the AC. Murphey said she would do that.

F. Brown said we need more studies, according to the presentation. He asked what studies do we have that can help us now. We can test for 50 years and never have two tows the same. He said he had worked three years on a trawl and always had a lot of bycatch. The amount of bycatch was different for each tow. He expressed concern that it sounds like we have been studying it for years and sometime we have to reach a conclusion. He asked K. Brown at what point he is ready to reach a conclusion. K. Brown said we have reached conclusions from these studies themselves but we cannot implement specific regulations based on 30 tows. What works in one place will not work everywhere. F. Brown asked because these studies concur with all the other studies, when can we make some educated assumptions based on these studies or do we need to study another 30 years. K. Brown said you have to study the gear intended to reduce bycatch before implementing regulations on that gear. You have to find funding, wait for a season to begin, and many other logistics. F. Brown asked if we are we using the best available devices currently to our knowledge. K. Brown said he has only seen the Florida fisheye used in North Carolina. Whether it is the best device he cannot say, but it is the most common. It has been federally certified, so NMFS deems it as a good device.

Anderson asked if K Brown had seen a side bias. K. Brown said yes, he has observed that, and fishermen would probably agree. Trawling on a shrimp line has the potential to bias the tow on that side compared to the other side; you have to mitigate it as much as possible.

Rustic asked about studies on mortality rates of discards. K. Brown said this current study is examining the “at-net mortality” of bycatch. He stated that the data have not been analyzed. However, based on his personal observations croaker appear to be heartier than weakfish. Again, K. Brown stressed the data has not been analyzed and he does not have the results ready as of yet. Rustic asked about natural mortality of weakfish and that it did not come from shrimp trawls. K. Brown indicated that is what the Atlantic States Marine Fisheries Commission Weakfish Management Board concluded.

PUBLIC COMMENT

Tracy Cotte stated he has been fishing in the sound for 30 years and commented that you could count the number of spotted weakfish on one hand and that is not an issue. He stated that spots and croakers are so bad some years you cannot even tow. The sound replenishes itself every year. It takes care of itself.

Birdie Potter addressed F. Brown’s comments regarding his comments about piles of bycatch when he worked on shrimp boats. She noted that F. Brown is about her age and so he has not fished on the water

the last 15 years and since then we have had TEDs and BRDs and that it has cut down the bycatch. She also complemented K. Brown on giving an excellent presentation.

Potter then proceeded to read comments from Ms. Jane Whitley, who could not attend. Ms. Whitley has several relatives who are/were life-long commercial fishermen. In Pamlico County where she has taught for 20 years, she has seen a drastic decline in school-aged children. Their parents who are commercial fishermen are moving away or changing careers. For years the vocational program at the local high school that prepared students for commercial fishing was terminated due to lack of interest. In her letter, Whitley states that there must be a study of the impacts on the declining population, the decline in school children, business, state, county, and town taxes and negative environmental impacts of closing waterways and these impacts to Pamlico Sound. After reading Whitley's letter, Potter referred back to a comment made at the last meeting about keeping the small trawlers and eliminating the large trawlers and requested that the AC not listen to that comment.

Richard Wade commented that fishermen cannot test different or new devices, even if we know what works best because fishermen cannot test. If fishermen get caught with modified TEDs, they can get fined \$10,000 per TED and go to jail and they will take our nets. You need to test on a commercial boat. If it works, that is great, if not, tell us how to fix it. Fishermen need to come up with new devices and have the flexibility to use them. Towing a new or modified device here and there randomly is not how it needs to be done, you need to put it on commercial boat and test it. The industry has developed all the gears which the law tells us we must abide by, so let us have some say in what works and does not work. Steve Parrish has been instrumental in developing TEDs for North Carolina. We cannot modify the gear in real-time working conditions. Mr. Brown's presentation has good points, but in Neuse River you may only get a paint bucket full of fish and six months later you can't drag five minutes due to the fish. We need longer studies to figure out what time of year the fish are there, if we have to go to closures or tow time reductions, what time of year is best. We want to work, let us work. That is why we are here. We have got to come up with something. Kenny and P.D. know why we are here. We see it every day. Stocks such as weakfish undergo a natural decline, croaker and spots, stocks are doing well. I do not see where we can do more than what we are already doing. Stocks are not in trouble. They are rebounding. How can you make the gear any better? It appears to be working.

K. Brown addressed Wade's comments, indicating that there are ways for shrimpers to test these ideas. K. Brown asked Wade and others to contact him or Price. The gear would have to be tested at the federal level. If you have ideas, talk to us and they can work out some way to test these ideas/gears without facing a \$10,000 fine.

Wade stated that if the U.S. Coast Guard boarded me in state waters that he has to comply with the federal regulations not state regulations. He stated that his fisheye has to meet federal standards; or he gets a ticket.

K. Brown stated that is probably why he only sees Florida fisheyes on most boats because it is federally certified. There is some disconnect between the state level and the federal level.

Wade indicated that he travels up and down the coast, so he has to meet federal laws; which really hurt fishermen. State-to-state laws vary (NC/SC example), thus it is best to comply with the federal laws. You are asking a lot from people who already gave a lot. We have thrown out the olive branch a couple

times and had it broke in our face. We are willing to try new ideas and work with you, but how much is enough? We have got to quit messing with it at some point.

Sherrill Styron stated that he does not have dog in this fight anymore and is semi-retired. He was five or six years old when he started working on trawls and has been involved in the fishery a long time. Fishing will make you humble. Shrimp trawling is small part of problem with lack of fish. He said he attended a meeting 20 years ago working on the Fishery Reform Act. Jule Wheatley brought a 1918 article to the meeting titled "Feds come to town and investigate the scarcity of fish." Garland Fulcher, born in 1913, one of smartest men he has known, said there was a time he could remember, fishing with his dad, there were very few fish, so around 1918-1920. He said his dad told him years before; you could see croaker so thick you could walk across them. Twenty years ago flynets were closed south of Hatteras and it was supposed to bring back trout and now there are less trout than ever. In the fishing business you have plentiful years and not so plentiful. That is nature. Styron stressed that shrimp trawlers do not want to catch bycatch. Anything that can help, we are for. But reduced catch comes off the bottom line; we still have fixed expenses, fuel. We do not want to reduce the catch. Another thing that should be considered is to be careful what you do when unemployment is at its highest; you don't want to put any one out of work. He said he had a message for the little boats; if you say it won't hurt me, getting the big boats out of the sound; do not think you will be here much longer. When they are gone, you will be gone. The crowd behind this only wants more. We cannot compromise; we can only come up with better reduction devices.

Bill Mandulak representing N.C. Coastal Conservation Association. He stated that the members of AC should have a copy of an updated letter that the CCA provided to the MFC [handed out to AC members before the meeting]. Mandulak indicated that the vast majority of our members love shrimp and prefer N.C. shrimp and it breaks his heart to see imports from China and Thailand. We want clean harvests and know you do too. The CCA supports different tail bag types and so forth and applauds the DMF on minimizing bycatch and otter trawls. However, we want you to look at what are the other options. Where can we use skimmers? What are the results of limiting the upper New River above HWY 172 Bridge to skimmers only? It has been going on five or six years.

Chris Stewart responded that it has only been three years or two full years worth of data. They were phased in.

Mandulak asked where else can we use them. Are they known to be ineffective in deep water? We need to look at channel nets and shrimp pounds; we need to look at all options. What is best way and cleanest way possible? He is on the Weakfish Advisory Panel and has gone through weakfish over and over and no question they are in trouble and are depleted. But it does not mean we should not protect every one that we can. The more we can save the better.

