

Atlantic States Marine Fisheries Commission

South Atlantic State/Federal Fisheries Management Board

May 11, 2017
11:15 a.m. – 3:00 p.m.
Alexandria, Virginia

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*J. Estes*) 11:15 a.m.
2. Board Consent 11:15 a.m.
 - Approval of Agenda
 - Approval of Proceedings from February 2017
3. Public Comment 11:20 a.m.
4. 2017 Atlantic Croaker Benchmark Stock Assessment **Final Action** 11:30 a.m.
 - Presentation of Benchmark Stock Assessment Report (*C. McDonough*)
 - Presentation of Peer Review Panel Report (*P. Campfield*)
 - Consider Acceptance of Benchmark Stock Assessment and Peer Review Report for Management Use
 - Consider Management Response to Benchmark Stock Assessment and Peer Review Report (*J. Estes*)
5. Lunch 12:30 p.m.
6. 2017 Spot Benchmark Stock Assessment **Final Action** 1:00 p.m.
 - Presentation of Benchmark Assessment Report (*C. McDonough*)
 - Presentation of Peer Review Panel Report (*P. Campfield*)
 - Consider Acceptance of Benchmark Stock Assessment and Peer Review Report for Management Use
 - Consider Management Response to Benchmark Stock Assessment and Peer Review Report (*J. Estes*)
7. Progress Report on Cobia Draft Fishery Management Plan (*L. Daniel*) 2:00 p.m.
 - Provide Guidance to the Plan Development Team
8. Other Business/Adjourn 3:00 p.m.

The meeting will be held at the Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia 22314; 703.253.8600

MEETING OVERVIEW

South Atlantic State/Federal Fisheries Management Board Meeting
Thursday, February 2, 2017
11:15 a.m. – 3:00 p.m.
Alexandria, Virginia

Chair: Jim Estes (FL) Assumed Chairmanship: 02/16	Technical Committee Chairs: Red Drum: Ryan Jiorle (VA) Atlantic Croaker: Chris McDonough (SC)	Law Enforcement Committee Representative: Capt. Bob Lynn (NC)
Vice Chair: Pat Geer	Advisory Panel Chair: Tom Powers (VA)	Previous Board Meeting: February 2, 2017
Voting Members: NJ, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS, SAFMC (12 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from February 2, 2017

3. Public Comment – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

4. Atlantic Croaker Stock Assessment (11:30 a.m. – 12:30 p.m.) Final Action
Background <ul style="list-style-type: none"> • The 2017 benchmark stock assessment was completed in February (Supplemental Materials) • A peer review was held April 18-21 (Supplemental Materials)
Presentations <ul style="list-style-type: none"> • C. McDonough will present the Stock Assessment Report (Supplemental Materials) • P. Campfield will present the Peer Review Panel Report (Supplemental Materials)
Board actions for consideration at this meeting <ul style="list-style-type: none"> • Consider acceptance of the Stock Assessment and Peer Review Report for management use.

5. Lunch

6. Spot Stock Assessment (1:00 – 2:00 p.m.) Final Action
Background <ul style="list-style-type: none"> • The 2017 benchmark stock assessment was completed in February (Supplemental Materials)

- A peer review was held April 18-21 (**Supplemental Materials**)

Presentations

- C. McDonough will present the Stock Assessment Report (**Supplemental Materials**)
- P. Campfield will present the Peer Review Panel Report (**Supplemental Materials**)

Board actions for consideration at this meeting

- Consider acceptance of the Stock Assessment and Peer Review Report for management use.

7. Progress Report on Cobia Draft Fishery Management Plan (FMP) (2:00 – 3:00 p.m.)

Background

- The Plan Development Team (PDT) began constructing a Draft FMP for cobia to complement the federal FMP in February, 2017.
- The Board initiated a Working Group in February, 2017, that is investigating potential options for allocation.
- The PDT and Working Group seek guidance from the Board on data selection and usage issues that can impact options for the Draft FMP.
- It is expected that the Draft FMP will be completed and presented for Board approval for public comment in August, 2017.

Presentations

- L. Daniel will present an update on the development of the Draft FMP and topics requiring Board input (**Meeting Materials**)

8. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
SOUTH ATLANTIC STATE/FEDERAL FISHERIES MANAGEMENT BOARD

The Westin Alexandria
Alexandria, Virginia
February 2, 2017

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Adjournment 29

INDEX OF MOTIONS

1. **Approval of Agenda** by Consent (Page 1).
2. **Approval of Proceedings of October 2016** by consent (Page 1).
3. **Move to add Ms. Deb Lambert to the Plan Development Team** (Page 20). Motion by Dr. McGovern; second by Dr. Laney. Motion passes without objection Motion passes unanimously (Page 20).
4. **Main Motion**
Motion to Postpone brought up and the conditions therein: Motion to postpone the approval of the stock assessment and peer review for management advice until the following tasks can be completed by the Technical Committee and Stock assessment Committee:
 - Evaluate if current biological reference point types and values are appropriate for red drum, given the species life history.
 - Investigate the feasibility of an F-based reference point for juvenile red drum.
 - Evaluate how red drum life history and fishery management measures affect the validity of age-based models.
 - Evaluate whether the South region continuity run of the statistical catch-at-age model can be made informative for management; and if yes, complete a continuity run.
 - Evaluate if a North region continuity run of the statistical catch at age model would be informative for management purposes; and if yes, complete a continuity run.
 - Evaluate tag return rates for each region and determine if tag return data should be incorporated into a new run of the SS3 model.

Motion made by Mr. Boyles and seconded by Ms. Fegley (Page 27).
5. **Motion to Substitute**
Move to substitute to accept the red drum stock assessment as presented today for management use (Page 27). Motion by Robert Boyles; second by Pat Geer. Motion carried and becomes the main motion (Page 27).
Main Motion
Move to accept the red drum stock assessment as presented today for management use. Motion carried (Page 32).
6. **Move to approve the 2016 Fishery Management Plan Review for Spot, and approve the de minimis status for Georgia** (Page 29). Motion by Rob O'Reilly; second by Pat Geer. Motion carried (Page 29).
7. **Motion to adjourn by Consent** (Page 29).

ATTENDANCE

BOARD MEMBERS

John Clark, DE, proxy for R. Miller (GA)	Robert Boyles, SC (AA)
Rachel Dean, MD (GA)	Malcolm Rhodes, SC (GA)
Craig Pugh, MD, proxy for Rep. Carson (LA)	Patrick Geer, GA, proxy for Rep. Nimmer (LA)
Russ Allen, NJ, proxy for D. Chanda (AA)	Kathy Knowlton, GA, proxy for S. Woodward (AA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Jim Estes, FL, proxy for J. McCawley (AA)
Lynn Fegley, MD, proxy for D. Blazer (AA)	Martin Gary, PRFC
Rob O'Reilly, VA, proxy for J. Bull (AA)	Wilson Laney, USFWS
David Bush, NC, proxy for Rep. Steinburg (LA)	John Carmichael, SAFMC
Michelle Duval, NC, proxy for B. Davis (AA)	

(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)

Ex-Officio Members

Angela Giuliano, Red Drum SAS Chair

Staff

Toni Kerns	Mike Schmidtke
Robert Beal	Louis Daniel
Pat Campfield	Jeff Kipp

Guests

Lynn Fegley, MD DNR	Jeff Deem, VMRC
Jack McGovern, NOAA	Jonathan French, Falls Church, VA
Jack Travelstead, CCA	

The South Atlantic State/Federal Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, February 2, 2017, and was called to order at 1:19 o'clock p.m. by Chairman Jim Estes.

CALL TO ORDER

CHAIRMAN JIM ESTES: I would like to open up the South Atlantic State/Federal Fisheries Management Board. My name is Jim Estes; I'm the Administrative Proxy from the state of Florida, and I'll be facilitating this meeting today.

APPROVAL OF AGENDA

CHAIRMAN ESTES: You all should have received an agenda. Are there any suggested changes to the agenda? Seeing none; are there any objections to approving the agenda? Seeing none; the agenda is approved by consent.

APPROVAL OF PROCEEDINGS

CHAIRMAN ESTES: You also should have received proceedings from our October meeting. Are there any suggested edits or changes to those proceedings? Is there any objection to approving those proceedings? Seeing none; they are approved by consent.

PUBLIC COMMENT

CHAIRMAN ESTES: We don't have anyone right now signed up for public comment. Is there anybody in the audience that would like to make public comment, although there are not that many people out there?

Seeing none; we'll go on to Item 4. What we're going to do here is we're going to have, similar to what we did in the menhaden board meeting last night, although I hope it's not going to take near as long. We're going to talk a little bit about cobia and have a presentation by Dr. Daniel. Then we're going to go and try to give some advice to the Plan Development Team. Before we do that maybe we can talk about, we had a recent closure cobia fishery; and maybe

we could have Jack talk about that for just a minute.

RECENT CLOSURE OF COBIA FISHERY

DR. JACK McGOVERN: As you know on January 24th, we closed federal waters to recreational harvest of cobia. The reason why we closed federal waters is last year the recreational annual catch limit of 630,000 pounds was exceeded. Landings were more than double the recreational ACL. We have an accountability measure that if the recreational ACL is exceeded then the length of the following fishing season is shortened; to achieve the annual catch target, which is 500,000 pounds.

Now I need to make it clear that state and federal landings count towards the ACL; and in this case most of the cobia landings occur in state waters, about 87 percent. Based on current state regulations, and there are a couple of states that don't have the same regulations as the federal regulations.

We expected that the total ACL for 2017, which is 620,000 pounds, would be met in just state waters alone. That meant that there is not enough quota left over for federal water. For that reason we closed harvest to recreational harvest of cobia in federal waters. Now if the states were to adopt more conservative management measures, we could reopen federal waters for cobia. That is a short explanation of why we closed recreational harvest in federal waters.

CHAIRMAN ESTES: Yes, Malcolm.

DR. MALCOLM RHODES: Just to follow up on that. If this year with the federal waters being closed Georgia, South Carolina, and further up north will be closed. Last year we had a June 24th closure in federal waters; and obviously those states didn't catch any more. But we still had 130 or 140 percent of the total allowable catch caught in the fourth wave, so July and August. If that were to occur, so that was all state waters, if we had that same scenario play

out this year, would we be faced with the same coastwide closure again next year?

CHAIRMAN ESTES: Yes sir, go ahead.

DR. McGOVERN: If we exceed the annual catch limit this year of 620,000 pounds in state and federal waters, the accountability measure would be triggered once again. There could be closure of federal waters; but it depends. It depends on what the state regulations are, and so that remains to be seen.

CHAIRMAN ESTES: I think that highlights the importance of what we're doing; at least what we're starting today maybe. I know that probably in the state of Georgia and the state of South Carolina, they don't have many fish caught in state waters; and so their fishery is going to be essentially closed, unless something else happens.

As we go through talking about cobia. I think we're going to do this in two steps. I think Dr. Daniel is going to talk about the public comment that we received, and then I think we're going to go through one by one the issues; so that we can provide some guidance to the PDT. When we do that I would like to do that without lots of parliamentary procedure.

I would like to probably get some consent on the things that we should add in there, so just be thinking about that. Also be thinking about the time. If we start going down a rabbit hole, I'm probably going to assign some workgroups, some work outside the meeting. With that Dr. Daniel, if you would like to start.

PUBLIC COMMENT SUMMARY OF THE DRAFT COBIA PUBLIC INFORMATION DOCUMENT

DR. LOUIS B. DANIEL: Hello South Atlantic Board. I am Louis Daniel; I am the Plan Coordinator for the cobia fishery management plan. What I would like to do is briefly go through the public comment summary that we received from a series of meetings and written comments received on the PID for cobia.

REVIEW PUBLIC COMMENT

DR. DANIEL: We held five public meetings from Virginia to Florida; two in North Carolina with about 60 participants that attended the meetings and 16 written comments. I do want to let you know that all of the written comments are contained in your briefing book; so that if you would like to review those at your leisure. I am not going to go over individual comments.

To try to summarize some of this and move through it as quickly as I can, two specific issues dominated concerns expressed related to the cobia management. The first issue was the reliability and representative nature of the MRIP landing estimates. This issue was brought up at virtually all of the public meetings; and was discussed at the Advisory Panel meeting as well.

The other primary issue was related to the genetics analysis used to distinguish between Gulf and Atlantic migratory group cobia. We can get into that in more detail if you would like, but that could be a lengthy discussion. Suffice it to say that the information currently being used in the South Atlantic Plan is considered best available. What I would like to do is go through the various issues that we received public comment on; and go through those. First on the nature of Complementary Management with the Council, the public meetings and written comments were essentially split on developing a complementary plan.

Those that were opposed were primarily concerned with the stock boundary, believing that Florida should be included; and the intent and purpose there being that it would result in a large quota for the entire east coast. That seemed to be the primary opposition to a complementary plan. They also were concerned that the ASMFC would have no ability to change the catch limits. That is dependent completely on the council process.

The supporters focused on providing states flexibility to manage their specific fisheries. The comments related to what federal management measures should be required were not provided. They may have been had this occurred before the public meetings; the closure. But for our meetings we didn't receive a lot of comment back on that issue.

States to be included in the management unit can be inferred by concerns expressed with the genetic data. As I said, the South Atlantic currently manages the Atlantic Migratory Group Cobia as the Georgia/Florida line to New York; and that seems to be based on the best available information, whereas those that don't concur with the current genetic analysis would like to see that management unit include the state of Florida.

Issue 2, Management Goals and Objectives; there were specific comments supporting long-term sustainability. Those in support of ASMFC management liked the flexibility that it provides the states; and comments supported a strategy to manage cobia as primarily a recreational fishery. But there was still strong interest in maintaining the commercial bycatch fishery as it exists.

There was also support for improving data collection. There seemed to be a lot of interest, particularly in the South Carolina meeting on all the data that's being collected; and a lot of interest and excitement about the tagging workshops and the tagging work that's being done, and the information that's being collected.

One clear theme was the long-term management regime, so that they don't have these annual changes in the fishery; especially in the for-hire charter sector, which this fishery is important to. These closures can have significant impacts on charters that have booked trips prior to a closure. Issue 3; Discuss Coastwide, Regional or State-by-State Management.

Again, most of the commenter's supported state-by-state allocation whether they supported an ASMFC plan or not. There was concern with the coastwide quota and the closure impacts; particularly those on the tail end of the migratory range. On Issue 4, the Recreational Management Tools, there was general support for size and bag limits.

