

**PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
ATLANTIC MENHADEN MANAGEMENT BOARD**

**The Westin Crystal City  
Arlington, Virginia  
May 2, 2018**

**Approved August 7, 2018**

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1. **Approval of Agenda** by Consent (Page 1).
2. **Approval of Proceedings of November 2017** by Consent (Page 1).
3. **Move to approve the Terms of Reference for the 2019 Atlantic Menhaden Single Species Benchmark Stock Assessment and Peer Review** (Page 5). Motion by Robert Boyles; second by Cheri Patterson. Motion carried (Page 5).
4. **Move to approve the Atlantic Menhaden Stock Assessment Subcommittee Membership** (Page 6). Motion by Cheri Patterson; second by Roy Miller. Motion carried (Page 6).
5. **Move to approve the Terms of Reference for the 2019 Atlantic Menhaden Ecosystem-based Benchmark Stock Assessment and Peer Review** (Page 14). Motion by Robert Boyles; second by Bob Ballou. Motion carried (Page 14).
6. **Move to accept the 2018 Fishery Management Plan Review for Atlantic Menhaden and approve *de minimis* status for New Hampshire, Pennsylvania, South Carolina, Georgia, and Florida** (Page 17). Motion by Cheri Patterson; second by Ray Kane. Motion carried (Page 18).
7. **Move the Atlantic Menhaden Board recommend to the ISFMP Policy Board that the Commonwealth of Virginia be found out of compliance for not fully and effectively implementing and enforcing Amendment 3 to the Atlantic Menhaden Fishery Management Plan if the State does not implement the following measure from section 4.3.7 (Chesapeake Bay Reduction Fishery Cap) of Amendment 3: The annual total allowable harvest from the Chesapeake Bay by the reduction fishery is limited to no more than 51,000 mt.** (Page 19). Motion by Chris Batsavage; second by Jim Estes. Motion to postpone (Page 20).
8. **Move to postpone to the August Commission Meeting Week and in the interim send a letter to the Commonwealth of Virginia detailing the contents of the postponed motion** (Page 20). Motion by Pat Keliher; second by Dave Borden. Motion carried (Page 22).
9. **Motion to adjourn** by Consent (Page 23).

**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	Roy Miller, DE (GA)
Steve Train, ME (GA)	John Clark, DE, proxy for D. Saveikis (AA)
Cheri Patterson, NH, proxy for D. Grout (AA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Ritchie White, NH	Dave Blazer, MD (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Russell Dize, MD (GA)
Nichola Meserve, MA, Administrative proxy (Chair)	Allison Colden, MD, proxy for Del. Stein (LA)
Raymond Kane, MA (GA)	Steve Bowman, VA (AA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Rob O'Reilly, VA, Administrative proxy
Bob Ballou, RI, proxy for J. McNamee (AA)	Steve Murphey, NC (AA)
David Borden, RI (GA)	Chris Batsavage, NC, Administrative Proxy
Pete Aarrestad, CT (AA)	Doug Brady, NC (GA)
Colleen Giannini, CT, Administrative proxy	Mike Blanton, NC, proxy for Rep. Steinburg (LA)
Jim Gilmore, NY (AA)	Malcolm Rhodes, SC (GA)
Emerson Hasbrouck, NY (GA)	Robert Boyles, SC (AA)
John McMurray, NY, proxy for Sen. Boyle (LA)	Spud Woodward, GA (GA)
Heather Corbett, NJ, proxy for L. Herrighty (AA)	Doug Haymans, GA (AA)
Tom Fote, NJ (GA)	Jim Estes, FL, proxy for J. McCawley (AA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)	Martin Gary, PRFC
Andy Shiels, PA, proxy for J. Arway (AA)	Derek Orner, NMFS
Loren Lustig, PA (GA)	Sherry White, USFWS

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

**Ex-Officio Members**

**Staff**

Bob Beal	Jessica Kuesel
Toni Kerns	Kristen Anstead
Katie Drew	Max Appelman
Kirby Rootes-Murdy	