James Gillikin stated that from what he gathers from these meetings, lots of money is spent in the form of grants and studies to look at bycatch and the bottlenose dolphin. I guess it's a protected species, but commercial fishermen are dying and no one is helping. We are trying to feed families. There has been a reduction in the commercial fishermen by probably 80 percent in the last 20 years. When in Pamlico Sound, you use try nets and if you hit fish you move around. No one wants to catch fish. We spend a lot of money on TEDs and BRDs, up to \$3,000. When you tow a shrimp trawl you are going to catch stuff you do not want. The only option is to leave the tail bag untied. Skimmers work in different

places. I have two 80-foot trawlers, and I used to have four. Due to the cost of fuel we are hardly making it at all. Years ago we made money on flynet fishing. Shrimping was just to get by with and you did not make much money. Flynetting got shut down all of a sudden. However, rod and reel fishermen can still go off the Cape now and not catch them. What happened to them? Before you come up with some other device, we are doing all we can do. Is it legal to tow bigger fisheyes?

Officer Chris Bennett responded yes.

Gillikin then asked the AC to think about this, stating that fishermen do not have much left to depend on. Gillikin closed by saying that the money spent on advertising for N.C. shrimp was a joke and the money could have been better spent.

Doug Cross stated that he was on original Shrimp FMP with R. Brown and stated that they both heard a lot of the same information presented tonight. However more research has been done and the AC has more data than they ever had. Cross stated that some species are always going to be caught in a trawl, but they are not threatened by it. I mean species like speckled trout and southern flounder, which is interesting because we did not have that data. What we charged future generations to come up with was better bycatch data and stuff like that, but we left out some things. Now we have to look at socio-economic data now as well. We never even talked about that then. Some places in the eastern part of state are just dying. In Vandemere, where I live, the town is dead. No boats, no farming. We didn't factor that in last time. What topography is being trawled? We didn't look at that. There are specific areas you can look at for future planning and studies and stuff like that. We also did not look at how the directed effort could possibly fall off the last 10-12 years. Scallop boats are the ones making the money now. The directed shrimp fishery has been eliminated exponentially, and must be taken into account. The fishery is reducing itself, he said. Pulling BRDs has helped reduce bycatch, but effort is down. There are regional differences too, and the fish move to other areas; however you hear fishermen say "I can't catch a speckled trout." Cross's advice to those fisherman was to hang your poles up if you cannot catch trout now. There have been no cold stun events in the last two years. You will hear different arguments in different places. Cross urges the AC to take the data the state has presented and make logical decisions. Do not make snap decisions. If more studies are needed, then we need more study. No one needs a bad answer but we need the right answer.

Edens asked if there were any other comments.

R. Brown requested to comment on Cross's comments. R. Brown stated most of what was recommended in the original Shrimp FMP was rejected by the MFC. Cross stated in 15 minutes the MFC destroyed what we put together in two years. R. Brown stated that his objective is the same as it was before; to answer the question, are we doing long term harm to our fish stocks. In 20 years, we still can't answer the question. There is no magic answer coming. We are not charged with anything but reducing bycatch. No need to fuss, we need to find ways to reduce bycatch. Those who do it for a living are the fastest way to an answer. It will be a hard way to that answer if we have to fuss all the way there, and he does not want to do that. He said you do not know how close North Carolina is right now to litigation on bycatch, and you will be surprised at the people fighting to hold that off until this AC can do its work. I want to help but we need your help on how to reduce the bycatch. We may have to ask you questions you consider stupid, but we need to ask them because we do not know, because you do it all day. We don't want to put anyone out of business. But to tell you your bottom line is not going

to be modified any more by what is coming from the federal government would be untrue. Oriental has a croaker festival and people come from all over to fish for them. However, lots of croaker die as bycatch. When is last time you went and caught a cooler-full of croaker, consistently? Croakers keep showing up time after time as bycatch in these studies. People inland keep asking how can this not be hurting them. They put two and two together and sometimes they do come up with five. I have done that too and I have made mistakes. Help us, and give us input. We are not here to fuss, it our job to work through this and we need your help.

Styron commented on R. Brown's statement about croakers, stating that every winter there are lot of them off North Carolina. But for some reason they don't come in Pamlico Sound anymore. They go to Chesapeake Bay and James River. Used to think every Thanksgiving you could depend on the flounders to be right off our coast. For years it was that way, but for the last 15 years they hang up north and the boats have to go further north then they ever had to. It is not that there are not any but they are somewhere else.

There was a comment from the audience about global warming.

F. Brown requested to make a comment. He stated that he was going to stand up so those in the back know who said this because he was fixing to make some people mad. He stated that he appreciates Mr. Cross's comments. They were intelligent and addressing the problem and we need to hear comments like that. But, he said, I have been to a lot of these hearings, and last month, a man in this audience said he never had bycatch in his nets, and we have others tell us how stupid we are. Brown said, now if you think by telling me I am stupid or telling me some ridiculous thing that you never have bycatch then I am not impressed by you and I am not the stupid one. He said I would encourage every one of you to give us your good thoughts. But if you tell me some off the wall story like no bycatch, I will judge everything you say in that same light. I just say that because I want these comments to be civil as they have been pretty well tonight. I thank you all for your input.

Gillikin asked who said there was no bycatch. Nobody said they did not have bycatch.

Tommy Lewis requested that the record be called up on that. Who said no bycatch? I was here at the last meeting and no one said that.

Joe Albea requested to speak and began to speak but was interrupted by F. Brown. F. Brown continued to address the public. He requested the public to listen and will answer your question because I do not like being called a liar and I am not going to call the man's name because I am trying to not make it personal. He said he was reading it word for word out of the minutes. He said he did not see any evidence that said trawling in the estuaries is affecting any bycatch. F. Brown said now you take that anyway you want it but to me that says he has not had any bycatch. Lewis said he did not say that. (See attached transcript of Tommy Lewis's comments from the Feb. 5, 2013 meeting.)

Albea addressed the public and said what everyone is trying to say and what R. Brown had stated so very eloquently is let us not be adversarial. He said we want your input and we are here to address a situation that is real and you all should know it better than anybody because you are out there every day. I have been to a lot of these meetings over the last 25 years and it continues to be the same atmosphere and it should not be.

Lewis asked how would you feel if someone was trying to take your job.

Albea stated that they are not taking anybody's job. Lewis commented that it is a social issue that is what this is. Albea disagreed. No one has said we are going to put anyone out of business. We are going to look at the issues. We will get your input; we will get a lot of input. I would like to get on some boats and see it for myself.

Edens stopped the conversation and said the next meeting is April 16 in Washington. She asked if anyone else had any other questions or comments.

Potter asked about how much of the waters are being fished, trawled? She thought it had been said that very little of the acreage is being trawled.

Murphey responded we really do not know; someone at the last meeting guessed 10 percent in a specific area, but we do not know. We only know the amount that is opened.

Edens entertained a motion to adjourn.

Frank Brown motioned to adjourn the meeting. Julian Anderson seconded the motion. The motion was approved unanimously.

TM/nf

Cc: Catherine Blum
Dick Brame
Frank Crawley
Louis Daniel
Jess Hawkins

Allen Jernigan
Dee Lupton
Nancy Marlette
Meredith Wilson
District Managers

Committee Staff Members
Marine Patrol Captains
Section Chiefs
Marine Fisheries Commission

Appendix

Tommy Lewis - Public Comment Transcript Shrimp Fishery Management Plan Advisory Committee Feb. 5, 2013

Mr. Lewis: Well, just want to speak a few minutes, uh, come to the meeting, or went to the meeting you had a few months back in New Bern.