There was a lot of discussion about a lot of different types of options, such as circle hooks, slot limits, prohibiting gaffs and spears and bang sticks. Making specific allowances for the pier fishery, those are issues that if you would like to develop those further we can do that. There was general interest in addressing catches north of Virginia through some sort of de minimis approach. There was a lot of discussion about this year's landings in Maryland. They don't seem to have been that high based on the landings information, but that did raise some red flags to the public. Commercial Management Tools, there were very few specific commercial comments. Most agreed to maintain the current bycatch allowance; and one specific suggestion from one commercial person was that they would like to see all the landings be reported in whole weight, so that there are not differences. Some are landed in whole weight, some are landed in gutted weight, and that creates an issue for them.

ADVISORY PANEL REPORT

DR. DANIEL: Our Multispecies Advisory Panel met; had a great meeting with that group. I want to go through and just go through the general consensus statements that they made; for your information. On Issue 1 they supported ASMFC development of a complementary FMP for cobia. These were all by consensus.

For Issue 2, they expressed specific need for a long-term management regime conservatively developed, so as to avoid and minimize annual mid-season changes or closures. They specifically support improved information gathering to reduce uncertainty associated with

current landing estimates; and impart more confidence in the assessment process.

They also recommend the development of specific biological sampling requirements in the plan. In Issue 3, they had no specific comments. They indicated they would like to have an opportunity to provide comments on specific measures as the plan is developed. Likewise in Issue 4 and 5, they were waiting. But they did want to indicate to the board that if you are thinking circle hooks, think offset circle hooks, as opposed to the non-offset circle hooks if you're going to go in that direction.

They also brought up a concern about informing stakeholders of the mercury issues that have arisen with larger cobia. Those were the general comments, the public comments received in written and oral form; as well as the Advisory Panel discussion. Real quickly I wanted to run through the current South Atlantic provisions; to give you a way to see where we are at the moment with the one fish recreational bag limit, a 36 inch size limit.

The commercial harvest is limited to two fish per person or six per vessel. As Jack indicated the federal waters closure effective January 24, 2017. Most of the states will be developing or are developing management measures to possibly reduce harvest of cobia this year when their fishery begins; typically for us sometime in March or April probably in the southern part of the state.

That is kind of where we are with that Mr. Chairman, overall public comment summary, mixed opinion on development of a complementary plan, support presumes acceptance of the current genetic analysis and stock boundaries developed by the Council. Also recognize that further investigations into cobia genetics and migratory patterns are ongoing and may change. Any questions, I will be glad to take them.

CHAIRMAN ESTES: Questions for Dr. Daniel, hold your powder if you're starting to make

some suggestions. Let's do the questions first if we could. Michelle.

DR. MICHELLE DUVAL: Just to add to what Dr. Daniel provided. Just to let folks know the other provision in Framework Amendment 4 that the South Atlantic Council approved in September of last year was a six fish vessel limit; our recreational sector as well. One per person up to six per vessel, and I guess I would look to Dr. McGovern; but I believe that the proposed rule for that amendment is in this regulatory limbo right now.

CHAIRMAN ESTES: Jack.

DR. MCGOVERN: Dr. Duval is correct.

CHAIRMAN ESTES: Robert.

MR. ROBERT BOYLES: Dr. Daniel, thank you for that great presentation. Talk to me a little bit about the mercury issue. We've got a lot of experience with aquaculture of cobia; a very fast growing species. Tell me a little bit more about some of the concerns about mercury, please.

DR. DANIEL: Yes sir, that was a concern that was raised by one of the AP members that he had read that there was a concern with mercury in cobia. I have not personally looked into that issue. I too am familiar, especially with the king mackerel fishery, when that arose eight, ten years ago; and the concerns that were raised there. I have not ever seen cobia listed on the mix, but I think if we can look into it and address that for the Advisors and for the folks that raised that. But I'm not aware of them being a concern as a result of their longevity. I have the same question.

CHAIRMAN ESTES: Wilson.

DR. WILSON LANEY: Thank you, Louis for the presentation. Did we have any updated insight as to when the ongoing genetic studies are going to be completed and we would have new genetic information?

DR. DANIEL: There was recently a workshop at VIMS, Virginia Institute of Marine Science brought together a lot of folks that are looking at different conventional tagging, satellite tagging, collecting samples for genetic research; to try to address some of the questions, concerns that linger, in regard to the genetic analysis that's been done separating out the two different stocks.

There has been the expectation that the data collections are going to occur this spring. They are still working on some of those, Wilson. Those fish haven't shown up yet. The hope is to get some samples from the various folks that have agreed to take them this year, get those to the investigators, and get those analyzed. We're looking at probably a year and a half before that data is prepared and analyzed and ready for primetime.

That sort of fits in with the stock assessment schedule at this particular moment; to where we would have the new genetic analysis and the new stock assessment going on at about the same time, probably looking at a year and a half from now. That was the latest that I received, so there may be some updates to that. But as far as I know that is up-to-date.

CHAIRMAN ESTES: Any more questions about the comments that we received? If not, do we have a series of slides that we can go through each one of these issues?

DR. DANIEL: Yes sir, I am ready to take you through it when you're ready.

CHAIRMAN ESTES: Let's roll.

**PROVIDE GUIDANCE TO THE
PLAN DEVELOPMENT TEAM FOR THE
DRAFT COBIA FMP**

DR. DANIEL: We're going to go through these. What we've done is put together a series of slides that look similar to the management issues contained in the PID; to try to give you an opportunity to provide input and guidance to

the staff, on how you would like to move forward with the plan. For Issue 1, Complementary Management with the Councils. The primary question I guess on the table is does the Commission want to continue development of a complementary FMP to the South Atlantic's Coastal Migratory Pelagics FMP?

CHAIRMAN ESTES: Yes, Robert.

MR. BOYLES: Yes.

CHAIRMAN ESTES: Yes, Michelle.

DR. DUVAL: I agree with Robert.

CHAIRMAN ESTES: Yes, Robert.

MR. BOYLES: Do you need a motion, Mr. Chairman? I'm going off your comment that said you would prefer to just have the conversation. I'm happy to make that in the form of a motion if you would like.

CHAIRMAN ESTES: I don't think that we need it, as long as we can make sure that we include that as an option in the document. Is that correct, Louis?

DR. DANIEL: Yes sir, if this is the direction of the Board we will begin developing the complementary FMP with the South Atlantic.

CHAIRMAN ESTES: Okay and I think we had already made a motion about that some time ago, we're just redoing it right now I think, so if you want to go on to the next issue.

DR. DANIEL: Sure, the next issue is: What Federal Management Measures Should Be Required in the Commission Plan? We have some sub-bullets there on should the Commission follow the federal quotas and should the Commission close, state waters close when the ACL is met?

CHAIRMAN ESTES: Reaction to that Robert.

MR. BOYLES: Yes and Yes.

CHAIRMAN ESTES: Any other reaction?
Michelle.

DR. DUVAL: I see the Council's plan as being sort of an umbrella that kind of sets a ceiling; in terms of regulations. I mean I think we did hear some different things at public comment with regard to specifics of what types of gears might or might not be allowed. I think those are questions better left to the states.

Should the Commission follow the federal quotas, yes with a complementary plan? I would agree I guess in terms of does the Commission close state waters when the ACL is met. I think what we're trying to do here is get something that is flexible to allow for the fact that you have some states within the region whereby their landings are occurring mostly in federal waters; and you have other states whereby the majority of harvest is occurring in state waters. I know for the weakfish plan that we have, the Commission requests the National Marine Fisheries Service to implement some complementary regulations in federal waters.

I'm hoping that might be the kind of approach that we could take here. The actions taken by the South Atlantic Council were to try to put some management measures in place that would not so severely impact the fishing public; particularly in regards to the accountability measures down the road. But I feel like if we could take that similar type of weakfish approach that could help out states like Georgia and South Carolina that the Council would be certainly amendable to that.

Because I recognize the significant economic impact that states to the south of North Carolina are feeling with the federal waters closure. That is a long winded way of saying; I'm hoping that we can implement something similar in that regard that would not necessarily require a closure of state waters when federal waters are closed.

I guess I'm thinking about sort of the red snapper situation in the Gulf of Mexico, where you have states that are implementing state waters measures. The federal government looks at those measures and makes a calculation as to how long federal waters can then stay open. I think we're trying to find a way to accommodate everybody here.

CHAIRMAN ESTES: Okay let me see if I understand. I think what you're saying, as far as the closing when the ACL is met; you want to see some flexibility in this plan, or some options about some flexibility. Is that what I'm hearing?

DR. DUVAL: In a nutshell, yes.

CHAIRMAN ESTES: Okay Rob and then Robert.

MR. ROB O'REILLY: Thank you I'll say, Mr. Chairman; and then from now on I'll be less formal. But I just wonder. Michelle's reference of course goes back to 1995 when the infamous Judge Doumar prompted that situation of complementary management with the Feds. But what I'm wondering is, since I'm not tied to the South Atlantic Council very closely or to SERO, do we know what they want?

What do they want, how do they want to go forward here? Three meetings ago a decision was made for complementary; so I understand that. But does that mean that there will just be the ACLs and the accountability measures and ASMFC is going to be taking care of other aspects; not quite like when red drum was turned over to the ASMFC.

Because we don't have the counselor or NMFS setting any type of quotas for red drum or anything like that. I have not attended this board meeting for a little while. But I have gone down to the South Atlantic Council a few times, and I just wonder where that emphasis is on the other end of this. Maybe Louis knows or Michelle knows.

DR. DUVAL: I'm sorry, Rob. Could you repeat the last part of the question? I was side-barring with John Carmichael here.

MR. O'REILLY: That's a worthy sidebar. I guess I'm wondering. We're talking about the ASMFC situation here, and we're going to unveil that and all the parameters. What is SERO saying and what is the South Atlantic Council saying; as far as what their expectations are of complementary management, because I do not know that.

DR. DUVAL: That's what started us down this road was a request from the Council that the ASMFC consider some form of complementary of joint management for cobia; given that the majority of the harvest is occurring within state waters.

I think speaking on behalf of the Council; our interest is in just setting some basic parameters that the states could then have the flexibility within that to manage their state waters fisheries. We don't want to try to dictate that. Obviously we're in a bit of a difficult situation for 2017, trying to find some management structure that is going to be flexible enough that the states can operate within.

MR. BOYLES: Reference is made to 2016 fishing year. The fishery closed on June the 24th. Can somebody state for me the record please, the catch of cobia in Waves 4. The latest data we've got, Waves 4 and 5, and potentially 6.

CHAIRMAN ESTES: Dr. Daniel, do you have that? You don't have it memorized do you?

DR. DANIEL: If I can get to it before John does.

MR. JOHN CARMICHAEL: I have the table if you would like me to say. I had numbers here through Wave 4 for 2016; it was 830,000 pounds landed in Wave 4 in North Carolina, Virginia, and Maryland.

CHAIRMAN ESTES: Robert, follow up and then Rob and then Lynn.

MR. BOYLES: I think some of the nuances here are challenging for all of us. But I think when I look at the issue here, particularly with respect to the 2017 closure, it seems clear to me that we have got to find a way to constrain the catch. Recognizing that it is, I guess I would call it a multi-modal fishery; some of our fisheries exist primarily in federal waters, some of us in state waters.

I just think it is very, very important that we recognize here the objective is to constrain the catch while maximizing access. That is my interest. That is why I answered those questions so emphatically. I think we should follow the federal quota. I think we should have some provisions to manage that quota in such a way that we don't see these overages continue to pile up year after year after year.

My anglers, quite frankly, are asking. We closed in June as we do, as a matter of policy and statute, South Carolina state waters; and yet we had tremendous catches Wave 4, and I understand Wave 5 as well; Wave 6 data is still outstanding. I just think it is important that we recognize what we are trying to accomplish here.

MR. O'REILLY: Before I talk about what Robert just said, I would like to say that Mike Larkin sent us the Virginia data alone, so 935,997. Wave 4 was really powerful; it was probably two-thirds of the total. It should be obvious that being in Virginia wondering what the heck is going on two years in a row, and that there is a bit of discomfort on my part that has lingered for quite a while now when I see that Georgia is 100 percent in the federal waters, and South Carolina the last couple years have moved more towards that.

North Carolina has a history of up and down with the federal waters, and Virginia in the last few years is strictly state waters. Having said that and sort of wishful thinking that it could be improved quickly. We do need to do something about the catch. That has to be very concentrated, because Michelle, at the last

South Atlantic Council meeting I attended, stated that she's not sure why the Virginia harvest was so high; because the measures that we had were more conservative than what were taken in North Carolina.

We have to look at that again. That is going to be a public hearing on March 28th, and my hope is that Commission in Virginia can be convinced that unlike some of the public when they saw the federal waters closure, they thought, oh the states get to do what they want. But I think our Commission will be advised quite differently; and that Wave 4 is powerful.

MS. LYNN FEGLEY: Yes, I just want to go on the record to say that we agree that the Commission should follow the federal quotas. But on the topic of closing state waters when the ACL is met, and you know part of this may get into however this thing is allocated, but as a state that sits on the northern fringe of this thing, it does concern me a little bit about access for the northerly anglers and anglers in the Bay.

We don't see a lot of these fish, but when we see them they're important. I would hate to find ourselves in the situation where all state waters close and these northern states, Maryland and north haven't even had a chance to have access to the fish. I don't know, along the lines of what Michelle was saying, if there is some further development we could do to how we manage closing and how we manage the ACL. I think that would be worthwhile.

CHAIRMAN ESTES: We need to move on here, so Dr. Daniel did you get enough gist there from the discussion to provide some options?

DR. DANIEL: I believe I did, so thank you.

CHAIRMAN ESTES: If you would like to continue.

DR. DANIEL: Where we're working with the Council staff and folks to develop the issues.

The next is the states being involved in the management unit. Again, should the Plan provide the flexibility to make changes to the management stock units to reflect changes in the science? This was an issue that was viewed as favorable by most folks.

Recognizing that if there is a change in the science that we would be flexible enough to make those changes in the Plan; and just making sure that the Board is in agreement that the current management unit that we'll be operating under is the Georgia/Florida line to New York boundary.

CHAIRMAN ESTES: Do we have agreement on that? Anyone disagree with that right now? Okay we can go forward.