**Guests**

Bret Alger, NOAA	Zach Greenberg, PEW
Mel Bell, SC DNR	Ben Landry, Omega Protein
Jeff Brust, NJ DFW	Arnold Leo, E. Hampton, NY
Joe Cimino, NJ DEP	Mike Millard, USFWS
Robert Crockett, Richmond, VA	Derek Miller, Saving Seafood
Rene Cloutier, ME Marine Police	Chris Moore, CBF
Jeff Deem, VMRC	Patrick Paquette, MSBA
Greg DiDomenico, GSSA	Andrew Peterson, Bluefin Data, LA
Shaun Gehan, Omega Protein	Melissa Smith, ME DMR
Joseph Gordon, PEW	Jack Travelstead, CCA

The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia; Wednesday, May 2, 2018, and was called to order at 10:45 o'clock a.m. by Chairman Nichola Meserve.

#### **CALL TO ORDER**

CHAIRMAN NICHOLA MESERVE: I'm Nichola Meserve; an Administrative Proxy from Massachusetts. I am joined up front by Max Appelman, the FMP Coordinator, as well as Dr. Kristen Anstead and Dr. Katie Drew; who will all be helping us through some of the agenda items today.

#### **APPROVAL OF AGENDA**

CHAIRMAN MESERVE: Our first order of business is to approve the agenda. Are there any suggested changes to the agenda? Seeing none; the agenda will be considered approved as presented.

#### **APPROVAL OF PROCEEDINGS**

CHAIRMAN MESERVE: Up next is the approval of the proceedings from our November 13 and 14, 2017 meeting; they were a whopping 127 pages.

Are there any suggested changes to the proceedings? Seeing none; the minutes will be considered approved.

#### **PUBLIC COMMENT**

CHAIRMAN MESERVE: Our next item is Public Comment. This is an opportunity for members of the public to comment on menhaden related items that are not on the agenda. Max has provided me a sign-in sheet.

No one has signed in; but I'll look quickly to the audience to make sure there is nobody that would like to comment on an item not on the agenda.

#### **2019 ATLANTIC MENHADEN SINGLE SPECIES BENCHMARK STOCK ASSESSMENT AND PEER REVIEW**

CHAIRMAN MESERVE: Seeing no hands; we will move on. We have three separate action items; all pertaining to the 2019 Benchmark Stock Assessment and Peer Review for menhaden, of which there are two tracks, the Single Species Benchmark Assessment as well as the Ecosystem-based Benchmark Stock Assessment.

The process for these assessments is well underway. The data workshops occurred last week for both assessments.

#### **REVIEW AND CONSIDER APPROVAL OF THE TERMS OF REFERENCE**

CHAIRMAN MESERVE: I would now turn to Kristen for our first item; which is to Review and Consider Approval of the Terms of Reference for the 2019 Atlantic Menhaden Single Species Benchmark Stock Assessment and Peer Review. Kristen.

DR. KRISTEN ANSTEAD: Good morning. I'm about to go through the Terms of Reference for the Single Species Benchmark Stock Assessment; but first I thought I would just talk briefly about the process that is underway. We have two parallel tracks for this overall benchmark assessment.

We have our single species and we have our ERP; and they will be two separate reports that we're moving along together. We have several people that overlap on both of these committees, and we have as we've started this process been conscious of workloads and energy spent for each of these two separate reports. The overlap is intentional; so that we are communicating with each other throughout this process, as well as focusing on if somebody on one committee is doing a lot of analysis for one assessment that they have more of a tracking role on the other.

That has been part of the process to balance workload; as well as maintain the communication between the two. These are really supporting models for each other; so they will be proceeding with different goals. But ultimately the goal is the same; and to compare them and keep them together is certainly one of our overall goals.

We have had our data workshop last week; so in the spirit of that the first half of the data workshop was for the single species benchmark assessment, where we looked at fishery independent data, landings, talked about the BAM model, as well as some recommendations that came out of that update in 2017, and some of the changes we would like to make to data.

Then the second half of the week was the ERP workshop. My main focus is the benchmark; so I'm going to go through the TORs, and then Katie Drew is working mainly on ERP. The timeline in general, as I said we had our data workshop last week; where we evaluated data, and will be working over the next several months on that data.

We have another in-person workshop in September. There will be following workshops in 2019. We are scheduled to go to peer review with both of these reports in tandem with the same Peer Review Panel in December, 2019; with the intention of presenting it to the Board February, 2020, both of those assessments as well as the peer review reports.