I believe that there, somebody up there was telling what was going on and everything, and it said that, forgot the exact words he used but, there was no evidence that said that trawling in these estuaries was really effecting these estuaries or hurting them, the bycatch, how would it improve.

I have lost my words, I can't remember just how it was said, but more or less was what they were saying was there was no evidence to prove that trawling is hurting, any inside trawling was hurting any stock status basically. Now, if you can prove that it is, then I want to know about it because everywhere that it has been stopped, the trawling, it has died.

And another thing that is on your website – 300,000 to 500,000 million fish are killed annually in the shrimp trawl fishery. Who come up with the number? Who come up with this number? That's a lot of fish. I don't believe it.

Audience: Could you repeat the number sir?

Mr. Lewis: Uh?

Audience: Could you repeat that number?

Mr. Lewis: 300,000 to 500,000 million fish, finfish, it's in your shrimp management plan. I read it last night. Somewhere when you started in 2006, some of your data is in there – I read it last night.

So, a lot of this is social. People just don't want the commercial guy in the water, period. That is all it is. You don't want us out there. If you don't believe me go and read the letters on the end of the shrimp management plan. Read the letters to Nancy Fish. They are hateful. I have never seen a group of men as hateful, greedy, selfish as you are and you ought to be ashamed.

Trish Murphey: Please address the advisory committee, please.

Mr. Lewis: Well, anyway (inaudible) Now, whoever has caught so many red drum, that has been accused of in shrimp trawling (inaudible). Have shrimped for 31 yuys from knee-deep water to less than knee deep water in Core Sound, Tiger Slew, Oregon Inlet, to Brunswick, Georgia, I caught one juvenile red drum – one in 31 years.

That's all I got to say. You just base it on whatever you want to do.

MEMORANDUM

TO: N.C. Marine Fisheries Commission
Shrimp Fishery Management Plan Advisory Committee

FROM: Trish Murphey
Chris Stewart

DATE: May 3, 2013

SUBJECT: Shrimp Fishery Management Plan Advisory Committee Meeting

The Marine Fisheries Commission (MFC) Shrimp Fishery Management Plan Advisory Committee (AC) met on Tuesday, April 16 at 6:00 pm at the N.C. Department of Environment and Natural Regional Field Office located at 943 Washington Square Mall, Washington NC.

The following attended:

MFC: Mikey Daniels, Allyn Powell, Bradley Styron, Chris Elkins, Anna Beckwith

Advisers: Scott Whitley (chair), Nancy Edens (co-chair) Julian Anderson, Steve Parrish, Frank Brown, Joe Albea, Ray Brown, Kenny Rustic, P.D. Mason

Staff: David Taylor, Trish Murphey, Nancy Fish, Kevin Brown, Christina Wiegand, John Hadley, Catherine Blum, Garry Wright, Carter Witten, Dean Nelson, Chris Bennett, Daniel Ipock, Allen Williford, Katy West, Jason Rock, Jack Holland, Casey Knight, Lara Klibansky; Chris Stewart via conference phone.

Public: James Fletcher, Penny Flowers, Dell Meekins, Jody Powell, Dawn Powell, Sandra Gaskill, Elbert Gaskill, Warren Whitley, Sherrill Styron, Oliver Williams, Dale Newman, Michael Sadler, Birdie Potter, Henry Daniel, Tim Hergenrader, Larry Mize, Mark Lewis, Alton Parker, Larry Sadler, Donna Anderson, Jane Whitley, Ernie Stotesbury, Randy Sawyer, Tony Tripp, Carol Williams, Michel Samuel, Kent Williams and Clyde Potter

Scott Whitley called the meeting to order at 6:00 p.m. He introduced the Division staff members and MFC Liaison Nancy Fish who reviewed the meeting guidelines for the Advisory Committee and public. She first reviewed a handout containing effective meeting guidelines, including a brief summary of Robert's Rules of Order. She also reviewed the public comment guidelines.

MODIFICATIONS TO THE AGENDA

Whitley reviewed the agenda. There were no modifications to the agenda as presented.

APPROVAL OF MARCH 20, 2013 MEETING MINUTES

Whitley called for a motion to approve the March 20, 2013 AC meeting minutes. Ray Brown said two fishermen approached him after the last meeting about seeing 1-2 inch fish from May to

November that appear to be a spot or croaker that do not fully mature. He said we should be seeing two and three inch spot and croaker year-round, in-shore and in the ocean. They spawn offshore late summer to early fall, we should be seeing two to three inch croaker year round. They are in some stage of growing up. R Brown asked Kevin Brown about this report. K. Brown said he did not fully understand R. Brown's question. R. Brown asked if it was batch spawning. K. Brown will provide information about this at the next AC meeting.

Julian Anderson made the motion to approve the minutes. Joe Albea seconded the motion. The motion passed unanimously.

REVIEW OF THE SOCIO-ECONOMIC SECTION OF THE SHRIMP FISHERY MANAGEMENT PLAN

John Hadley, Socioeconomics Program Manager for the Division provided a Power Point presentation about the socioeconomics of the shrimp fishery. He explained the information covered is based on data through 2010, when the current review and update of the plan began.

Hadley provided a general overview of the fishery, presented trends in shrimp landings, as well as trends in total ex-vessel value and shrimp price. He provided information about shrimp markets, including a strong demand for shrimp in the U.S., competition from imported shrimp, and actions taken to offset impacts of imports. Next, Hadley reviewed information about participation in the shrimp fishery in North Carolina, including both fishermen and dealers.

Hadley then covered information about the economic impact of the shrimp fishery to the state. He reviewed information about fishing income and activity among commercial fishermen. He reviewed demographics of participants of the fishery and perceptions of commercial fishermen regarding top concerns of the participants.

Next, Hadley provided information about the small, but growing cast net fishery and information about the use of Recreational Commercial Gear licenses. He said there is increasing demand for live shrimp as bait in recreational fisheries. He concluded his presentation and was available to take questions from the committee.

P.D. Mason asked Hadley about the amount of effort, in regard to less participation should affect landings. Hadley said it can; the amount of participation has decreased, but his presentation did not include trip information. Division staff member David Taylor said he has some of that information in his presentation, which was given next.

REVIEW OF THE HISTORY OF MANAGING BYCATCH IN NORTH CAROLINA

Taylor provided a Power Point presentation on the history of managing bycatch in North Carolina. He said this is the final presentation from staff to the committee on background information.

Taylor began with the historical perspective of horse-drawn trawls in Northern Europe in use prior to the 1300s. He proceeded to review various regulations put in place over the next 200 years.

Taylor said in North Carolina, trawls were brought from New England to Southport, N.C. in 1916. Usage spread from there over the next few decades. In 1951, the ASMFC evaluated the effects of the Pamlico Sound shrimp trawl fishery on the future availability of fish. Abundance, weight of fish, and natural mortality were all considered in the study. Additional studies were recommended on croaker, spot, seatrout, weakfish and flounder. One finding suggested removal of some fish benefitted remaining fish by reducing competition for space and food. Taylor provided information for the period from the 1960s to the 1990s. Rules were modified to prohibit directed scrap fishing and nursery area designation began. Albemarle Sound was closed to trawling in May 1987 due to spatial conflict issues. In 1992, North Carolina became the first state to require finfish excluders. In 1988, the Tar-Pamlico River Foundation Waterman's Subcommittee report called for the elimination of estuarine trawling which the division did not support for several reasons, including that it supported a socially and economically valuable fishery, there were no other alternatives to harvest shrimp available and the division would continue to work to reduce bycatch with separator trawls and excluder devices.