DR. DANIEL: Management Issue 2 is a lot of just providing the objectives for the plan. But we have a series of bullets here that I'll review, as to make certain that this is your intent and purpose in developing this plan; to achieve long-term sustainability, to strive for consistent coastwide measures while allowing flexibility for alternative strategies, reach the FMP objectives, sustainable fisheries, maximize cost effectiveness, and long term management regime to minimize or eliminate annual modifications to management.

Some of those you heard repeated by the Advisors and the public, and those are their desires for the management goals and objectives. I would ask if those are acceptable to the board or if there are others that you would like to add or modify.

CHAIRMAN ESTES: Mr. Boyles.

MR. BOYLES: Dr. Daniel, I think those are good. I would suggest from my perspective, recognizing the rather unique temporal nature of this fishery and that fish show up down south before they show up further north. If we can do it, I think we should have something in there to provide equitable access.

I want to be very, very clear. You know it is not our interest, not my interest in trying to hog the fish. I think what I would like to be able to provide is equitable access to the resource for the anglers in the southern range, recognizing that this appears to be a growing fishery; certainly a growing interest in the fishery. I would like to see that somehow captured in the objective.

DR. DANIEL: Yes sir.

CHAIRMAN ESTES: Michelle.

DR. DUVAL: I agree with Robert a hundred percent.

CHAIRMAN ESTES: If we add that idea in here, is there anything up here on the board that anybody disagrees with? Malcolm.

DR. RHODES: Isn't that what we'll be facing with Management Issue 3, where we're doing regional, seasonal state-by-state allocation? I think we'll be pouring over that time after time in the next issue. I think this is great, trying to establish what we want to do. In the next one we'll be looking how we establish that ACL, or how we utilize the ACL; if I'm reading the document correctly.

CHAIRMAN ESTES: Yes, I think you're correct.

MR. O'REILLY: About the flexibility. At some point I would suppose that that would be addressed on how it can be flexible. In other words, there is not a framework situation, but there needs to be something almost like an in-season, but not quite adjustment to accomplish the variability in the movements of this stock.

I don't know how that would be, but at some point that needs to be talked about, because you don't want to wait until the next year and then have to go through a process to make a change. You want that change to be already part of the plan early. Does that make a little sense?

CHAIRMAN ESTES: Yes, I'm assuming that we'll get into those options, Toni?

MS. TONI KERNS: I guess I just have a question for the Board. Bullet Number 2 is Strive for Consistent Coastwide Measures While Allowing for Flexibility for Alternative Strategies. But what I'm hearing you all tell me is that the fish move up the coast at a different time period, and that you're getting to those fish in a different time period, and that you're wanting flexibility to have different regulations. I just want to make sure that it is the intention to really, truly strive for consistent coastwide measures. If it's not, then maybe that should not be a goal or objective of the plan.

CHAIRMAN ESTES: Robert and then Pat.

MR. BOYLES: Toni, I'm not sure they move up and down the coast. I think they arrive in various locations at different times. I think what my interest is in, if we had a magic wand, South Carolina has been somewhere 10, 12 percent of the total coastwide catch. I would love to try to say make a play that we could use more of that.

But I think if we can find a way to sustain this resource; recognizing the changing nature that some fisheries are being caught in state waters, some in federal waters. I mean my interest is, how do we share the pie and how do we do it equitably? "Consistency is the last refuge of the unimaginative," said Oscar Wilde. I'm not sure I'm as interested in consistency as I am in access.

MS. KERNS: Robert, I wasn't asking the question to add the goal that you were asking for. I more just wanted to know if we are truly striving for consistent coastwide measures; because it's a goal and objective of the plan right now. If that's not what the Board is trying to do, should we be taking that out to the public? As the PDT develops the FMP, they'll be using that in these goals and objectives to help them craft the measures; and so just trying to

provide as much clear guidance to them as possible.

CHAIRMAN ESTES: Let me go to Pat first, and then let me try to summarize or make a suggestion.

MR. PAT GEER: My thought on the consistent coastwide measures would be things like, and correct me if I'm wrong, bag limits, vessel and size limits as well and maybe as far as legal gears as well. I think to me that it is kind of important that we all have similar measures. Those are the consistent measures we're looking at.

CHAIRMAN ESTES: I think what I hear is I think that there are some things that are important but the consistency sounds like it may not be as important as some things. What it says now is that we're going to strive for consistent coastwide measures. It doesn't mean that we're going to necessarily achieve them. Is it all right how we have it now or do we want to change it?

MR. O'REILLY: I guess a lot of it depends on, we're going to be controlling landings right on a state-specific basis, so it may not be an issue. Once the pie that Robert is talking about, however that looks at its inception is one thing. What's more important is the ability to make sure that you have the flexibility; which is in here as part of that management scenario, because things will change. You have to adapt to that. I was talking about that more than anything else, because it does look as if at least from the start of this in 2018 that everyone will know through process of arbitration among the states, what their share of that pie is going to be. Then it is important after that to make sure that there can be adjustments; and that the adjustments don't have to take a year or two years.

MS. KATHY KNOWLTON: I think you might be able to get through this one by changing the wording to say, strive for flexible coastwide

measures, thus allowing for alternative strategies to reach the FMP objectives.

CHAIRMAN ESTES: Does anybody have a problem with that? Okay seeing none; that is enough direction I think, Louis on that Issue 2.

DR. DANIEL: Can you say that again?

MS. KNOWLTON: Sure. Strive for flexible coastwide measures, thus allowing for alternative strategies.

DR. DANIEL: Thank you.

MS. KNOWLTON: You're welcome.

CHAIRMAN ESTES: Okay you're up, if you want to go next.

DR. DANIEL: Next, Management Issue 3 is the coastwide, regional or state-by-state management options. Some of the questions could be should there be consistent commercial and recreational management? Should that management be coastwide, regional, state-by-state?

Are there regional differences in the fishery and/or resource that need to be considered when implementing management measures? I'll stop there. You've heard a lot of different things about regional management. There may also be an option for state-by-state; we'll get into that in detail. Can we pare this down, or do we want a whole big long suite of different options to take out for consideration?

MR. BOYLES: Just on the commercials and recreational, I'll tell you by statutes South Carolina declared cobia a game fish in South Carolina state waters several years ago. Just as long as the board is clear on that. There is no lawful take of cobia in the commercial fishery in South Carolina state waters. Our General Assembly made that decision several years ago, so I think it is important for us to recognize that the state of South Carolina looks at that fishery a little differently than perhaps it is elsewhere.

CHAIRMAN ESTES: Do we want to narrow this down? We have coastwide, regional or state-by-state. What's your pleasure? Rob.

MR. O'REILLY: Pleasure is state-by-state, but looking at the consistent aspect, you know size limit has been there, possession limits have not I don't think, compared to other states; so that is something to work on. Then since we're facing a second year of exceeding that ACL, there may be even more involved measures that take place on the commercial than we thought two years ago. I think the state should handle that part of it. It is similar, as far as how you look at that pie. I'm going to use that again. But we'll wait and see what others think.

DR. DUVAL: I would like to see flexible state-by-state management with regard to seasons and vessel limits, so that within each state there is opportunity for equitable access amongst the recreational sector, and allowing that for each state. In terms of commercial measures, I think what we've heard from the public is they want to see this managed as primarily a recreational fishery, optimizing recreational access; and so I would think that where there might be able to be some coastwide consistency would be in the commercial measures.

The Council took action in September to take just the existing two fish per person possession limit, and cap it at a maximum of six fish per vessel. I might respectfully suggest that something like that could be included as part of the commercial measures. I know that's lower down on the agenda, but I think flexibility on state-by-state, seasons, vessel limits to allow for equitable access.

CHAIRMAN ESTES: Okay, Lynn.

MS. FEGLEY: I think from our perspective state-by-state would be preferred. Regional would go next; again because of issues of access. Also a question here is whether or not there is a provision here that would allow for the idea of conservation equivalency by a state. Again, the cobia that we see when we do in Chesapeake

Bay tend to be of a smaller size; I just wanted to know if we would be able to include some sort of provision for developing conservationally equivalent management measures.

CHAIRMAN ESTES: First Rob.

MR. O'REILLY: I think this might end up being a mixture, and we don't have to decide what that looks like today. But I can see the size limit as being consistent. Again, just speaking about Virginia quickly, so we have really one situation, we have a commercial hook and line fishery; the licenses are limited and it's in the last four or five years 86 percent of the harvest.

Even though there is a provision that any commercial registered fishermen could have two cobias. It does not amount to a whole lot, it is one fishery the commercial hook and line fishery, and they currently have the ability to have six fish. We'll have to talk about that a little bit more, I think, and decide which measures could be uniform or coastwide, and which measures couldn't.

But again I think we're going to be down to maybe talking about the performance of the commercial fishery against the ACL, or maybe there needs to be something there as well; even though the recreational fishery is the large problem right now. The commercial fishery is a problem in a smaller way.

CHAIRMAN ESTES: Okay to move us forward a little bit let me see. I think what I'm hearing is that it depends. It depends on how you look at it, and then we have this issue about the conservation equivalency. Do we need more discussion about that? Michelle.

DR. DUVAL: I would like to see a provision for conservation equivalency. We have that in almost all of our plans. I think that is going to be necessary for this plan.

CHAIRMAN ESTES: Kathy.

MS. KNOWLTON: I would concur. I would look very forward to seeing the options laid out for the conservational equivalency; particularly taking into account the weight for the fish. We've seen a change, in terms of the size of the fish; we've seen a change in the proportion of the state landings, not necessarily being consistent in terms of the proportion of the landings versus the proportion of the weight in numbers of fish and weight of fish. I would like to very much look forward to that.

CHAIRMAN ESTES: Unless there is any disagreement with any of that we can hopefully move forward. Have you got enough direction, Dr. Daniel?

DR. DANIEL: Yes, yes, yes. We'll make it happen. The next bullet would be if regional or state-by-state measures are considered either there would be allocations of the quota for either commercial or recreational. How should allocations be determined, historical, what years, other methods, combination of both historical and some other method? Traditionally we've done a combination of methods to try to come up with as many allocation options as we can come up with.

There have been instances in the past where we've actually set up a workgroup to try to come up with allocation schemes on species such as American eel. I think some of this is going to take some working out; to try to look and see what the numbers look like as we move forward and see, but if there are specific suggestions on how to possibly look at the allocation as one of the options for consideration; that would helpful information or helpful guidance.

MS. KNOWLTON: I would strongly support a workgroup looking at some of this information, because we are working with a species that for a state such as Georgia, cobia can be a relatively rarely encountered fish harvest by our recreational fishermen particularly in the for-hire fleet. It is a fishery that is prosecuted by and large in federal offshore waters for us.

Having familiarity with the MRIP process and the data themselves, talking about the years through which you limit the allocation; in terms of the history, become exceedingly important when you look at the sample sizes that were collected. That is a really complicated issue, and one that is going to need a lot of familiarity with the data to zone in on the key issues, I think.

MR. O'REILLY: I support that. I think the Menhaden Board could have been well off to have that information the other day. It's a good idea to sort of see what everything looks like and then go through a negotiation, and then bring it forward maybe with a couple of options, and we'll see where it goes.

DR. DUVAL: I concur with that approach. I think there are different ways of looking at state-by-state allocations. I think both North Carolina and Virginia have attempted to provide their commissions with combinations of vessel and season lengths that would constrain harvest to the proportion of catch that has been traditionally caught off those states; versus a straight state-by-state allocation that we think of traditionally. I think we need to explore all of those options and a workgroup is the way to do it.

CHAIRMAN ESTES: Robert, are you volunteering for a workgroup?

CHAIRMAN BOYLES: No sir, I thought you had a good workgroup there in Ms. Knowlton and MR. O'Reilly actually; but I would be happy to help. I was just going to suggest, this sounds a lot like the menhaden discussion. I think a fishery like this one really screams for a weighted approach, because there have been some very dynamic changes in this fishery; in my state as well as in several other states. I think we do need to look at this carefully. Happy to help, Mr. Chairman, however you see fit.

CHAIRMAN ESTES: I would like to see some hands for a potential workgroup. Excuse me,

before we do that; Adam. You're over here and I can't even see you.

MR. ADAM NOWALSKY: Yes I'm going to not suggest myself; due to the limited experience I might have with it. But what I will offer is that on Monday we had our Climate Change Working Group, which I was a part of. One of the major issues we discussed there were allocation issues; recognizing the migratory patterns of the species change.

Ocean warming, salinity, many other factors that we all hope to understand fully one day. But what we did have discussion about is that that was obviously not the right venue to be talking about allocation as an appropriate policy. But we did recommend looking further at other ways to control access to the resource, equitable access over a geographic range.

I think allocation is an easy item to latch on to, it is a, oh it's mine I can do with it as I please sense, but yet I think we can all agree that allocation probably lends itself to the longest discussions and greatest amount of heartburn around this table over the years. Given that you have the opportunity to start from scratch here, essentially. I might encourage at least some time being spent to look at other potential avenues to provide for equitable access besides allocation; given the opportunity you have here.

CHAIRMAN ESTES: I'm not sure what those would be, but I think we should keep that in mind. I think that discussion probably needs to be had by the work group, so who wants to be on the work group? Rob.

MR. O'REILLY: I'm offering Joe Cimino, who is the sitting board member.

CHAIRMAN ESTES: I assume Kathy.

MS. KNOWLTON: Yes I'll not only offer to be on it, but for clarification I am not suggesting that me proxy-ing for Spud that Spud should be on it.

CHAIRMAN ESTES: Robert, did you want to participate?

MR. BOYLES: Yes sir.

CHAIRMAN ESTES: Lynn, Michelle, we're going to have the whole board on it that's good. Okay you want to move forward then, Dr. Daniel. Did we get what we needed?

DR. DANIEL: Certainly. I just would restate that if there are additional issues here we can address those in the work group. The next is Management Issue 4, which is Recreational Management Tools. I think we have a good sense of the various recreational measures that are currently in place for cobia.

A question that I have would be should we consider these various gear restrictions that were brought up at the various public comment periods and public meetings that we held. For example, the circle hook issues, the gaffing issues those types of issues; if that is something that the board would like to consider as an "accept or reject" type of gear type may be the simplest way to do it.

Then are there other management options that should be considered for the recreational fishery. Some of the things that we heard particularly were slot limits with generally a one fish bag limit that kind of gets a little complicated, a slot limit. There was some comment about not allowing fish over a certain size.