These assessments share a lot of data; so some data that is being developed as part of the single species will be used in the ERP assessment. That is something else to keep in mind as we go through this; that these two assessments are really entwined with each other. I'm going to go through the Benchmark TORs now.

As a Stock Assessment Subcommittee or SAS, last week we reviewed the TORs; and did make some changes, and you may have noticed that

between your meeting materials and what is in front of you as a handout today. I'm going to go through the benchmark and then I will pause; and we can talk about it, and then Katie will go through the ERP TORs, because they are slightly different.

Our first TOR is a pretty standard one that we have for many of our assessments; which is to define the population structure based on available data. We'll go to the literature. We'll look at the data that we have; and make some recommendations about population structure as it's used in the models.

Our second one is our climate change TOR; to evaluate new information on life history, such as growth rates, size at maturation, natural mortality rate, and migrations, and review the potential impacts of environmental change on these characteristics. This is a modification coming out of the recommended TORs from the Climate Change Workgroup that you all heard from; I think last year. Our third TOR is to characterize the precision and accuracy of fishery dependent and independent data used in the assessment. Then there are following sub bullets; which are to provide descriptions of each data source, describe calculation and potential standardization of abundance indices, discuss trends and associated estimates of uncertainty, justify inclusion or elimination of available data sources, and discuss the effects of data strengths and weaknesses.

A fourth TOR is to develop models used to estimate population parameters and biological reference points; and analyze model performance. This will be to describe the history of the model usage, it's theory and framework, and clearly explain its strengths and weaknesses, and justify our choice of CBs, sample sizes, likelihood weighting schemes to discuss the stability of the model and to perform sensitivity analyses, as well as if there were multiple models considered to justify the choice of a preferred model, and explain any difference in the results.

We do have a separate TOR that will specifically task us with comparing the output of our single species with the ERP model; but I'll talk about that when we get to that TOR. This is more if multiple models were considered within the single species report; to talk about why we chose, for example the BAM over something else.

TOR 5, state assumptions made for all models; and explain the likely effects of assumption violations on synthesis of input data and model outputs. This may concern our stock-recruitment function, our error in our catch-at-age or catch-at-length matrix, our calculation of M and our choice of what we decide to use for natural mortality; as well as our choice of reference points and a plus group for the age-structured species.

TOR 6 is to characterize uncertainty of model estimates and biological or empirical reference points; and TOR 7 is to perform retrospective analyses, and assess the magnitude and direction of patterns detected, and to discuss what those implications may be. TOR 8 is to recommend stock status as related to reference points; and answer kind of a general is the stock below the biomass threshold? Is F above the threshold?

TOR 9 is to compare the trends in population parameters and reference points with current and proposed modeling approaches; including the results of the ERP benchmark stock assessment, and if they differ to discover possible causes and observe discrepancies. This is our TOR that specifically tasks us with discussing if our result is the same or different from the result of the ERP Benchmark Assessment, and to talk about how the models are different, how they're the same, and how the advice is different or the same.

We will be doing this all along the process. Like I said, these use a lot of the same data, they have a lot of the same people, and the timeline is the same. We will constantly be in contact

throughout this process; but we do have this specific TOR that says compare these two report species to each other, and discuss similarities and differences and why they may be that way.

TOR 10 is the TOR for a minority report; if we do have one. TOR 11 is to make a prioritized list of the research recommendations; specifically focusing on future research, data collection and assessment methods, and to highlight improvements to be made by the next benchmark. That final sentence has been very helpful in some other benchmarks we've had that state which research recommendations should be completed before you start the next benchmark; that really can give the SAS some guidance on timing. Timing is in fact our twelfth TOR; is to recommend when the single-species benchmark should be either updated or a new benchmark should be initiated. We then have our reviewer TORs. The first TOR for the reviewers is to evaluate the thoroughness of data collection and the presentation and treatment of our data in the assessment.

They have a list of different items there to consider; but this one is very general, evaluate how well the data was handled. Two is to evaluate the methods and the models used to estimate population parameters and reference points, and they also have some guidance within that TOR for the choice and justification of the preferred model, if multiple models were considered to evaluate our explanations of the differences, and to talk about model parameterization and specification.