In 1993, the MFC asked the DMF to prepare an issue paper on estuarine trawling. This effort addressed several issues including trawling bycatch, overfishing, and user conflict and competition issues. Resulting rule amendments became effective in 1994 to prohibit trawling in the Outer Banks sea grass beds, prohibited inside weekend trawling and reduced the period when openings could occur by proclamation in special secondary nursery areas.

In 1997, a bill was introduced in the N.C. General Assembly to ban inland trawling and all net fishing. The bill was withdrawn after opposition from coastal legislators and the fishing industry. The Fisheries Reform Act passed in 1997. In 1998, the MFC Inland Advisory Committee made a motion to examine estuarine trawling. Eventually, a letter was sent to the MFC and the General Assembly requesting the management of estuarine trawling through the fishery management plan process. This resulted in a 1999 report on trawling in internal coastal waters including the effects on bycatch and habitat which summarized our knowledge of the subject at that time. A trawl study proposal also made multiple requests for research and was presented to the JLCSA in January 2001. The concept was supported, but no funding was provided; \$1 to \$2 million per year was proposed.

Taylor said the next event was the first Shrimp Fishery Management Plan which was approved by the MFC in 2006. It took a regional approach and covered the southern, central and Pamlico districts. There was area closures to otter trawling implemented in each district, which Taylor described and showed on several maps, including primary and secondary nursery areas. A 90-foot headrope maximum in all internal waters except Pamlico Sound and the mouths of Neuse and Pamlico rivers was also implemented.

The 2006 Shrimp FMP also put in place several recreational measures, including a skimmer trawl limit of 26 feet or less, restrictions on shrimp pounds, and a 48-quart heads on maximum RCGL harvest limit. The plan also included numerous research recommendations regarding methods to reduce bycatch, impacts on habitat and increased social and economic surveys for shrimp fishermen.

Taylor then reviewed information about the management equation, balancing cost impacts with the possible gain for stocks based on information at hand and prevailing societal views. It is a dynamic and subjective equation due to inadequate data. The FMP objective to guide deliberations include minimizing waste and enhancing economic value of shrimp resources by promoting more effective harvesting practices, and also minimizing harvest of non-target species of finfish and crustaceans and protected, threatened and endangered species.

Taylor said the questions far outnumber the answers in the current situation on bycatch mortality, accurate number of discards, and biological stock-wide impacts. The answers are costly and inconclusive due to the variable nature of trawling. He elaborated on sources of that variability. Overall, he said the shrimp stocks, which are like annual crops, are in good condition. He also said the inside waters of North Carolina are not comparable to the inside waters of neighboring states. Taylor stated concerning impacts to coast-wide stocks, that no one is saying that there are none, they are just not quantifiable due to the high natural mortality of juvenile fish, environmental changes and other variables that confound the impacts from just trawling.

Next, he briefly reviewed shrimping effort data and effort reduction in inside waters, indicating the overall decline in effort. Taylor reviewed actions taken by the MFC previously, including area closures, seasonal closures and gear restrictions. He said shrimp are managed by size, which is variable south to north depending on the waterbody. Present restrictions are designed to protect small shrimp, juvenile fish and habitat and to mediate user conflict while maintaining the shrimp trawl fishery.

Taylor reminded the committee that the MFC motion was to amend the Shrimp FMP, limited only to bycatch issues in the commercial and recreational fisheries. He concluded his presentation and made himself available to answer questions from the committee.

Joe Albea asked K. Brown where in Pamlico Sound did most of the effort take place. Albea asked if the bulk of his numbers came from the main open area of Pamlico Sound. K. Brown said yes. He offered to provide additional specifics at the break if Albea was interested.

R. Brown asked about trip numbers prior to the trip ticket program. Katy West responded that the south Atlantic states were funded set up the detailed shrimp program. The number of port agents were expanded and part of their job was to collect shrimp landings by vessel. The information came from that increased data collection effort. R. Brown confirmed that information was only recorded if product was sold. R. Brown asked another questions about the table in Taylor's presentation about effort reduction in inside waters. He asked P.D. Mason if the overall snapshot was similar in 1978 as it is now relative to the size of boats and nets. Mason provided specifics about what was in use at that time. He added that in the early 1980s, most of the fleet was working off Cape Canaveral, Florida. R. Brown said during that time period, some of the highest numbers of trips were recorded. Kenny Rustick said the larger boats came from other fisheries, like the scallop fishery. They shrimped too, but scalloped and flounder fished as well. Rustick said that shift started in the 1970s. Mason said he was crab trawling during that time. Steve Parrish said most boats pull four, 55-foot nets.

Whitley moved on to the next agenda item. Division staff member Trish Murphey provided a brief Power Point presentation of bycatch reduction measures.

DISCUSSION OF BYCATCH REDUCTION MEASURES

Murphey reminded the committee that the task at hand is to limit the scope of the amendment of the fishery management plan to bycatch issues in the commercial and recreational fisheries. She reviewed the two objectives of the plan Taylor previously discussed: minimize waste and enhance economic value, and minimize harvest of non-target species. She said these objectives will guide the committee's discussions.

Murphey said that over the last three meetings, the committee received background information on the 2006 Shrimp FMP, TED and BRD testing, Division shrimp fishery research, socio-economics of the fishery, and history of the management of bycatch in North Carolina. Additionally, information about otter trawl regulations from other states was included in the committee's mail out for this meeting, in response to a committee member's request. There has also been valuable public input received at these advisory committee meetings.

Murphey described the recommended approach for the committee to use as it proceeds through amending the fishery management plan. Both the Plan Development Team and the Advisory Committee have many ideas about how to potentially reduce bycatch. Murphey recommended the committee take a holistic approach looking at non-quantifiable management options, the subjective balancing act Taylor talked about in his presentation, and cost/impact versus potential gains. In short, a common sense approach is important to take while using the objectives of the Shrimp Fishery Management Plan as guidance.

Murphey explain the approach will include an evaluation matrix. The matrix will be used to organize information about various proposals presented to the committee in the form of issue papers. The pros and cons of each option, including status quo, will be evaluated and placed in the matrix relative to bycatch, economic impact, social impact, enforceability, and regulation authority, among others. She said recommendations will not be made until the matrix is completed based on each paper. The information will be looked at as a whole to make decisions based on the holistic approach described. She said the matrix will be a work in progress, but this is a way to begin the decision making process.

Murphey reviewed the Division's list of proposals so far:

- New River skimmer trawl fishery
- Bait shrimp fishery
- Effort management (headrope lengths, harvest seasons, time restrictions)
- Gear modifications (TEDs in skimmer trawls, BRDs)
- Area restrictions
- Other fishing gears

Murphey said the skimmer trawl fishery and other fishing gears issue papers will be presented to the committee at its next meeting on May 15.

Murphey concluded her presentation and said it is time for the committee to discuss its ideas and proposals. Whitley called for a five-minute break at 7:25 p.m.

Whitley resumed the meeting at 7:30 p.m. He conveyed comments made to him during the break from members of the public having difficulty hearing the committee and staff; he asked for committee members to speak up.