Again though that related back to some of the mercury concerns, if they do indeed exist, but also in protecting those largest, oldest females. Then there was also some discussions about spawning season closures; recognizing that certainly the bulk of the fishery occurs during the spawning season when the females are actively spawning, so would that be something to consider adding to the plan or not?

CHAIRMAN ESTES: Dr. Duval first.

DR. DUVAL: I don't have a problem with adding things in for the draft amendment with regard to slot limits or consideration of spawning season closures. I might say that each state might be best suited to make a determination on any spawning closure; if that is a tool they choose to use. With regard to any gear restrictions, I'm pretty loathe to step into that.

I think in terms of requiring it in an ASMFC plan, I think we've also heard concerns about gear restrictions as well; and I know just speaking from experience in other management venues that there is some pretty strongly divided opinions on the use of things like circle hooks. I would recommend at this time no. Certainly the states can choose as to whether or not they might want to implement some conservative gear restrictions.

CHAIRMAN ESTES: Okay before I go into my list, how about this issue about gear restrictions? Are we in agreement? I haven't heard anybody else about what we think about gear restrictions. Do you want to include those or not?

MR. O'REILLY: I think Michelle, you know her indication to look at it on the state level is the way to do it. It might be good to get more information on it. For example on the gaffing, we prohibited gaffing, but as soon as we did there were a lot of fishermen who said that's really not what you want to do; especially when you have as we did not so much a slot limit, but a trophy size where only one of the two vessel limit could be above 50. Spawning season, I was at a meeting where it took a few minutes for anyone to decide when the spawning seasons were. I don't mean that lightly, it's just that they referenced the South Carolina report and then went on from there. It is clear that in a lot of cases we're in the spawning season. Can the state take account of that? I think they can, and I think that's the way it should go. It's gone that way for other species, where I think by and large there could be some provisions for spawning but it would be a drawn out process, and I think the states should handle it.

Overall to get more information yes, I'm not even sure about the circle hooks. I guess that was originally for sharks, but now you see it for lots of different fisheries, and there seems to be sort of contradictory information depending on the species as well. But I can't say I know enough about circle hooks.

CHAIRMAN ESTES: I think what I'm hearing is that maybe some of these restrictions under Bullet Number 2 might be left up to the states and they don't need to be necessarily included in the plan. Is that what I hear? Okay.

DR. DANIEL: Yes I would think that if we just put some information on it in the plan it is going to draw attention. One thing is either to move forward with it or to leave it alone. It sounds like what I'm hearing from the board is leave it alone, the gear modifications, gear restrictions. Is that correct?

CHAIRMAN ESTES: Kathy and then Robert.

MS. KNOWLTON: I would agree that the list as it currently is should remain in the document for discussion. I would like to hear from my constituents their feelings about all the various combinations that are up there.

MR. BOYLES: I agree, Mr. Chairman. When we were looking at constraining out fishery we looked at several options, and it was helpful for us as we talked with our constituents; the difference between a spawning season closure, a slot limit, an increased minimum size and the implications of each one of those tools. I think since this is a document that we would like to get some public feedback on, if it is doable I would like to keep these things in there for the moment.

CHAIRMAN ESTES: Make sure I understand correctly. We would like to keep them in there and develop options around those, or we would like to have a discussion in the document so that our stakeholders can see it, and then we might be able to use that. Which one? Yes sir.

MR. DAVID BUSH: Obviously the fishery is dynamic. There are a lot of different people that fish it different ways. Each one of these types of restrictions affect them all differently. We have some very active folks in the fishery that can provide a lot of insight on that. If we're going to keep it in the document it probably would be good to just say that it is there for educational purposes to be used by states as they see fit.

It would be good, Dr. Daniel and them have said, to understand the implications of those restrictions; but again just letting them know that it is just here for you to understand how this is going to affect you. Then the states, you know as you've heard around me, choose from those options as it works for each state.

CHAIRMAN ESTES: That was much better said than how I said it. Does everybody agree with that; any disagreement? Louis, do you want to move forward then?

DR. DANIEL: Yes sir, moving on. The final is commercial management tools. Again, what are the appropriate commercial measures for cobia? Should the FMP consider again gear restrictions for here? I think we can just carry that forward from the discussion on recreational if that is the will of the board; and the same thing with the other management options.

Currently I think there is a two fish trip limit at 33 inches. I think it is a six fish boat limit. Those would be sort of where we started, and look at various options or surrounding that to move forward with the document; if you want to handle the commercial issues the same way you handled the recreational.

CHAIRMAN ESTES: First Adam and then Michelle.

MR. NOWALSKY: I'm sorry for not speaking up on the last slide. I thought we might have a couple more bullet points. If you would like I had another recreational comment. I can wait

for this discussion and then come back or do it now; what is your preference?

CHAIRMAN ESTES: Let's go backwards first and then we can finish this.

MR. NOWALSKY: There was another bullet point in the PID that talked about recreational data averaging, other mechanism three to five years very high overages, how to deal with that. We sat here for a very, very long time this morning. You are dealing with it with cobia already, and you don't even have the FMP that we're working on here.

New Jersey has very little if any interest in the actual management, due to the low level of harvest that occurs within our state. But I have to say we've got a lot of knowledge with recreational species, and I couldn't vote for anything that I saw history repeating itself in a negative way; with the continued misuse of the data in an unintended way.

To that end I strongly encourage all the members of this board to work in whatever way possible to build in mechanisms for mitigating those recreational harvest estimate limitations; specifically to look at averaging over multiple years, and specifically to not treating them as point estimates in the FMP, but rather as a range incorporating the PSEs as a starting point for discussion.

DR. DUVAL: I am glad Adam brought this up; to that point. This is a discussion that we've had, a very frustrating discussion that we've had at the South Atlantic Council level with regard to the point estimates of harvest and the PSEs around those estimates; and the recognition that the MRIP survey is not designed for these pulse fisheries.

We have had some significant conversation back and forth with folks up at Science and Technology and folks in the MRIP program, regarding some of the methodologies that they have come up with, and I think some of which were applied to I believe the black sea bass

recreational harvest estimates for 2016; whereby you were taking instead of the wave by wave estimate of catch that you were using, an annual estimate of catch applied to an annual estimate of effort.

After the MRIP presentation yesterday, I put a bug in Dr. Van Voorhees ear. This is something that I have requested the South Atlantic Council's SSC look at, because from the council perspective right now on the federal plan we have no in-season management measures. There is no need to have very spiky point estimates of harvest that we are using to track ACLs.

The reason that we're tracking ACLs right now is to determine whether or not an accountability measure needs to be triggered. I absolutely agree with Adam that we need some alternative methods; and that is why I bring this up here, because the MRIP program has come up with those. We have been informed that we can work with our SSC to utilize those methods. That's something I would recommend as the draft amendment is being developed, to work with folks within the MRIP program to try to apply those to estimates of cobia harvest.

CHAIRMAN ESTES: I have a question. Toni, I guess I was going to ask Dr. Daniel, but I think I'll ask Toni. Is that something that we could do?

MS. KERNS: I was side-barring with Bob. I had a question back to Michelle and John Carmichael. I can't answer Michelle's question, because I didn't hear it.

CHAIRMAN ESTES: If you are going to ask your question, I will kind of repeat her question.

MS. KERNS: Okay. As we were talking about data, one of the questions that we have, and maybe it is more specifically to John, but right now the recreational data that is being collected from Virginia south is being treated one way by the Southeast Regional Science

Center. But then everything else that comes in from Maryland north is treated a different way.

In order for us to work with that data we need some consistency on our recreational data. We're needing to see if the Southeast Region or South Atlantic Council can treat those limited northern states data the same way that they treat the southern state's data; in order for us to use that data consistently.

MR. CARMICHAEL: Yes and what you're alluding to is the Southeast has come up with an alternative method of estimating the weight of the catch, because of the scant weight observations that you have for the MRIP species. What they do is have another way of calculating an average weight.

What we've been told is that that is being used for all of the cobia data when they track the cobia ACL. They have access to all of the MRIP data, as anyone else does. They are using that mechanism that they use for all the other data on the Virginia data as well; and the other more northern states data as well, when they calculate the weight, so that they're treating South Atlantic and more northern areas all the same with regard to the MRIP.

But that is a good point and that is something that may need to have some clarification within the document; because it does mean if someone were to say take data taken from the southeast that has had this adjustment apply to it. It may not match data say for a particular state, wave, mode, or year that someone may extract themselves from the MRIP site.

CHAIRMAN ESTES: You good?

MS. KERNS: Yes, because if the states do start to develop their own specific regulations, we will be using that wave-specific-mode information and so it could become problematic down the line on how do you estimate what you think you're going to harvest based on these regulations; if the two don't match up?

EXECUTIVE DIRECTOR ROBERT E. BEAL: Just an aside I guess to John Carmichael. Is the same methodology used to calculate average weight applied to other South Atlantic species, or is it just Spanish mackerel or something else that overlaps ASMFC/South Atlantic Council FMPs, or is this just unique to cobia?

MR. CARMICHAEL: No, what the Southeast Center and the Regional Office are using is used for all of the southeast species. It is used in everything that we're doing and I believe in the Gulf as well. It is a Southeast Center, Southeast Regional Office approach that has been come up with to address the many species that in some cases have no weight observations within a cell, and very scant weight observation; so it is consistent across the board.

They are also working with the MRIP folks to try and have a way to get that approach perhaps even used broader within MRIP; because they really do consider it a better approach than what MRIP has done, which is more simplistic. It doesn't go as complex in terms of the borrowing average weights to fill in all the blanks. They've been working on that for a couple of years now; is my understanding. But there are a lot of things in the fire up there at MRIP. But they would like to see this perhaps be considered to become a standard practice.

CHAIRMAN ESTES: Toni, back to Adam and Michelle's suggestion, and it was about the variability of our MRIP estimates and how we know a species like cobia – and if I misstate what you were saying please correct me when I get done – that we have very spiky estimates if you look at individual waves.

Sometimes the PSEs, I looked at Virginia's data this morning. Sometimes the PSEs are like 50 percent for the whole year. There may be some analytical methods, and I think you said the council staff or SERO is working on some different methods in order to compare these things, or to clump them together.

DR. DUVAL: MRIP staff has come up with these methods. The South Atlantic Council's SSC received a presentation on these various methods in October of 2015. Prior to this, I mean earlier last year, I was conversing with Dr. Richard Merrick and MRIP staff as to who gets to be the decider as to when those methods are applied to MRIP estimates. I think we were under the impression in the South Atlantic that the Fisheries Service was the decider, in terms of when to apply those methods.

But the answer that we have gotten is that the MRIP estimates are the MRIP estimates. Once it's been determined that they are best scientific information available, the councils are free to work with their SSCs to apply these alternative approaches to those estimates for use in management. That is what we would like to do moving forward working with our SSC, is to apply some of those alternative methods to the MRIP estimates for cobia; see what those look like.

CHAIRMAN ESTES: I think I know what we're going to – go ahead.

MS. KERNS: Now I hear your question, Michele, sorry, and Adam alluded to this in sort of what he was discussing about applying averaging and having these different applications to the data; and I think we can build that into the plan. But I would question if the Regional Office still uses the point estimate, then I'm not sure where that gets you in terms of the ACL.

DR. DUVAL: Toni, to that point. That would be the alternative approach. The Council would make the decision that this is with the blessing of the SSC that this is the best scientific method available for tracking cobia harvest against the ACL. Again, the point is that we want to make sure we're not triggering an accountability measure when accountability measure doesn't necessarily need to be triggered; and vice versa.

CHAIRMAN ESTES: Okay are we good? Do you want to continue, Dr. Daniel?

DR. DANIEL: Just to bring up a couple of points that was brought up at the various public meetings. I mean there were significant concerns raised about the MRIP estimates; the small numbers of fish actually observed, leading to the numbers that were led to. I think one of the biggest concerns that were raised was the location of the sampling, the rarity of the samples, and just a lack of confidence in that information at this particular juncture.

Some of the questions that were brought up that I'm sure we're going to hear again, particularly perhaps in South Carolina and Virginia particularly, is an interest in those states to develop some methodology through reporting requirements to try to use in-state reporting as a proxy or in lieu of MRIP estimates.

I explained to them that the MRIP information is going to be the one that is used to track the quotas. But we will hear information, I think from those various states; especially those that are developing catch reporting requirements. There is a great interest in using that census type data as a mechanism to track cobia landings; as opposed to the MRIP landings. That is just an FYI for the Board, Mr. Chairman.

MR. O'REILLY: Yes that is in progress in Virginia, and for cobia, tilefish and striped bass for our trophy season. That has been passed by our commission. That is in effect. We're debating whether it is as sound as we wanted it. But at this time we do have the programs in effect. How it's used, whether it gets limited to use in a stock assessment, or whether it actually can complement, supplant, whatever it takes on the MRIP; that remains to be seen.

One thing Mr. Chairman that you said, the unusual part of 2016 is that the precision was so much better; cut in half essentially from 2015. I guess we all know sample size is very much responsible for that precision; but at the same time in all the years I've never heard anyone sort of look at that aspect as well.

In other words, just because you have a good precision, what really is that telling you about the underlying data? You know as far as did you load up and were samples taken in a limited amount of areas for a species like cobia that helped that as opposed to the year before? There is a lot there and I'm being a little bit of a rabbit, so I apologize; because you said don't do that. But the main thing is the reporting is in progress.

CHAIRMAN ESTES: We are all rabbits I think. Louis, do you want to continue?

DR. DANIEL: Other issues. These were sort of catch-alls that we put towards the end of the document. Should the fishery independent and dependent monitoring be included in the document? That is something that there are unfunded mandates that sometimes create issues and concerns for states.

But should the plan consider some level of de minimis? What I'm hearing and what I've heard around the table is we probably do need to at least consider that in the plan, particularly for the northern area. Again whether or not to include, we could look into the concerns related to the mercury levels in cobia; and then ask if there are any other issues. I would ask if you all are comfortable with that approach and addressing those issues, and then again if there are any issues that the board would like to consider in the plan.

CHAIRMAN ESTES: Reaction, yes sir.

MR. BUSH: I think at this point we can all agree that it's been a contentious road to this point. Again we've had some pretty active and vocal folks that are in the fishery that have addressed some issues that some of those ideas that we have some confidence we may be right against, and some we may be wrong against.

But within this draft FMP, I think it is going to be vital that we have a road map forward addressing some of these issues such as the genetics. What are we looking to do in the

future? I've asked some of the questions about since we've just recently sort of identified this mixing area, has this area been moving?