Parrish said he knows NMFS works hard to develop BRDs. Right now there are two available to use in the industry, but not necessarily in N.C. He suggested a law or rule that would allow all federally-approved BRDs to be allowed in N.C. He suggested that would be a good starting point for fishermen wanting to use them. He said fishermen will know all about them in two months worth of work. Albea asked for clarification; asking if these devices are federally approved, but not state approved. Parrish said yes. Murphey referenced the proclamation which only includes the Florida fisheye as an approved BRD. Albea asked if there is a reason the others are not included in the proclamation. Parrish asked if the NMFS has tested them and approved them, then why should NC care or object. K. Brown said staff is working on updating the proclamation, which would have to be approved by the MFC. Parrish said about 90% of the boats use the larger Florida Fish Eye in federal waters, they can be in a different location in the net but when boats move into NC, we have to comply to NC regulations. It would be easier if the federal and state regulations were the same. Mason said the two sets of regulations are about different sized fisheyes. Taylor clarified that the minimum size requirement must be met. Parrish said the height portion of it is the issue. Albea asked about the use of the devices in varying depths of water. Parrish said the depth of the water does not matter. Parrish commented about the voluntary use of narrower bar spacing used by many fishermen, which fishermen are not getting credit for. Parrish said the modified Jones-Davis and the composite panel (with a cone or skylight panel) are the two additional devices he is interested in.

R. Brown referenced the handout given tonight about regulations in other states. He said it is often more important to understand the reason why something is in place, more so than what is not in place. He questioned having unlimited headrope lengths in Pamlico Sound. He acknowledged the 90-foot headrope limit in other inside waters in the 2006 Shrimp FMP. That decision was not based on science. Other states have an inshore limit of 50 feet. He asked if anyone knew how that was developed. Parrish said the other states inside waters are different, and not comparable. R. Brown restated the important information needed is how the other states came to that conclusion of a 50-foot limit. He acknowledged Rustick's comment at the last meeting that fishermen do not want bycatch in their nets. Parrish said regarding the 50-foot rule, fishermen are always figuring out how to make a living. If there was a 50-foot limit, it is not going to reduce the impact or the bycatch. It would increase effort because it would be more affordable to go fishing since you do not need as large a crew. Albea said the bycatch may have more chance of escaping with 50-foot nets. Parrish insisted that there would be more effort with that approach. Albea suggested limiting the number of participants then. Albea said something happened in the 1970s: introduction of bigger boats, more gear. Prior to that, there were more boats. A threshold was crossed in the 1970s when bycatch became a huge issue. Striking that balance is the key to solving the problem while still allowing fishermen to make money but while reducing bycatch. Parrish agreed with the goal, but said a different approach would be better than just reducing the headrope length. R. Brown said that many southern states went to a

50-foot limit around the same time. Murphey offered to follow up with the other states about the reasons behind the reduction. F. Brown asked about average water depths/usage. Albea said it is about 15 feet in Pamlico Sound. F. Brown asked for minimum, maximum and average water depths in trawled areas. Murphey said there may not be a way to obtain that data. F. Brown said if we do not know the depth information, those areas should be nursery areas. Murphey said there are certain parameters that must be met for an area to be classified as a nursery area.

R. Brown asked how many boats participate in shore. West said that is information we can get from license and trip ticket data. She said the older data from 1978, for instance, was based solely on license data because the trip ticket data did not exist then. She explained the license data alone does not tell how many participants there actually are, so the older data is probably inflated. R. Brown asked what would happen if boats from other states could fish in N.C. but were held to the more restrictive regulations of their state? He said it would require reciprocal agreements from other states. He said we need to know how many boats are coming in from other states; he would rather give preferential treatment to N.C. boats.

Albea asked if most of the boats coming in from other states are the larger boats. Mason said a lot of the boats are freezer boats coming from Florida. He does not see how you can estimate their landings since they do not land in N.C. Albea said that is money out of N.C.'s pocket. Whitley said it depends on where you get the most money for the shrimp.

Murphey restated the request from R. Brown. He wanted to know how many out of state boats came to in N.C. to shrimp. If it is a lot, we are limiting profitability to N.C. West confirmed the Division can put that number together by looking at the license data coupled with the trip ticket data. F. Brown asked if it was a fair statement that we do not know what their bycatch is if we do not know what their catch is. Parrish said, yes, if they did not drag, their bycatch could be zero, or it could be a lot of bycatch. Mason said 28 years ago there was bycatch; this past year he did not see any difference. He concluded we cannot be destroying the croakers and spots because he cannot tell the difference between then and now. He said the weather has a lot to do with it. [Comment from public that inlets have a lot to do with it too.] R. Brown said abundance of adults in Chesapeake Bay or S.C. who lay eggs 75 miles offshore, we could have an abundant juvenile population because they washed into N.C. waters. He said those that take their kids fishing in Vandemere and Hobucken had to get an early parking place to go fishing; but not now. Huge schools are going right by N.C. Why? Croaker may imprint and go back where they grew up. That is a topic for another night, but it is a valid question Mr. Mason. R. Brown continued that time of day or night makes a difference. But is it for bycatch or conflict management? Rustick said the S.C. fishermen did not want to fish at night and N.C. fishermen did. That was why. No science, but laziness. [To R. Brown], you say the croakers are bypassing N.C., fishermen in Hatteras catching croaker this year-why? Rustick, said these are things that need to be looked at. The inlets are closing up and we don't have the same tidal flow like we used to. All the time, it comes back that the shrimpers were killing it. Something happened in 1970s-maybe so. But, we need to look at water quality. There are more people living on the shores, more stuff coming down the rivers. Farming stirs the sediment up and goes down with the tide; stir it up down here, it goes out. It keep building up, nothing will go up the rivers. Above the bridge, water is 95-100 degrees at time. These places are all filling up. Water quality has a lot to

do with it. DMF has water quality samples from years past. Proclamations moving polluted lines.

Albea said to check with DWQ. Pamlico River, Neuse River, others-give us a 30-year view of water quality. That is a valid question I think can be answered. Murphey said she is making a list of the requests. She summarized the list to include: Parrish's request about including alternate BRDs in the proclamation. Whitley asked about the most recent Blue Crab FMP in reference to crab trawling. West said there were no changes made for trawling. Whitley said he would look into it more and mention it again at a later time. He asked K. Brown in regard to juvenile blue crab, was there any recommendation made? West said no.

Whitley asked if there were other comments. Anderson said looking at all the fisheries over that period of time; everything has been reduced, including oysters, clams, and others. He said it is not just one thing, lots of things have contributed. We are unluckily charged with limiting this to just one thing.

PUBLIC COMMENT

Mikey Daniels: It's a hard job making a living shrimping. We have made a square mesh for the tail bag with a four-inch mesh on top. That reduces bycatch (fish) by 46-48% according to the K. Brown study. We ordered eight of them last week. See what it does, get an observer on there. This is a flat TED. Jeff Gearhart was in South America and they had a 92-inch flat TED. I got a permit to use it on July 18, 2009 and no one had them. This is 2 and 3/4 bar spacing. You get less fish, but less shrimp too. There is a margin on how to do it and make it work for us. The deeper draft that boat draws, the less shrimp you catch. It kicks them out. All our boats are 55-foot. Go to SC and GA. When I was 15 years old I fished out of Newport, RI on a lobster boat. We shared resources with other states-friends-trying to get along. We don't have all answers; we are trying to make a living. Price of shrimp is so cheap, we can't make a living. With tariffs in China, maybe we can make it. We are not trying to kill fish, we trying to make a living. We have to go to SC now to make it. It's hard to make it. Thanks for opportunity. If you want to look at these nets let me know.

Henry Daniel. I am 75 years old and fish in Pamlico Sound. I have a couple of questions for David Taylor and Katy West. Is there evidence that since it has been closed, has it got any better? Is there data on trawling in closed areas? Is there any data to support what you said, that it got better with your closure. K West responded that there was no published data. Mr Daniel exclaimed right, once closed, no study. I know you sample. Katy explained that she would hate to say no without looking at the data. Mr. Daniel stated that Greg Judy said there is probably less fish. There has been a massive reduction of all life forms in closed area; specifically, Rose Bay, Goose Creek and many others. These areas are five times healthier when trawled; this information is out there, but no one wants to know about it. This year, every oyster in Neuse River died; no living spat. There was not one word spoken about it, it was not publicized about how many fish died? No one knows or cares. There is power struggle between recreational and commercial fishermen. If these areas are closed for shrimp trawling, we are told that flounder and gray trout will be jumping out of the water, but this hasn't happened yet. The fish are not

there. There has been no investigation. You cannot name anything that you have closed that does not have the lowest landings in trout and other fish. Because the inlets have been closed for last two years, they are gone, they are dead. My son went to George's Banks, 400 miles from Chesapeake Bay, he went all the way up there to catch flounder and they were so thick, have limits in 3 tows.

Birdie Potter. This is something dear to my heart. I have been married to a commercial fisherman for 57 years. There is nothing more important than the condition of sounds and rivers and creeks and ocean. First of all, bycatch has been beat into the ground. Here is a solution from just a housewife. How many cats are there in U.S.? Take bycatch, pay fishermen for it, build factory, cook it and sell it to the public for cat food; it's debt-free and makes a little money. Do something about it. Personally I don't think there is that much. Stopping bigger boats from trawling the Pamlico Sound, is unsafe, the sound is just as treacherous. Bigger boats are safer for the crew. Safety is more important than anything.

Michael Samuel. There are rumors to close us down by making us use 35 foot nets. These same people run to you because cannot catch a fish when they throw a hook in. People need to get their facts straight. There are no facts about how much bycatch is being caught. You want to know what is going on, throw your checkbook away and come try to make living as commercial fishermen. Get your facts straight.

Kent Williams. Mr. Henry said it as good as anyone about bycatch. We need to check Albemarle Sound? We don't drag in that area so there should be plenty of fish; but there is not. Big fish eyes, shooters, small bar spacing, they do not catch big fish. Stop it all, they are not going to do it. Inlets, talk of 1970s, water is warmer, they fish have moved up north. It goes and comes.

Sherrill Styron. There are half as many dealers as shrimpers; the reason for this is that they are not really dealers. Shrimp prices are so bad; fuel is so high, the little man has to get a dealer license to sell his own catch. I have trouble counting 15 dealers between Morehead City and Wanchese. Most are packed in NC; we do not run to Gulf to pack shrimp at \$3.50/gallon fuel. The presentation that David Taylor gave on bycatch indicates that the bottom line is we do not know and we will never know as human beings. I will be 71 this summer, every time I think I know something about fishing, like why fish are not coming in Pamlico Sound I realize I don't know. There have been no croakers since 1970s and flounder have not come down recent years. Sometimes bycatch is just as bad in November as in July. Some of those fish would get big and come back in Pamlico Sound if you went by theory of where they are hatched and come back. They hatch in the ocean. A fish has to lay one million eggs for one or two to turn into fish. I assure you, shrimp fishermen do not want to catch bycatch. We cannot pull the nets as well when there is bycatch. I am in agreement, that if we can reduce it, do it. The last meeting we saw a presentation that indicated a 3-inch bar spacing reduced bycatch 25% with no loss of shrimp unless there is lot of trash. Things like this work. We buy a lot of spots in fall when they are cheapest and we sell them in winter and spring until fresh ones are available again. Sometimes we buy them from Delaware and Chesapeake bays. Not many fishermen are catching them in NC, so there is no one to buy from. Last year, we did not buy spots. They weren't in the Delaware and Chesapeake Bays or the Pamlico. The spots stayed in the ocean and

went right around us. There lots of variables. Shrimpers would love to reduce bycatch without reducing catch.

Warren Whitley: Tariffs were mentioned this evening and I feel they need to be raised to subsidize the industry; there needs to be a happy medium or level ground. Do not raise taxes on me but on guys bringing it in here.

Sandra Gaskill. Commercial fishermen are minimizing bycatch; they have been doing it forever. Fish excluder devices (FEDs), turtle excluder devices (TEDs), time restrictions (no Friday night shrimping), mesh size, and headline rope limits all limit bycatch. No two tows are the same. I said this for a reason. I know they are not the same because my husband has been doing it for 50 years; his best friend is the trynet. I watched him. Most fishermen use trynets. It is for finding the shrimp. But we check it also to see that there are not too many fish in the tow. If it is full of fish, we untie it and pull net the back in because do not want fish. This is what trynets are for. It has been said over and over again that all we are doing is killing the fish. Look at pollution and what is going in water. When we came from Harkers Island this evening, we saw on each side of the road that the woods were being sprayed with something. It killed the weeds and bushes and eventually the pollution goes in sounds and streams. Look at that. Pollution is playing a big part. There are less boats than ever before. This has not been brought to table. I have been to most of meetings and I know. People want us out of the water. If Pamlico and Core Sounds are closed to otter trawls and out to three miles, okay. So I ask you, if you know that fish have tails? If you say we can go out there and catch shrimp in the ocean and big super trawlers are out there, then they will wipe them clean and do away with little fish. This is not about bycatch, it is about commercial fishermen. We are not the problem.

Penny Flowers. The next three meetings are at 1pm, why? Murphey explained that if was so the shrimpers can work. Flowers remarked that she cannot come at 1:00 because she has to work. Whitley explained that we tried to set up different times for different folks. Flowers remarked back that a 1:00 pm meeting will not benefit anyone. Whitley further explained that it was for the benefit of the AC members.

James Fletcher. I am a fisherman that has worked on both coasts and the Gulf of Mexico. The science and data that this committee has received is flawed if looked at in totality. Shrimp trawl bycatch data going back to 1300. Three studies done in Europe from 1950-2010 say the materials coming off the land have more to do with decline in fishing than any commercial harvest. These scientists did not give you that data. They used the 1300 data. A couple times in 1970s, boats left for calico scalloping when the Challenger went down and dumped 12 million pounds of rocket fuel in the water and killed all the calico scallops. In the 1970, NC sprayed cotton to eradicate the boll weevil and there was salt water inversion and fish died in the 1970s and 1980s as a result. The NC Dept. of Agriculture and USDA sprayed chemicals in the water and thus this is the reason why the fished died. Look in your nursery areas. Where did pfisteria start? These areas are not being disturbed, the reason for the declines of these fish are the amount of chemicals we put in them. The NC research triangle is making man-made chemicals and they are affecting fish. However, no scientist in DMF is charged with the task to look at the effects of specific chemicals in the water. NC environmental health officials required chlorine to be added to many of the wastewater treatment systems of NC. Chlorinated water in aquariums, you know

what it does. Ms. Potter said when you look at total harvest there is one thing that is left off, bycatch of recreational fishermen. Recreational fishermen are killing at least 30 times that of what they throw back; 10-20% more than predation. Commercial fishermen do not want to catch fish. Daniels spent hours to get this net to be allowed to use; other nets are not legal. The problem is you are charged with reducing bycatch but you are not given information to do it. Let the commercial fishermen sell it, if we could sell all the bycatch, would that settle it? Whitley answered no.