Is it static? Is it always there? Does it change? Is there a density dependent change between the northern and southern stocks that are right next to each other? But anyway not to get off point, I think that that needs to be sort of laid out as to what future priorities are, and how they would affect the plan in the future; so that folks who depend on this fishery have a better understanding of where we're going with it.

MR. GEER: Just a quick question, Mr. Chairman. What fisheries independent monitoring is going on, on cobia?

DR. DANIEL: I'm not aware of any, Pat. You may be able to glean some information out of some, perhaps this independent gillnet survey data in certain locations. But I mean as far as any directed independent gillnet sampling for cobia I'm not aware of; perhaps the longline survey for red drum may derive some information. But I haven't looked at that. I have no idea what would be out there and available at this particular point in time.

CHAIRMAN ESTES: Robert and then Kathy. Oops, Kathy.

MS. KNOWLTON: Is it okay if I go back and make an additional point about the allocation discussion for the workgroup?

CHAIRMAN ESTES: If it's a really short one that would be great.

MS. KNOWLTON: It is a really short one. Because of the portion of this fishery that is prosecuted and then dependent upon with their customers, the for-hire fishery, I would like to remind the work group that the changes to the methodology in 2012-2013 strongly affected our ability to intercept charter interviews in the field. Having conversation with the SMT staff about possibly looking in to the data and keeping that at the forefront of

their minds, is going to be helpful with the allocation discussions; there is no variance around zero. Even if we start looking at the point estimates and taking Adam's point into consideration with the variance and not clinging too hard to it's my fish; but there is very simply no variance around a zero estimate.

CHAIRMAN ESTES: Let me try to move us along here. I'm going to make a suggestion and if there is disagreement that's fine. I think we should have the fishery dependent information in here. I think we should have the de minimis consideration in here. Does anybody agree with that so far; disagree with that? Okay how about the concerns about mercury? Do we want to include that into this document or not? Robert.

MR. BOYLES: I'm advertising my ignorance. But I was not aware that that was an issue, so this is news to me. I would just as soon if it is not a concern to folks, I would just as soon not; just leave it out. We've got enough challenges in front of us. I mean if there are mercury issues in cobia, there are mercury issues in 800 other species of fish. I think we need to focus where we can.

CHAIRMAN ESTES: Any disagreement with that? Are there any other measures that anybody could suggest? Seeing none; are we finished?

DR. DANIEL: I think that concludes well, there are hands over to your left, Mr. Chairman.

CHAIRMAN ESTES: Yes sir, Wilson.

DR. LANEY: Relative to the mercury question, Robert, and Louis and Michelle may help me remember this. But I know Dana Sackett at NC State did a lot of work under Jim Rice looking at mercury concentrations in pelagic fishes offshore; and I don't remember if she looked at cobia or not. But my only comment would be, if there is some data out there that we could share with the public sure, fine.

But if there isn't anything, I think maybe some of those public comments may have been based on the fact that cobia is another large, top predator and they just do tend to accumulate mercury. As Louis already noted, I think the concerns would be about the same as for king mackerel probably.

DR. McGOVERN: Before I move off cobia, Mr. Chairman, I was wondering if I could make a motion to add somebody to the Plan Development Team.

CHAIRMAN ESTES: Is that appropriate? Yes sir.

DR. McGOVERN: I would like to add Ms. Deb Lambert to the Plan Development Team. If I get a second I could explain rationale.

CHAIRMAN ESTES: Wilson seconds.

DR. McGOVERN: Ms. Lambert, she's worked in the Office of Sustainable Fisheries and Headquarters for 11 years. She has a lot of experience with fisheries management. I've known her for a long time as well. She has a lot of experience with fishery policy issues. I think she would be a good addition to the PDT; and it would help her out too.

CHAIRMAN ESTES: The motion is to move to approve Deb Lambert to the Cobia Plan Development Team. Motion by Dr. McGovern and seconded by Dr. Laney. Is there any discussion needed? Is there any opposition to this? **Seeing none; the motion passes.** Is that all for cobia, sir? Okay let's go on to our next agenda item.

2016 RED DRUM STOCK ASSESSMENT

CHAIRMAN ESTES: We'll try to do this pretty quickly; hopefully quicker than that was. Red Drum Stock Assessment, if you all remember we had the Update Stock Assessment Peer Review presented to the Board last May. The Board had some concerns and questions about the stock assessment, and asked the TC and Stock Assessment Subcommittee to go back and

investigate several questions; and make some different runs. I think that we have a report on that by Angela, if you're going to talk about that if you would please.

PRESENTATION OF STOCK ASSESSMENT REPORT

MS. ANGELA GIULIANO: Certainly. You covered part of the first few slides here. We're jumping into the results of the assessment. I am just going to review just how we go to where we are. As Mr. Chairman mentioned, the Stock Assessment Subcommittee had been working on SS3 models in preparation for the Red Drum Peer Review, which was scheduled originally in August of 2015.

The models were not ready at that time; however final models were ready for a desk review in April. Just a note here, any information you would like on those results can be found in Addendum II to the SEDAR 44 Stock Assessment Report. As was said, the Management Board at the May meeting tasked the TC and SAS with updating the statistical catch at age models used to SEDAR 18; and this was due to concerns that the Board had with the SS3 model results.

At that time the Board gave us the discretion that it didn't have to be a true continuity run. We were able to incorporate new data sources as we saw fit. This work was done over the summer and fall of 2016. Based on meetings at that time, the TC and SAS recommended the statistical-catch-at-age model for management advice.

However, because of the new data sources that were incorporated, it necessitated a peer review. This peer review was conducted in December of 2016. Today you will be seeing the results of that assessment. There are two management units for red drum; there is a northern stock that is North Carolina and north, and a southern stock that includes South Carolina and south.

This split at the North Carolina/South Carolina border is supported by differences in genetics, life history characteristics, habitat use and tagging data. The model code that we used in this update is essentially unchanged from SEDAR 18. It is a fairly standard statistical-catch-at-age model with a few special features unique for red drum.

The first is the assumption of dome-shaped selectivity, given the slot limits and the life history of red drum moving offshore starting around Ages 3 and 4. In this model selectivity is estimated for ages 1 through 3. For ages 4 and 5 plus, it is estimated as a proportion of the Age 3 selectivity. For the northern model we also used external tag-based F estimates as an input similar to what you would do with an index. We also explored various data weighting between the data components; which included total catch, proportion-at-age data, the indices, and for the north inclusion of the tagging data. Total there were I believe 27 different data weighting options that were scored for the southern model and 36 for the north; ultimately though we ended up using the same data weighting as had been used for the preferred models in SEDAR 18.

We were kind of under a shortened timeline with updating these models since the May meeting, but we did try to address some of the recommendations from SEDAR 18; the first being the addition of the longline surveys, which measures the adult stock of red drum. In SEDAR 18 the maturity schedule based on North Carolina fish was used for both stocks.

In this assessment we have updated that using South Carolina data, so each stock now has its own maturity schedule. We also explored iterative reweighting and examined the correlations between parameters, which had both been recommended by the SEDAR 18 Review Panel. Moving into the results of the northern model, this model covered the time period of 1989 to 2013, and spans the Ages 1 through 7 plus; a reminder here that the

maximum age in the north is around Age 62, so that is a very large plus group.

The model had four fleets; a commercial gillnet beach seine fleet, a commercial other fleet, a recreational harvest fleet, and a recreational dead discard fleet. As I mentioned earlier, a longline survey was finally having enough years to add to the model; based on the criteria set by the TC and SAS during the data workshop.

We included the North Carolina longline survey data. We also updated the weighted age information to match SS3. Just as a note on the tag-based estimates that we used in the model, these were based on a study by Bacheler Et Al, and go from 1989 to 2004. These estimates were not updated when we ran the update to the assessment model due to concerns about changing reporting rate.

Around 2005 they were doing a high reward tagging study that would have affected the reporting rate. This is a slide describing the commercial removals. As you can see they are pretty variable, and most are coming from gillnets in North Carolina. The gillnet fleet here it should be noted, also includes dead discards; but also a 5 percent discard mortality rate on those fish assumed to be released alive.

This slide is the recreational removals. We have the harvest and the assumed dead discard mortality assuming an 8 percent mortality rate. As you can see through time, the increase in the dead discards as the catch-and-release fishery has become more popular and with the slot limits put in place.

Again most of these removals are coming from North Carolina, though this figure does show removals through New Jersey. You can see the large 2011 year class, specifically in the releases in 2012 and then the harvest in 2013. As I said earlier, most of these are from North Carolina; but actually 2013 is a unique year in that a significant portion of the harvest also came from Virginia landings.

There were five indices used in the northern model. On the top two figures here are for the North Carolina gillnets surveys for Age 1 on the left and Age 2 on the right. Again you can see that 2011 year class, which here is Model Aged 1 in 2012. In 2012 and 2013 being picked up by our indices, the North Carolina juvenile seine survey is the bottom left figure, and then we also used an MRIP CPUE index that you can see trending upwards in recent years. As I mentioned before, the new addition for this assessment was the North Carolina longline survey, which started in 2007 and it is used in the model to inform the 7 plus group.

This is a fit to the tag-based F-estimate data. For the harvest fleets this was separated out into ages 1 through 4. As you can see the tag-based estimates, particularly in the early years are very high; and come down in the early nineties. We also used tag-based data an F estimate for the release fleets, which is shown here.

In the model Age 1 recruitment is fairly variable, with again that strong peak in Model Year 2012 with the 2011 year class. The big issue with red drum that we have had is with this estimate of total abundance on this figure. We have grouped the ages into a couple different components.

The red line is the abundance estimate for ages 1 through 3, which is the portion of the stock that we have a lot of information on. Then the blue line here that seems to be driving that pattern in total abundance is the 4 plus abundance. There were concerns expressed by the Stock Assessment Subcommittee for a couple different reasons with this 4 plus abundance estimate.

Other than the obvious one that it doesn't really seem to track any abundance changes we would have expected with management measures that had been put in place, the plus group is very, very large. This is likely a model artifact. For the northern model we're in the same situation as before, where we don't have

a good sense of the abundance of those older age fish.

These are the selectivities for the four fleets. Each fleet has three time periods that were mainly based on changes in North Carolina regulations; because that is where most of the harvest is coming from. Sorry that green line is really hard to see up there. For each fleet the peak in selectivity is at Age 2.

As you can see in the most recent time period, which is the blue line, the selectivity curves tightened up as the slot limit was put in place in that last time block. For this slide it should also be noted that the recreational release fleet, these selectivities weren't estimated for that fleet. Due to issues with the lack of data on the size and ages of fish being released, these data were based on again a different Bacher Et Al paper describing the selectivities using tag data; and so they're fixed.

You can see from this figure the blue and red lines are for the recreational harvest fleet, and the commercial gillnet beach seine fleet. They have the highest F estimates of the four fleets. You can see that it is kind of latching on to that high tag-based estimate in the beginning of the time series for those two fleets with very high Fs in '89 and '90 and then coming down.

The green and yellow at the bottom are the commercial other fleet and the recreational release fleet. I guess with the two recreational fleets you can again see that 2011 year class coming through with the peak in F around, what is that 2012. Based on these results we looked at the three-year average SPR. This three-year average was recommended by the panel in SEDAR 18 due to the inter-annual variability of the SPR estimates. You can see here it increases through the nineties; peaking in 2005, and has been decreasing since then. The solid line on here is the 30 percent threshold that is used as the overfishing reference point for red drum; and the dash line is the 40 percent target. You can see based on these results that

we are above the targets. This is estimated pretty well with narrow confidence bounds.

We also used the profile likelihood, an AD model builder, which essentially gives you an estimate of the probability distribution of that 2013 estimate. As you can see, it seems like we are above, again the threshold of 30 percent and likely above the target of 40 percent for the northern model.

We did a five-year retrospective analysis. This is a little bit different than I feel like most of the species we see at ASMFC in that there is no directional bias. However, there were certain terminal years that resulted in a different result in the northern model. On top are the recruitment and the retrospective there, and then the three-year SPR is on the bottom.

In Terminal Year 2010 SPR is estimated much lower, but all the other years seemed to settle into the same solution. This is probably due to some sort of model instability, possibly some index conflicts. In SEDAR 18 there was also a sensitivity done looking at the removal of the tagging data, and it was found that the SEDAR 18 model was very tied to the use of the tag-based data, and if you removed it the stock results in very low SPRs.

The TC and SAS wanted to make sure to do the sensitivity again. In this case it seems that probably because the tag data ends in 2004, the model is not as sensitive anymore to the inclusion of the tag-based F data. Removing the tagging data results in slightly higher SPRs due to lower F estimates, and mainly increases the confidence interval around that three-year SPR estimate.

Moving into the southern model, again the time period covered is 1989 to 2013, and the ages are Ages 1 through 7 plus. There were five fleets in this model, one harvest fleet for Florida, one for Georgia, one for South Carolina. There is a Georgia/South Carolina dead-discard fleet and a Florida dead-discard fleet.

Also based on the data workshop we added four surveys to the model and removed the South Carolina electro-fishing survey. The four surveys that we added was the South Carolina stop-net survey, which is an Age 1 survey. The South Carolina Age 1 trammel-net survey, the South Carolina one-third-mile longline survey, and the Georgia longline survey; those last two again being new adult surveys.

As I mentioned earlier, we updated the maturity schedule based on South Carolina data, and updated the natural mortality and weight-at-age information to match SS3. As you can see for the recreational removals, again we're assuming an 8 percent mortality rate of those fish that are released alive.

Similar to the north you can see an increase in the dead-released discard mortality through time, and catches seem to have gone up in the last four years of the model. All three southern states had increases between 2009 and 2010 in their MRIP estimates. You'll see this with the F estimates later. Most of the increases in harvest in 2011 through '13 seem to be coming from the Florida harvest. For the southern model there are 11 indices included. This first slide is all of the Age 1 young-of-year indices. We have the Florida and Georgia young-of-year indices on top, the South Carolina stop-net survey, which was added really partially because it includes data in the early part of the time series that is lacking from some of these other data sources that start later; and the South Carolina Age 1 trammel-net survey.

This slide shows the data we have on those next older ages. We have the South Carolina trammel net Age 2 index, the top right and the bottom left are the Florida haul seine survey for Ages 2 and 3 respectively. You can see with these Age 2 and 3 indices it is not quite being predicted and fitting as well as some of those other surveys.