Carol Williams. In regards to bycatch, Mother Nature was not mentioned. While I'm not a marine biologist, I do know my flowers were blooming in winter and a week later we have a freeze killing them. If this can happen on earth, why can't this happen in water? What were the weather conditions in 1970 versus now?

Whitley closed the public comment period.

Ray Brown motioned to adjourn the meeting. Julian Anderson seconded the motion. The motion was approved unanimously.

Meeting adjourned at 8:47 p.m.

TM/lm

Cc: Catherine Blum
Dick Brame
Frank Crawley
Louis Daniel
Jess Hawkins

Allen Jernigan
Dee Lupton
Nancy Marlette
Meredith Wilson
District Managers

Committee Staff Members
Marine Patrol Captains
Section Chiefs

MEMORANDUM:

To: N.C. Marine Fisheries Commission
Coastal Recreational Fishing License Advisory Committee
Louis Daniel

From: Marine Fisheries Commission Office
Randy Gregory

Subject: Coastal Recreational Fishing License Advisory Committee Meeting

Date: April 9, 2013

draft

The Marine Fisheries Commission (MFC) Coastal Recreational Fishing License (CRFL) Advisory Committee (AC) met on April 9, 2013 at 1:30 p.m., at the N.C. District of Marine Fisheries (DMF) Headquarters in Morehead City. The following attended:

MFC: none

Advisers: Galen Maxwell, Ron McPherson, Ken Compton, Bo Nowell (via conference phone), Chris Medlin (via conference phone), Scott Inge (via conference phone), Dick Brame (via conference phone), and Jay Kavanagh and (via conference phone)

Staff: Randy Gregory, Tiffany Frazier, Beth Govoni and Don Hesselman

Public: none

Larry Stephenson, Frank Tursi, and Frank Folb were absent.

Ron McPherson served as chair for the meeting. He called the meeting to order.

MODIFICATIONS TO THE AGENDA

A CRFL program update was added before the 2013 CRFL Request for Proposals.

APPROVAL OF MINUTES

Mr. Compton moved to approve the November 29, 2012 minutes. Mr. Maxwell seconded. The motion passed unanimously.

PUBLIC COMMENT

None

CRFL PROGRAM UPDATE

Mr. Gregory reviewed the March 31, 2013 CRFL Sales Report and outlined the 20 CRFL grants approved for funding.

Mr. McPherson discussed the MFC directive for the committee to only make recommendations for the “People” proposals. Mr. McPherson felt they should have oversight in making recommendations for all CRFL projects and that was original intent of the committee. Mr. Gregory recommended Mr. McPherson speak with Nancy Fish, the MFC Liaison, about his concerns.

Ken Compton asked if the CRFL projects had ever been showcased to let the recreational fishermen see the results of the license fees. Ms. Frazier reminded the AC of the five year CRFL project symposium held last May that reviewed many of the projects. Mr. Compton suggested a report or power point to show the accomplishments of the program.

PRESENTATION AND DISCUSSION OF 2013 CRFL REQUEST FOR PROPOSALS

Mr. Gregory, with the help of attending staff, reviewed the 2013 CRFL Draft Request for Proposals. Mr. Compton suggested clarification of “certified appraisal” for land purchases. The committee had a discussion concerning the addition of “Effective law enforcement” to the “Fish” management goal. The committee was in favor of this of this addition.

Meeting adjourned.

MEMORANDUM

To: Marine Fisheries Commission
Wildlife Resources Commission
Gordon Myers

From: Beth Govoni

Subject: Joint Coastal Recreational Fishing License Committee Meeting

Date: May 8, 2013

The Marine Fisheries Commission and the Wildlife Resources Commission Coastal Recreational Fishing License Committee met at the Division of Marine Fisheries Headquarters Conference Room in Morehead City, N.C. and via conference call on May 8, 2013. The following attended:

Committee Members: Marine Fisheries Commission - Chris Elkins, Joe Shute, and Kelly Darden
Wildlife Resources Commission - Ray White, Joe Barker and Mitch St. Clair
Division of Marine Fisheries – Dr. Louis Daniel – Chair

Staff: Wildlife Resources Commission – Gordon Myers, Bob Curry, Chad Thomas, Christian Waters, Erik Christofferson, and Mallory Martin
Division of Marine Fisheries - Dee Lupton, Suzanne Guthrie, Mike Marshall, Don Hesselman, Beth Govoni, Rex Lanier and Tiffany Frazier

INTRODUCTIONS

Louis Daniel, Director of the N.C. Division of Marine Fisheries, introduced Commissioner Kelly Darden, who will be replacing Commissioner Anna Beckwith on this committee. Beth Govoni replaced Tiffany Frazier as the Coastal Recreational Fishing License Project Coordinator.

APPROVAL OF AGENDA AND MINUTES

Daniel called the meeting to order.

The meeting agenda was approved by consensus with no modifications.

The minutes from the December 4, 2012 were unanimously approved.

UPDATES

The committee received updates on the Coastal Recreational Fishing License sales report.

The committee was updated on the status of on-going/previously funded Coastal Recreational Fishing License projects from 2007-2012 with semi-annual progress reports, annual progress reports, and technical monitor reviews.

ADDITIONAL-YEAR FUNDING PROJECTS

The committee unanimously approved continued funding for one 2010 multi-year project, requesting funding for fiscal year 2013 – 2014:

Marine Fisheries Fellowship Program, Year Four Funding (2010-F-007) – \$41,134

The Marine Fisheries Fellowship Program is a five-year North Carolina State University project. The project funds fishery fellowships to enhance priority research projects to support needs identified in fishery management plans and the Coastal Habitat Protection plan.

Motion by Ray White to approve the 2010 project requesting funding in fiscal year 2014, seconded by Joe Barker – motion passed unanimously.

The committee unanimously approved continued funding for one 2011 multi-year project, requesting funding for fiscal year 2013 – 2014:

Diet Composition of Predatory Fishes in N.C., Year Three Funding (2011-F-004) – \$129,167

Diet Composition of Predatory Fishes in N.C. is a three-year North Carolina State University project. The project is to identify and gather life history information needed for stock assessment models.

Motion by Joe Shute to approve the one 2011 projects requesting funding in fiscal year 2014, seconded by Kelly Darden – motion passed unanimously.

Commissioner Ray White requested that project 2011-P-003, Hatteras Boating Access Area, be removed from funded project status. Per Erik Christofferson, Wildlife Resources Commission has temporarily abandoned that project due to extenuating circumstances. If and when project gets back on track, Wildlife Resources Commission said they would prepare a new proposal requesting funds at that time. As a result the funds for this project will be unobligated, releasing \$250,000 back into the Marine Resources fund.

Motion by Ray White Motion to de-obligate funds for 2011-P-003 Hatteras Boating Access Area, seconded by Mitch St. Clair – motion passed unanimously.

The committee unanimously approved continued funding for nine 2012 multi-year projects, requesting funding for fiscal year 2013 – 2014:

Acoustic Tagging of Southern Flounder, Year Two Funding (2012-F-001) – \$67,591
Acoustic Tagging Study of Southern Flounder is a two-year University of North Carolina at Wilmington project. The project is to evaluate migration dynamics and within-estuary habitat use of southern flounder in North Carolina.

Cooperative Winter Tagging Cruise, Year Two Funding (2012-F-001) – conditionally fund \$121,807

Cooperative Winter Tagging for Stripped Bass is a three-year East Carolina University project. The project is to tag striped bass off the coasts of N.C. and VA. Funding of years two and three is contingent upon the principal investigator obtaining a 50% match. To date, the principal investigator has only been able to obtain match for the hook and line portion of this project in the amount of \$8,000. Louis Daniel requested the Joint Committee to approve a date of June 30, 2013, which the principal investigator has to obtain a matching source. If match is not acquired by that date, the project will move forward with only the hook and line portion. The technical monitor does not take exception.