Then again we included an MRIP index, which for the south was important because it is one of the only surveys that span the whole range of

the species. Then this last slide is the three adult surveys that are used to inform the 7 plus group. We have the South Carolina one-mile longline survey, which goes from '94 to 2004 on the upper left and then the South Carolina one-third-mile longline survey that starts in 2007 through the present; and the bottom is the Georgia longline survey, which I should mention also samples fish in the northern part of Florida.

These are the estimates of Age 1 recruitment for the southern model. It basically varies without trend. You see one peak in Model Year 1995, and a peak in Model Year 2010 is actually the highest of the time series; though you will notice compared to the northern model, in particular all of these abundance estimates are very uncertain in the south.

Again the population abundance estimates here are grouped by Ages 1 through 3 where we have the most data; the red line at the bottom. You can see a slight increase through time in the Ages 1 through 3 abundance, this 4 plus abundance is fairly flat through the time series, and again doesn't seem to be showing the response to management measures that we would have expected and is a big suspicious.

That total abundance up top seems to be mainly driven by the dynamics we're seeing in the Ages 1 through 3. These are the selectivities by the five fleets. Florida only has one selectivity block, so again the green line that is really hard to see; it's the B2 fleet. That recreational release fleet is fixed in this model, again due to lack of data on the sizes and ages of those fish. That was again fixed, based on North Carolina tagging data.

That is the same as what was done in SEDAR 18. Then the time blocks for the Georgia and South Carolina recreational fisheries are based on changing regulations at those time periods. As I mentioned earlier in this model, the release fleet, so the Georgia/South Carolina release fleet that is estimated in the bottom right corner, the selectivities estimated for Ages 1 through 3, and then as a proportion of Age 3 it

drops as those fish move out offshore and there are less available.

The red and blue lines here are the Florida and South Carolina fishing mortality estimates, and those two fleets tend to have the highest F estimates. You can see as I said the MRIP estimates for Florida in recent years have been quite high. You can see that getting picked up in the fishing mortality estimates. Also of note are the F estimates for the release fleets, which the gold and light blue lines are the Florida and then Georgia/South Carolina release fleets on the bottom. There has been a general increase, a slight increase in the fishing mortality rate within those release fleets. These are the results for the three-year-average SPR. It starts off at about 0.6 in the beginning of the time series, and the terminal year estimate for the south is 54 percent; so a slight decrease through time. But again of note are these really huge confidence intervals making it very hard to definitively determine stock status.

Again we looked at the profile likelihood of that 2013 terminal year estimate. Again, compared to the northern model it is much wider; reflecting that imprecision in the estimate. However, the bulk of this probability distribution is above the threshold, and so it is likely that overfishing is not occurring.

Similar to the north, we didn't have any sort of directional retrospective bias in the southern model. However, the lowest recruitment which is on top, and the lowest three-year SPR which is the graph on the bottom, had the lowest results for each of those in the 2013 terminal year. While part of this could be due to conflicts in the data, it is also possible – as I said the adult longline surveys didn't start until 2007 with the two new recent additions.

It might be something to do with how many years of those surveys are included in the retrospective runs. I wanted to point out this figure from the report. One of the sensitivities we conducted was looking at what happens when you remove individual indices. The base

run is kind of hard to see, it is up by 0.6, where I think there are like four or five different lines overlapping each other.

This highlights again some of these data conflicts, but depending on which indices you include you can get a wide range of three-year SPR estimates. The lowest estimates occur when you remove the South Carolina trammel-net data and the MRIP survey. Those highest three-year SPR estimates are when you remove the Florida haul seine survey from the model.

Unsurprisingly given we didn't change any of the model code really, some of the issues we saw in SEDAR 18 persisted. The southern stock results are still very uncertain, making it hard to determine stock status; though it's probably good for relative trends. The plus group is large, particularly in the north. It is much larger than expected.

You don't see the trends in abundance, given the implementation of the slot limit. There are also still some concerns about pooling of data across fleets and time blocks; due to lack of data in those fleets and time blocks. However, we did see some issues improve such as the model results in the north being less sensitive to the inclusion of the tagging data.

For the future, the first was a recommendation also from SEDAR 18, but inclusion of the tagging data directly into the model. Currently it was calculated external to the model and stuck in, so including that with all of the uncertainty would be good; also exploring the fleets and time blocks, particularly the southern model. It seemed like the model was likely over parameterized.

Looking at ways to reduce the parameters in the south, and really getting into whether there is enough data to support all those different fleets and time blocks; depending on how much borrowing was occurring. Another improvement would be estimation of selectivity for the release fleet in the north and the Florida discard fleet in the south. Some early analysis

shows this could change some of the abundance estimates. If we have the data on those released fish, this might be something to pursue; and also explore the data weighting. Currently the model is very sensitive to how data is weighted. Looking into all those different data components and figuring out the optimal weighting is another direction for improvement. In conclusion, we're still unable to develop overfished reference points for these stocks; the abundance estimates just aren't there for the older ages.

In the northern stocks the stock is likely not experiencing overfishing there is no directional retrospective patterns, and the model results show less sensitivity to the inclusion of the external tag-based F estimates. For the southern stock the stock is also likely not experiencing overfishing though the model results are very uncertain; making this hard to know for sure. The retrospective pattern shows low SPR in 2013 compared to all other years. With that I don't know if we want to do questions now, or wait until after the reviewer's comments.

CHAIRMAN ESTES: I think we'll go ahead and hear about the review if Pat can do that and then we'll take questions after that.

PEER REVIEW PANEL REPORT

MR. PATRICK A. CAMPFIELD: I am going to quickly summarize the findings of the Desk Review Panel of the SCA assessments. The Review Panel consisted of Dr. Paul Rago, recently retired chief of the Population Dynamics Branch at the Northeast Fisheries Science Center and Dr. Cieri from Maine DMR, both experts in a variety of modeling approaches; including catch-at-age models.

Quickly on the process, the Review Panel and the Assessment Team convened on a webinar in mid-December to answer any questions the reviewers had and clarifications regarding the assessment report that they had received a couple weeks earlier and subsequently had a

couple calls to develop their findings and write the review report.

The Panel's overall findings were that they agreed with the assessment, and that both the southern stock and the northern stock, overfishing is not occurring in the average of the final three years used in the assessment; and agreed that no determination could be made on overfished or not overfished status.

The Panel finds the stock assessment acceptable for management use, both in the overall model outputs and in examining various indices. The Panel saw no major signs of trouble, but they did want to highlight that any small increases in F , in particular on older fish, would likely move the stocks into an overfishing status.

Angela showed these plots, so we'll skip past this. Those are the three-year SPRs. I will quickly go through each of the review Terms of Reference and the Panel's findings. The first term the assessment team met; that was to essentially evaluate the collection and treatment of data used in the assessment.

The Panel found that the Assessment Team did a very thorough job in evaluating the advantages and limitations of each data source; and agreed with the subset of surveys selected, and as Angela mentioned a smaller group of surveys in the north and 11 or so surveys in the southern stock.

The Panel did want to emphasize uncertainty in the magnitude and size composition of the recreational releases, and identify that as a top research priority needed to advance future redfish assessments; and again commended the addition in these current assessments of the longline surveys in the three South Atlantic states. Term of Reference 2 is to evaluate stock structure as defined in the assessment, and the Panel agreed with the South Carolina/North Carolina border to distinguish the stocks based on the life history and genetic differences. Term 3 was to evaluate the methods and

models used to estimate population parameters and reference points.

The Panel found that the Assessment Team did a thorough evaluation of the SCA Model with the various weighting alternatives and model runs; and agreed with the final selected runs. The Panel also noted the inability of the SCA model to establish reliable scale of either abundance or biomass, again preventing overfished status determination.

Term 4 was to evaluate the model diagnostics. As Angela summarized, both sensitivity and retrospective analyses were completed. The Panel found that this was sufficient and those analyses revealed conflicting patterns between fishery catches and indices. The Panel also recommended in the future to conduct likelihood profile analyses of the age-specific fishing mortality rates.

Term 5 was to evaluate methods to characterize and explain uncertainty. Again, the Panel found that the Assessment Team did a sufficient job here with the various error bounds and Monte Carlo Markov Chain analyses that were done in developing the model parameter estimates. Term 6, recommend best estimates of exploitation.

The Panel noted that the F estimates from the catch-at-age models were uncertain; and wanted to highlight that small changes in F can cause big changes in the SPR values. Again moving forward for the future, the Panel recommended exploring a relative F approach as a possible alternative, given the model's uncertainties and estimating scale of the various outputs.

Term 7 was to evaluate the choice of reference points and comment on the stock status determination. The Panel found that static SPR is useful for measuring overfishing, but again is very sensitive to small changes in F ; and the Panel agreed that both stocks appear to be above the management thresholds and targets,

with greater uncertainty in the southern stock status.

This is a plot developed by the reviewers just to exhibit how very small changes in the fishing mortality rate on older fish, which is on the X axis can quickly cause declines in the SPR; including those that may approach the threshold. In conclusion, the Review Panel found that the SCA model can be used for estimating overfishing or not overfishing status.

They also wanted to highlight that the concerns that were identified with the stock synthesis models also apply to the SCA models; because they're both age-based. The underlying problems are due to the exploitation pattern of red drum fisheries, as well as conflicting trends in the input data.

Nothing terribly new here, but if we get better data for red drum we should be able to improve the reliability of these models and these results. I think Angela and Jeff could provide more details on which types of data would really move things forward, but the Panel certainly agreed with their emphasis on recreational release lengths as one notable data deficiency. Finally, the Panel recommends careful consideration of relaxing management measures, notably concerned about increasing Fs on older fish. That is all I have for the Desk Review, Mr. Chairman.

CONSIDER BENCHMARK STOCK ASSESSMENT AND PEER REVIEW PANEL REPORT

CHAIRMAN ESTES: Here is what I would like to do. I would like to make sure that you're comfortable with what the presentation was that you just heard, and then we need to go back to we have a motion on the table from May of 2016. I think we've satisfied all the conditions to bring that back up on the table. I want to ask what you want to do with that. Then after that I want to have a very brief discussion about how we're going to go forward. Robert.

CONSIDER MANAGEMENT RESPONSES TO 2016 RED DRUM STOCK ASSESSMENT

MR. BOYLES: In the interest of time let me start by talking quickly. Thank you to the Stock Assessment Subcommittee and the Peer Review. I think this certainly clarifies some of the questions that we had. With that Mr. Chairman, **I would make a motion that we accept the Stock Assessment for Red Drum and the Peer Review as acceptable for management.** I guess that is in the form of a substitute motion that was on the table last May.

CHAIRMAN ESTES: Can we bring up that motion that we had last May? Do we have that? Okay so here is the motion that we had last May and here are the conditions that we said we had to meet before we would bring it back up. **Robert is suggesting a substitute motion. Okay do we have a second for that motion? Pat Geer.**

Is there a discussion about the motion to substitute? Seeing no discussion about that let me read the motion. **Move to substitute to accept the red drum stock assessment as presented today for management use; motion by Mr. Boyles, seconded by Mr. Geer.** Is there any objection to the motion? **Seeing none; this is a final action.** I guess it's okay if we don't have any objections. Seeing none; this becomes the main motion. Is there any objection to the motion? **Seeing none; motion passes.** Yes sir.

MR. BOYLES: Mr. Chairman if I may again in the interest of time again with appreciation to the staff to the Stock Assessment Subcommittee and to the peer reviewers. My questions have been answered and I'm satisfied with where we are. In terms of moving forward, I think I know what I need to do back home; and so I would recommend no further action at this time.

CHAIRMAN ESTES: There was a discussion at our, I think previous meeting that we might consider immediately going into an update including the 2015-2016 time series. What is the Board's pleasure as far as that issue goes?

MR. BOYLES: Mr. Chairman we did talk about that and I'm a little conflicted to be honest with you, recognizing how much work it has taken to get us to this point, recognizing the amount of work. I don't know that anybody is looking for things to do. There are a lot of bewildering questions for several of us that I think that I've got to do some work back home. I just wonder if the juice is worth the squeeze to do an update through 2016, to be honest with you at this point.

UPDATE ON SPOT AND ATLANTIC CROAKER BENCHMARK STOCK ASSESSMENTS

CHAIRMAN ESTES: Is there anyone that has an interest in that that we need to discuss? Seeing none; I guess we can move on to the next agenda item then. I think Jeff; you're going to give a presentation about where we're at with the spot and croaker assessments.

MR. JEFF KIPP: No presentation, just a brief update here. The Spot and Atlantic Croaker Assessment Modeling has been completed. Draft Assessment Reports have been completed and distributed to the Technical Committee and the Spot Plan Review Team and we're actually having a call tomorrow to review those with the TC and the PRT, get their approval and then those documents will be ready for the peer review; which is schedule to occur in March. The results of those assessments and the peer review will be presented at the May board meeting.

CHAIRMAN ESTES: Thank you, Jeff, any questions? Seeing none; we'll just keep rolling.

CONSIDER 2016 FISHERY MANAGEMENT PLAN REVIEW AND STATE COMPLIANCE FOR SPOT

CHAIRMAN ESTES: Mike is going to give us a lightning quick presentation about the Compliance Reports for Spot.

MR. MIKE SCHMIDTKE: I will make this as quick as humanly possible. First I'll go through the

status of the fishery. This graph shows commercial harvest in blue and recreational harvest in red throughout the time series that we have. Total landings of spot in 2015 are estimated at 4.44 million pounds; that is a decrease from 2014, as well as a decrease from the ten-year average.

The commercial fishery accounted for 49 percent of these landings with 2.2 million pounds, and this is less than half of the 2015 commercial landings. Virginia landed the majority of the commercial harvest in 2015. The recreational graph that you see here shows harvest in millions of fish, the red bars are harvest, green bars are spot that were released.

Recreational harvest of spot along the Atlantic Coast has varied throughout the time series between 3.6 and 20.1 million fish. In 2015 the recreational harvest was 6.1 million fish and this was a decrease from 2014. The majority of recreational harvest was caught in South Carolina. Since an assessment is currently underway, we did not run a traffic light analysis for spot for 2015; so I'm just showing the results of the 2014 traffic light analysis.

What we see here is the 2014 harvest composite index, and this index has shown some decline from 2009 through 2012, but has increased since then and did not trip in 2014. The abundance composite index did trigger in 2014 with a mean read proportion of 43.5 percent. Overall management triggers were not tripped in 2014 since both the harvest and abundance indices were not above the 30 percent threshold.