Inshore Fishing/Oyster Reefs, Year Two Funding (2012-H-002) - \$487,586

Inshore Fishing/Oyster Reefs is a three-year Division of Marine Fisheries project. The project is to create three coastal recreational fishing reefs in close proximity to coastal towns and public boat ramps.

Defining Critical Depth for Intertidal Oyster, Year Two Funding (2012-H-005) - \$44,291

Defining Critical Depth for Intertidal Oyster-Reef Restoration is a two-year University of North Carolina project. This project is to increase the success of oyster-reef restoration efforts in N.C.

Acoustic Tracking of Adult Red Drum and Sheepshead, Year Two Funding (2012-H-007) - \$102,372

Acoustic Tracking of Adult Red Drum and Sheepshead is a two-year University of North Carolina project. This project is to evaluate restored habitat function and post-capture mortality. The principal investigator has submitted a request to target smaller samples of red drum (i.e. <27 inches whereas before they were targeting >27 inches). This change is due to the fact that the larger of the species is unavailable in their target area of the New River Estuary. The principal investigator also wishes to add black drum to their scope. During their course work in 2012, the scientists realized that black drum were also an ideal target species in this system for acoustic tagging. These requests do not change the nature of the study or the amount of funds requested. The technical monitor does not take exception to these changes.

Take a Kid Fishing, Year Two Funding (2012-P-001) - \$25,000

Take a Kid Fishing is a three-year project. This project is to give disadvantaged youth the opportunity to spend the day fishing from various piers or vessels.

N.C. Saltwater Fishing Tournament, Year two Funding (2012-P-003) - \$18,980
Saltwater Fishing Tournament is a three-year Division of Marine Fisheries project. This project is to help enhance and support the Citation Program.

Recreational Angling: A Public Exhibit, Year two Funding (2012-P-005) - \$22,645
Recreational Angling: A Public Exhibit is a two-year N.C. Maritime Museum project. This project is to enable the museum to expand the recreational angling content provided by public exhibits.

Americans with Disabilities Act Boating Access Project, Year Two Funding (2012-P-008) - \$139,500

Americans with Disabilities Act Coastal Boating Access Projects is a two-year Wildlife Resources Commission project. This project is to create Americans with Disabilities Act access at various boating access areas along the coast of N.C.

Motion by Joe Barker to approve nine 2012 projects requesting funding in fiscal year 2013- 2014, seconded by Kelly Darden – motion passed unanimously.

2013-P-009 TOWN OF VANDEMERE: WATERFRONT PARK INITIATIVE

The town of Vandemere provided a revised proposal, option to buy, and appraisal to the Coastal Recreational Fishing License Project Coordinator. Both the original and the revised proposal requested \$1,005,000 in Coastal Recreational Fishing License funds to purchase approximately 8.73 acres of land. However, an assessment conducted by the Wildlife Resources Commission in April 2013 showed that only 5.3 acres of land would be needed for the boating access area.

Since the Joint Coastal Recreational Fishing License Committee conditionally committed to fund the portion of the town's project that directly relates to the Coastal Recreational Fishing License grant program, which is the boating access area, the program is willing to fund the purchase of the 5.3 acres or \$386,900. Wildlife Resources Commission did not have the same understanding of the agreement. Per Gordon Myers, the intent was to purchase the entire parcel of 8.73 acres of land. The seller is only willing to sell the entire parcel. Then, if the town uses the property for something other than boating access the Marine Resources fund would have to be reimbursed for that use.

There would be an agreement with the town for any incongruent uses, but the acquisition would continue for the entire parcel. Commissioner Ray White said we will have to be very clear about the property uses. Gordon Myers' explanation of the project is the consensus of the committee.

Per Commissioner Joe Barker, the town has applied for various grants as requested in their conditional award letter dated Jan. 2, 2013. Commissioner Barker said it is the town's full intention to continue to apply for grants.

It was noted that the property is not being purchased by the state of North Carolina. It is being purchased by the town of Vandemere; however, the state would dictate the terms of

use for that property in an agreement. Per Myers, this agreement would be initiated by Wildlife Resources Commission and circulated to Division of Marine Fisheries staff for review and approval. This needs to be completed well before the option to buy expires in September. Wildlife Resources Commission will have a draft agreement distributed for review by June 15, 2013.

The committee understands it will award funds for the purchase of the entire 8.73 acres. There will be conditions of the land use. If for some reason some of the land is used for things other than those in line with the Coastal Recreational Fishing License strategic plan, then they would have to reimburse the Marine Resources Fund at fair market value.

There were no objections to the Vandemere project moving forward as discussed. Committee agreed to table approval until conditions are drafted. The committee plans to meet and review the conditions by June 29, 2013.

COASTAL RECREATIONAL FISHING LICENSE STRATEGIC PLAN

The committee reviewed the revised Coastal Recreational Fishing License Strategic Plan. The committee was advised that material changes in the plan have been highlighted and that the majority of the changes are editorial, except for the addition of law enforcement throughout the document. The plan also includes reference to priority research needs that are necessary for the division to develop fishery management plans and the Coastal Habitat Protection Plan.

Commissioners Barker and White questioned the addition of law enforcement and requested a face-to-face meeting to approve this addition. Daniel explained that a lot of enforcement is funded through commercial license sales but none from Coastal Recreational Fishing License sales. If we incorporate law enforcement in the strategic plan, funds could be used to hire an enforcement liaison to help go out and inform the recreational fishing public about ethical angling, etc. Wildlife Resources Commission still feels this is too large of an issue to vote on during this conference call. Commissioner Joe Shute said he had been approached by recreational anglers wanting additional enforcement, that there is not enough. Per Commissioner Shute there is a misperception that the Coastal Recreational Fishing License funds are going for enforcement.

There were no other questions or exceptions to the strategic plan. Daniel asked if anyone would like to make a motion to approve the plan without law enforcement language. We will readdress including enforcement in the strategic plan next year in a face-to-face meeting.

Motion by Chris Elkins to approve the Coastal Recreational Fishing License Strategic Plan with the removal of law enforcement, seconded by Joe Barker – motion passed unanimously.

REQUEST FOR PROPOSAL

The committee reviewed the revised 2013 Request for Proposals application for funding year 2014. Law enforcement will be removed wherever it occurs in the document.

Motion by Ray White to approve the 2013 Request for Proposals for funding year 2014, seconded by Joe Barker – motion passed unanimously.

OTHER BUSINESS

The Wildlife Resources Commission meeting is being held on Friday, May 17 at the Hampton Inn in Morehead City. Commissioner Barker invited all to attend.

Myers asked Daniel to give a brief overview of House Bill 983 Game Fish Bill. Daniel briefed the joint committee on the public forum which was held on May 5 in Raleigh. Daniel said about 50 people spoke regarding the bill. He said that approximately 75 percent of the speakers were opposed to the bill. The bill is being presented as an economic bill, not an environmental bill.

Meeting adjourned at 3:18 pm.

Cc:	Catherine Blum	Allen Jernigan	Committee Staff
	Dick Brame	Dee Lupton	Members
	Frank Crawley	Nancy Marlette	Marine Patrol Captains
	Louis Daniel	Meredith Wilson	Section Chiefs
	Jess Hawkins	District Managers	