Nonetheless the analyses showed that there are declining trends in the fishery independent indices, and we hope that the ongoing assessment will provide more insight on the recent trends of the fishery. The omnibus amendment does not require specific fishery management measures in either the recreational or commercial fisheries for states within the management unit.

There is a de minimis qualification if a state's past three years of combined commercial and recreational catch is less than 1 percent of the past three years average of the coastwide combined commercial and recreational catch. Georgia has requested de minimis and qualifies under these standards. The PRT recommends that the Board approve the 2016 FMP review for spot, the compliance reports from the states as well as de minimis status for Georgia.

CHAIRMAN ESTES: Questions. Yes sir, David.

MR. BUSH: Quick question for you. I've been getting sort of beat up back home. These are a nearshore fishery, especially the spot, croakers, things like that and a lot of the management decisions we're hinging on have pretty big impacts back home, and they hinge on the abundance of some of these species or that's a big arguing point in it. One of the questions that have been brought up repeatedly is the use or the impact of NEMAP data. I've tried to ask around a little bit and I've gotten a few answers that it has influenced and it's been considered, it's been reviewed, but really nothing numerical so to speak. The majority of again the fishery is in the 60 foot and less. If you're showing a declining trend in independent indices, I'm curious where the independent data is coming from and why we're not putting more emphasis on the NEMAP information if it is useable at this point.

MR. SCHMIDTKE: After talking to Jeff just now, the NEMAP data currently isn't being used in the assessment model for spot. I would have to get more detail I guess from the Stock Assessment Team to be able to provide a more comprehensive answer, but the details surrounding each index that is and is not included will be outlined in the Stock Assessment Report.

MR. KIPP: I can just add to that. The NEMAP Index of Abundance is not being used in the model for spot. There is some biological data that is being used within the assessment and the NEMAP index is also being used in the

sensitivity analysis; so it is included in the assessment in that fashion.

MR. O'REILLY: **May I recommend approval of the 2016 spot FMP Review and also the rest of the screen flipped off, but the state compliance reports and there may have been something right after that.** I guess the de minimis.

CHAIRMAN ESTES: Second. Pat. Is there any discussion? Move to approve the 2016 Fishery Management Plan Review for Spot, and approve the de minimis status for Georgia. Motion by Mr. O'Reilly and seconded by Mr. Geer. **Is there any objection to this motion? Seeing none; motion passes.**

ADJOURNMENT

Is there any other business to come before the board today? It's a long time before dark, and if you all want to stay here we can do that. Seeing none; we are adjourned.

(Whereupon the meeting was adjourned at 3:29 o'clock p.m. on February 2, 2017.)



Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: South Atlantic State Federal Fisheries Management Board

FROM: Dr. Louis Daniel and Michael Schmidtke

DATE: April 25, 2017

SUBJECT: Cobia Management Options from the Working Group for South Atlantic Board Review

The Atlantic States Marine Fisheries Commission's (Commission) Cobia Plan Development Team (PDT) and Working Group have met on several occasions by conference call since the February 2017 South Atlantic State/Federal Fisheries Management Board (Board) meeting. The Draft Fishery Management Plan (FMP) should be on track for approval for public comment at the August Board meeting. Public Hearings would be in the late summer/early fall.

This memo provides the information discussed by the Working Group and solicits Board feedback for the various management options to be considered in the draft FMP.

Background:

Based on data through 2011, the SEDAR 28 (2013) stock assessment concluded that Atlantic cobia and Gulf cobia were not overfished (SSB>MSST) and overfishing was not occurring (F>MFMT). SEDAR 28 also incorporated genetic and tagging data, and the stock boundary was set at the Georgia/Florida line. The South Atlantic Fishery Management Council (Council) and the Gulf Fishery Management Council modified the stock boundary and updated the annual catch limits for Atlantic Migratory Group (AMG) cobia, located from Georgia through New York, and Florida east coast cobia through CMP Amendment 20B. The changes were implemented in March 2015.

In 2015 and 2016, AMG cobia landings exceeded the ACL and the overfishing level (OFL) recommended by the Council's Scientific and Statistical Committee (SSC) after SEDAR 28. As defined by the Council, landings greater than the OFL indicate that overfishing occurred in 2015 and 2016. NOAA Fisheries reduced the recreational season length of Atlantic cobia in 2016 and 2017.

As a result of the overages of the recreational ACL, the Commission was asked to consider complementary management of the AMG cobia stock. The Board directed the PDT to develop a complementary plan with the basic objectives to maintain catches within the Council prescribed catch limits and to provide states with the flexibility for maximum fishing opportunities for their respective stakeholders. The Board also initiated a Working Group, composed of Board members and proxies, to investigate potential allocation strategies.

Summary of the Fishery:

Recreational landings and commercial landings and ex-vessel values are presented in Tables 1 and 2. Landings north of Virginia are sporadic and will be included in the FMP. For this discussion, we focused on the 4 primary states that land AMG cobia: Georgia, South Carolina, North Carolina, and Virginia.

Table 1. Recreational landings of AMG cobia from 2005-2015 in pounds. Data sources: SEFSC

Year	VA	NC	SC	GA	Total
2005	577,284	322,272	5,793	3,358	908,707
2006	733,740	104,259	101,018	4,824	943,841
2007	322,887	90,197	268,677	64,708	746,469
2008	167,949	66,258	50,108	257,690	542,006
2009	552,995	123,061	76,229	3,997	756,282
2010	232,987	561,486	65,688	79,855	940,015
2011	136,859	121,689	3,565	90,375	352,488
2012	36,409	68,657	224,365	105,193	434,623
2013	354,463	492,969	19,130	29,224	895,786
2014	214,427	277,489	31,927	20,642	544,485
2015	718,647	630,373	123,952	67,804	1,565,186

* There are no MRIP-estimated recreational landings in numbers of AMG cobia in states north of Virginia.

Table 2. Commercial AMG cobia landings (pounds) and revenues (2014 dollars) by state/area, 2010-2015.

Year	GA/SC	NC	Mid-Atlantic*	Total
Commercial Landing in Pounds				
2010	3,174	43,737	9,364	56,275
2011	4,610	19,950	9,233	33,793
2012	3,642	32,008	6,309	41,959
2013	4,041	35,496	13,095	52,632
2014	4,180	41,848	23,111	69,139
2015	3,555	52,315	27,277	71,790
Average	3,867	37,559	14,732	56,158
Dockside Revenues (2014 dollars)				
2010	\$11,377	\$70,377	\$19,976	\$101,730
2011	\$19,666	\$37,893	\$21,666	\$79,224
2012	\$15,554	\$66,887	\$14,597	\$97,038
2013	\$15,639	\$79,397	\$35,792	\$130,828
2014	\$13,320	\$95,462	\$67,972	\$176,754
2015	\$11,151	\$147,160	\$75,360	\$233,672
Average	\$14,451	\$82,863	\$39,227	\$136,541

*Georgia and South Carolina landings are combined to avoid confidentiality issues. Source: SEFSC Commercial ACL Dataset (December 2015) for 2010-2014 data; D. Gloeckner (pers. comm., 2016) for 2015 data. Mid-Atlantic States include Virginia, Maryland, New York, New Jersey. Landings are also reported from Rhode Island in New England.

BOARD DISCUSSION ISSUES:

1. Size and Bag Limits:

The current Council plan proposes a 1 fish bag limit and a 36" FL minimum size limit for federal waters recreational fishery. States appear prepared to complement these measures in state waters if they haven't already. The Working Group suggests the Commission FMP complement these actions and not provide opportunities to adjust at this time.

2. State-by-State Allocations:

Arguably, one method to provide states with the greatest flexibility in managing their recreational cobia fishery is to provide an allocation of the current ACL to each state. The Working Group has spent significant time reviewing the AMG cobia landings data, recognizing cobia are a pulse fishery that are considered a rare event species in the MRIP program.

The Council used the Southeast Fisheries Science Center (SEFSC) data for the SEDAR 28 Cobia stock assessment and those data have been certified as best available data by the SSC. The Board directed staff to use the SEFSC data in developing this plan, however, understanding and recognizing the differences in the two methods is important moving forward.

Concerns have been raised regarding the differences between the recreational landings data estimated from the Office of Science and Technology through the Marine Recreational Information Program (OST MRIP) and landings generated by the SEFSC. The primary difference in the methodologies center around average weights of the fish used to expand numbers harvested to pounds landed by state. The OST MRIP estimates are based on actual fish observed and may be estimated based on as few as one fish, while SEFSC estimates require a sample of at least 30 fish to generate an average (Table 3).

States without a sample size of 30 for a specific year may use an average over several years (e.g., Virginia) or be lumped with another state to meet the required sample size of 30 fish (e.g., SC and GA).

Table 3. Comparison of OST MRIP and SEFSC average weights for Virginia, North Carolina, South Carolina, and Georgia (2010-2015) (source: OST MRIP website; SEFSC).

State-Year	Cobia #	OST MRIP Landings	OST MRIP Weight (lbs.)	SEFSC Landings	SEFSC Weight (lbs.)
VA-2010	7,056	254,414	36.1	239,153	33.9
VA-2011	4,119	107,424	26.1	139,622	33.9
VA-2012	1,051	26,537	25.2	35,614	33.9
VA-2013	10,735	224,442	20.9	363,865	33.9
VA-2014	6,490	173,772	26.8	219,993	33.9
VA-2015	21,173	882,022	41.7	717,676	33.9
NC-2010	15,125	498,581	33.0	558,984	37.0
NC-2011	4,478	145,796	32.6	119,347	26.7
NC-2012	2,050	104,106	50.8	66,302	32.3
NC-2013	19,224	506,067	26.3	491,527	25.6
NC-2014	9,804	247,386	25.2	275,777	28.1
NC-2015	16,166	695,842	43.0	642,213	39.7
SC-2010	2,102	67,946	32.3	61,424	29.2
SC-2011	0	0	0	0	0
SC-2012	6,835	201,223	29.4	221,024	32.3
SC-2013	634	9,873	15.6	15,146	23.9
SC-2014	1,137	26,439	23.3	28,377	25.0
SC-2015	4,182	124,933	29.9	124,316	29.7
GA-2010	2,637	89,840	34.1	77,064	29.2
GA-2011	3,304	74,651	22.6	88,049	26.6
GA-2012	3,185	97,766	30.7	102,996	32.3
GA-2013	1,189	25,183	21.2	28,427	23.9
GA-2014	792	19,079	24.1	19,768	25.0
GA-2015	2,282	26,499	11.6	67,851	29.7

Staff and the Working Group expressed concerns regarding the average weights as being high. In some years, the average size exceeds the weight required to receive a citation for an outstanding catch.

Staff provided the Working Group with multiple views of the landings from both the OST MRIP and SEFSC that included head boat landings, various time series (3, 5, and 10 years), and an option that accounts for both historical and recent landings by multiplying the annual average landings from a 10 year time series by 50% and adding that value to 50% times the annual average landings for the most recent 5 years in the that time series (henceforth referred to as a 5yr/10yr average) (Tables 4-7).

Table 4. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (**2005-2014**) (Data source: SEFSC w/ headboat).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	51,051 lbs. 8.1%	63,873 lbs. 10.1%	64,391 lbs. 9.0%	64,132 lbs. 9.5%
South Carolina	91,174 lbs. 14.5%	67,751 lbs. 10.7%	83,054 lbs. 11.7%	75,402 lbs. 11.2%
North Carolina	279,163 lbs. 44.5%	303,329 lbs. 47.8%	221,266 lbs. 31.1%	262,297 lbs. 39.0%
Virginia	206,491 lbs. 32.9%	199,649 lbs. 31.5%	342,608 lbs. 48.1%	271,128 lbs. 40.3%
Total	627,879 lbs. 100%	634,602 lbs. 100%	711,319 lbs. 100%	672,959 lbs. 100%

Table 5. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (Data source: SEFSC w/ headboat).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	39,474 lbs. 4.0%	61,993lbs. 8.2%	71,100 lbs. 9.2%	66,546 lbs. 8.7%
South Carolina	58,845 lbs. 5.9%	80,088 lbs. 10.6%	95,212 lbs. 12.3%	87,650 lbs. 11.4%
North Carolina	471,250 lbs. 47.0%	320,015 lbs. 42.2%	253,529 lbs. 32.7.0%	286,772 lbs. 37.4%
Virginia	433,845 lbs. 43.2%	295,354 lbs. 39.0%	354,811 lbs. 45.8%	325,082 lbs. 42.4%
Total	1,003,414 lbs. 100%	757,450 lbs. 100%	774,652 lbs. 100%.	766,050 lbs. 100%

Table 6. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (**2005-2014**), including headboat landings (Data source: OST MRIP website).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	47,997 lbs. 8.6%	61,916 lbs. 10.6%	68,249 lbs. 10.0%	65,082 lbs. 10.3%
South Carolina	82,170 lbs. 14.7%	63,653 lbs. 10.9%	76,263 lbs. 11.1%	69,958 lbs. 11.0%
North Carolina	286,507 lbs. 51.3%	300,944 lbs. 51.5%	228,728 lbs. 33.4%	264,836 lbs. 41.7%
Virginia	141,584 lbs. 25.4%	157,318 lbs. 27.0%	311,639 lbs. 45.5%	234,478 lbs. 37.0%
Total	558,258 lbs. 100%	583,831lbs. 100%	684,879 lbs. 100%.	634,354 lbs. 100%

Table 7. Average AMG Cobia landings and percentage of total landings by state for the 3 year, 5 year, 10 year, and 5yr/10yr averages (**2006-2015**), including headboat landings (Data source: OST MRIP website).

State	3yr %	5yr %	10yr %	5yr/10yr %
Georgia	24,379 lbs. 2.5%	49,211 lbs. 6.6%	70,868 lbs. 9.1%	60,039 lbs. 7.8%
South Carolina	56,647 lbs. 5.7%	74,809 lbs. 10.0%	88,334 lbs. 11.3%	81,571lbs. 10.7%
North Carolina	483,890 lbs. 48.8%	340,418 lbs. 45.5%	274,266 lbs. 35.1%	307,342 lbs. 40.2%
Virginia	426,745 lbs. 43.0%	282,839 lbs. 37.8%	348,164 lbs. 44.5%	315,501 lbs. 41.3%
Total	991,661 lbs. 100%	747,277 lbs. 100%	781,632 lbs. 100%.	764,453 lbs. 100%

Excluded from all these analyses are landings data from north of Virginia. Using SEFSC data, those landings are:

2005 – Delaware – 1,480 lbs.

2006 and 2012– New Jersey – 27,863 lbs. and 69,655 lbs., respectively

2010 and 2016 – Maryland – 1,287 lbs. and 1,762 lbs., respectively.

Average landings and percentages by state vary based on the time series selected and the landings estimate used. As a result of concerns raised over the variability in average weights throughout the management unit and the observation that total numbers of fish harvested

were consistent between methods, we examined the landings by number of fish to eliminate any bias or concern relative to average weights. While any landings estimation method may be selected, using the 5/10yr averaging method for the 2005-2014 time series appears to smooth out the variability in the results from other methods and time series, and was used in this simple comparison (Table 8).

Table 8. AMG Cobia landings calculated as 5yr/10yr averages for 2005-2014 in pounds and numbers. State percentages of the coastwide totals of these landings were multiplied by an example ACL of 620,000 pounds to estimate potential state landings allocations in pounds under each allocation strategy (percentages from pounds versus percentages from numbers) (Data source: SEFSC w/ headboat).

State	5yr/10yr Pounds	Percent Allocation	ACL	5yr/10yr Numbers	Percent Allocation	ACL
Georgia	64,132 lbs.	9.5%	58,900 lbs.	2,221	10.2%	63,240 lbs.
South Carolina	75,402 lbs.	11.2%	69,440 lbs.	2,521	11.6%	71,920 lbs.
North Carolina	262,297 lbs.	39.0%	241,800 lbs.	8,932	41.2%	255,440 lbs.
Virginia	271,128 lbs.	40.3%	249,860 lbs.	7,999	36.9%	228,780 lbs.
Total	672,959 lbs	100%	620,000 lbs.	21,673	100%	620,000 lbs.

Based on the review of the Working Group, there was clear interest in considering numbers of fish to examine allocations among states, if it is a direction of the Board.

3. Seasonal Options:

Data are sparse for analysis of seasonal options outside of wave data and are variable based on the years chosen for review (Figure 1). Peak landings occur during wave 3 from Georgia through North Carolina (May-June) with limited landings after wave 3. Landings vary for Virginia with peaks occurring during waves 3 and 4 (July-August) and landings occurring as late as wave 5 (Sept-Oct).

Figure 2 provides coastwide landings for the most recent years (2013-2015) and indicates an extension of availability later into the fall (wave 5).

The Council examined the potential for changing the fishing year start date to May 1 using the most recent landings information (2013-2015) via a framework but later removed because fishing year changes can only be made via an amendment. Based on Council analysis, and recognizing that landings of AMG cobia are minimal prior to May 1, season lengths could be extended 3-4 days by delaying the coastwide opening until May 1 (Table 5).

Based on review, coastwide seasonal options are limited. A January 1 start date for the fishing year and vessel limits that range from 1 to 6 fish, result in seasonal closures ranging from July 15 – August 22. Changing the fishing year to begin May 1, provides coastwide seasons that close ranging from July 19 – August 25.

State specific impacts of a coastwide seasonal closure vary. Based on the most recent years (2013-2015), the majority of individual state's catches are taken during waves 2 and 3 in Georgia (80%), South Carolina (82%), and North Carolina (90%), whereas 70% of the catch is taken during waves 4 and 5 in Virginia.

While Virginia had no wave 2 landings reported from 2006-2015, wave 2 accounted for nearly 100% of the landings in Georgia, and 16-26% of the landings in North Carolina and South Carolina respectively, in some years.

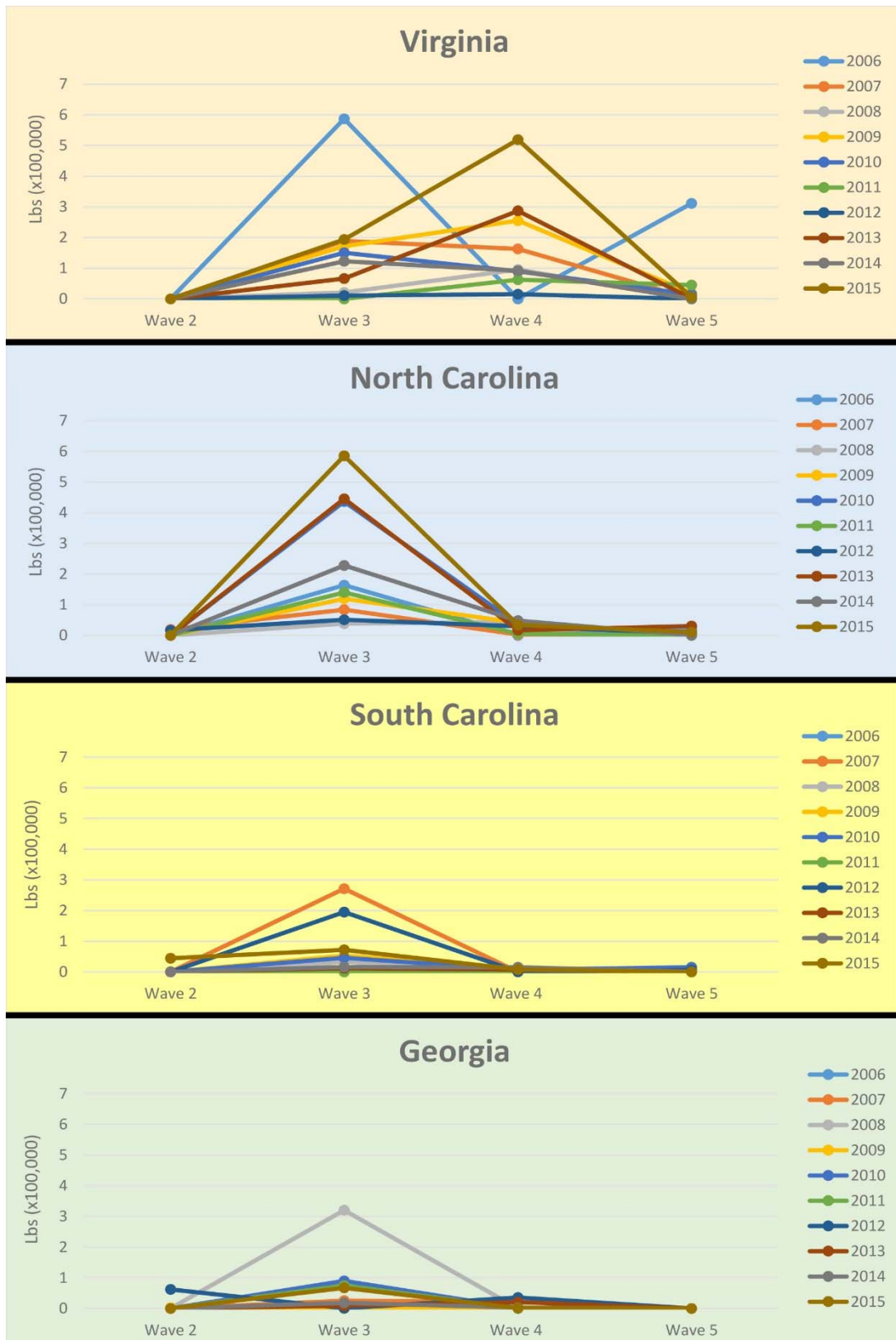


Figure 1. Recreational catch of Atlantic cobia by wave from 2006-2015 for Waves 2-5. Data sources: SERO and MRIP database—Framework 4.

Table 9. Framework 4 proposed but omitted Table 2.2.1. Estimated dates when Atlantic cobia recreational landings would meet the recreational ACL under the range of minimum size limits, bag limits, and vessel limits, if the fishing year is changed to May 1-April 30. Highlighted cells were the current preferred alternative prior to dropping season closures in Action 1.

Minimum Size Limit (inches fork length)									
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	5-Jul	8-Jul	13-Jul	19-Jul	26-Jul	3-Aug	8-Aug	None	None
2 per Person	2-Jul	6-Jul	10-Jul	16-Jul	23-Jul	31-Jul	4-Aug	None	None
Vessel Limit									
1 per Vessel	2-Aug	7-Aug	14-Aug	25-Aug	20-Mar	None	None	None	None
2 per Vessel	14-Jul	18-Jul	23-Jul	31-Jul	8-Aug	18-Aug	24-Aug	None	None
3 per Vessel	8-Jul	12-Jul	16-Jul	23-Jul	30-Jul	8-Aug	13-Aug	None	None
4 per Vessel	6-Jul	9-Jul	14-Jul	21-Jul	27-Jul	5-Aug	10-Aug	None	None
5 per Vessel	5-Jul	8-Jul	13-Jul	20-Jul	26-Jul	4-Aug	9-Aug	None	None
6 per Vessel	3-Jul	7-Jul	11-Jul	18-Jul	24-Jul	1-Aug	6-Aug	None	None

Note: As with **Table 2.1.1** this analysis assumed consistent regulations in state and federal waters, and estimated the dates based on recreational landings from 2013-2015.

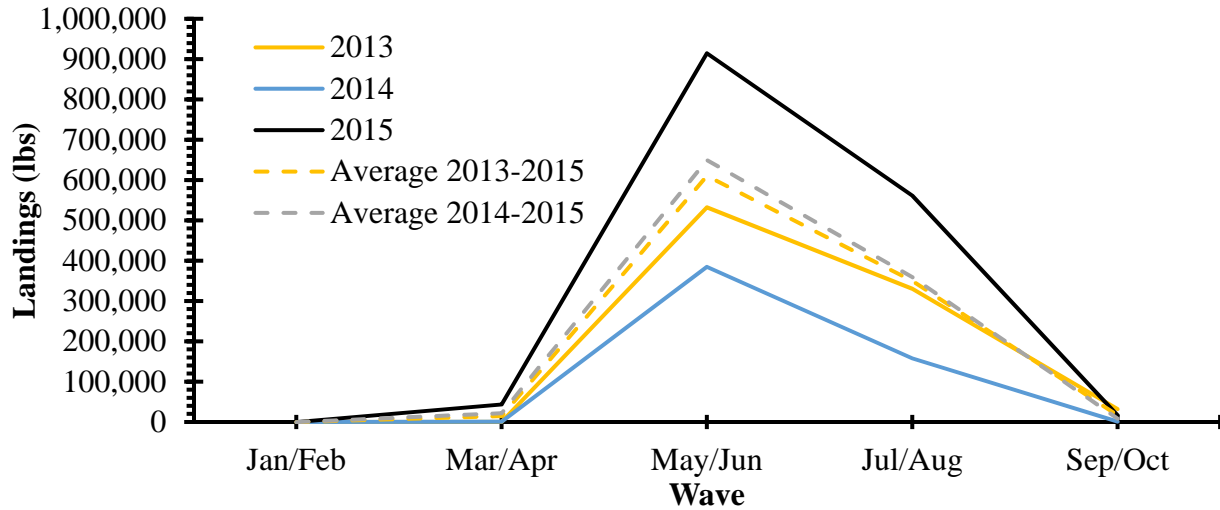


Figure 2. Framework Figure 2.2.1. Atlantic recreational landings for January-October of 2013, 2014, 2015, average 2013-2015 landings, and average 2014-2015 landings by two-month wave. The landings for 2015 are preliminary. Source: SEFSC Recreational ACL Dataset

A detailed analysis of state-specific landings information was conducted by Chris Wilson (NC Department of Marine Fisheries). The analysis was provided to members of the Working Group and the PDT. Summary findings illustrate the variability in the impacts of seasons, size, bag, and vessel limits on individual states. These data tend to indicate that mandated seasonal options remove flexibility from the states and the data are available, though confidence varies, for states to modify seasonal opening based on their fishery needs.

A summary table provides some of the general information from the state specific analysis (Table 10). The analysis also provides state specific information at the month level as opposed to wave. The analyst does not recommend reducing time periods to less than 1 month due to data limitations.

Table 10. Cobia Harvest reductions by state from a coastwide 36" FL size limit (36"), a coastwide 36" FL size limit with a 1 fish bag limit and season open May 1 (May 1), and a coastwide 36" FL size limit with a 1 fish bag limit and season open June 1 (June 1)

State	36"	May 1	June 1
Georgia	28%	37%	60%
SC	11%	58%	66%
NC	5%	49%	73%
VA	11%	44%	48%
Total	11%	47%	61%

In summary, variability in catch rates over the past decade indicate landings are increasing and have recently exceeded the ACL by a wide margin. A consistent size limit of 36" FL in state and federal waters along with a 1 fish bag limit is unlikely to constrain catches if recent annual harvests are an indication of future success. Consequently, vessel limits, season start dates, and

season lengths are the primary mechanisms examined to further constrain landings to achieve the FMP objective of maintaining catches within the ACL.\

Board Decisions/Discussion:

What set of years should the PDT use in the draft FMP for management options (years used and number of years)?

Use average weights (SEFSC or MRIP) or numbers of fish?

Are specific seasons options wanted for the FMP, or are they best left to the states to develop and have approved by the TC and Board?

If specific seasons are needed in the FMP, should they be based on a state-specific allocation? Are there other options to ensure equity and accountability?

The PDT expressed some interest in spawning season closures, suggesting an early season closure that extended through May would provide an increase in population egg production. The state of South Carolina has implemented a May closure in their southern management unit to reduce harvest and facilitate spawning. **Should the plan include options for similar closures in other states, adapted to the timing of spawning in those areas?**

Based on current state actions that implement 3-4 fish vessel limits, we are unclear as to how those limits may constrain catches to the level required for NMFS to re-open the EEZ to harvest. Providing access to the cobia resource in federal waters is a critical need for most states. Based on recent performance in the fishery, vessel limits greater than 2 may impact the fishery in the EEZ. However, later start dates or in season closures at the state level may provide NMFS with the assurance they need to minimize the chances of exceeding the ACL. **Are there Board-preferred options on how to complement the federal management strategy (for example, one option may include “extension” of state regulations into adjacent federal waters)?**

Regardless of the allocation scheme used, concern has been raised over tracking the ACL on a state or coastwide basis in real time using MRIP. While all states may have port agents to observe catches, effort data are unavailable until after waves are complete and could result in impacts despite best efforts to control. **Should the plan attempt to develop alternative quota monitoring methods to track the ACL on a scale that is finer than waves?** These efforts would have to be developed with NMFS and the Council.