The reviewer TOR 3 is to evaluate the diagnostic analyses performed; such as the sensitivity of the retrospective analyses. TOR 4 is to evaluate the methods used to characterize uncertainty and estimated parameters. Five is to evaluate that minority report; if it does in fact exist; and 6 is to recommend best estimates of stock biomass abundance and exploitation from the assessment for use in management, or specify alternative estimation methods.

TOR 7 for the reviewers, evaluate the choice of reference points and the methods used to recommend them, and 8 is to review the research data collection and assessment method recommendations by the TC, and to make any additional ones if they are warranted. Nine, they are also tasked with recommending the timing of the next benchmark.

Then 10 is to prepare their report in terms of reference and advisory; summarizing the panels evaluation of the stock assessment and addressing each peer review term of reference, and to develop a list of tasks to be completed before the next workshop, and to submit that report within four weeks of the workshop conclusion.

That will keep us then on target, since we have that December peer review and we intend to present it at the February Board meeting. That's why that is there. With that I can take any questions about the TORs for the Single Species Benchmark Assessment, and then we will review the SAS and then Katie Drew will go through the ERP.

CHAIRMAN MESERVE: Are there questions? I'll begin with David Blazer.

MR. DAVID BLAZER: I'm trying to recall, this all looks very good. I'm not as technical as a lot of people. But I'm thinking back to the debates that we've had over the last six to nine months. I'm looking at the reference points that we were evaluating during the last amendment; as we were going through.

I recall that a lot of those mortality rates, the estimates kind of fluctuated with each model run that we had. There was a lot of variability in those numbers that I know for me it created some confusion back at that time. Will this stock assessment, will we look at those reference points? How are they going to change with each run, and how are we going to address that particular issue that we had previously?

DR. ANSTEAD: The reference points for Amendment 3. Are you referencing the ones that were proposed that kind of suite of different? For the Benchmark Assessment we will be running the BAM; and talking about that reference point, so there will be a bunch of sensitivity around it. Those other ones I believe are more ERP specific.

But we will be doing some sensitivity around ours; and you may recall that the reference points were adjusted slightly during the update. If that were to happen again, we will of course discuss why they could be the same or different from the update or the 2015 benchmark.

CHAIRMAN MESERVE: Up next I had John Clark.

MR. JOHN CLARK: I just had a question about the environmental change, the climate change part Kristen. I was just wondering if any of that has been worked out; how you're going to look at that. I noticed in the peer review, I didn't see anything directly in the peer review that would evaluate how you addressed climate change in the model.

DR. ANSTEAD: There is not a specific TOR for the reviewers to talk about that. It kind of would fall under the umbrella of evaluate the thoroughness of data collection and the use of data. The SAS did talk at length about the climate change TOR; and softened the language a bit to make it not as contentious at peer review.

As you probably know that currently there is no mechanism or model to fold in climate change; and we just want to be conscientious of can we accomplish what we've set out to? The language is softened a little bit to still address it; to do literature review, fold it in where we can. We use environmental data in standardizing indices.

We'll be looking at can we build any sort of habitat model off of that climate; the environmental data from the fishery



independent surveys. But if it's not feasible, we didn't want to back ourselves into a corner that we couldn't address that TOR, and that would become a problem at peer review. But by all means we intend to assess it and evaluate it and fold it in mathematically where we can.

CHAIRMAN MESERVE: John McMurray.

MR. JOHN G. McMURRAY: Regarding TOR Number 8; recommend stock status as related to reference points if available. For example, is the stock below the biomass threshold, is F above the threshold? Are we just looking at thresholds, or are we not looking at targets also?

DR. ANSTEAD: We do have targets and thresholds. This is our standard TOR 8. I'm not sure why they only say threshold; but of course we will be having both, and be talking about stock status in relation to both of those things. That is already part of it.

CHAIRMAN MESERVE: Are there any other hands for questions? Yes.

MR. BOB BALLOU: Building a bit off of Dave Blazer's question. It strikes me. Well first of all, I was also reminded about our challenge last time; in terms of comparing SPR-based analyses with total biomass-based analyses. It looks to me that TOR 9 sort of gets at that. I'm wondering if that is true; and that that is really what is the intent of TOR 9, to take different outcomes that are maybe based on different currencies, and compare them so that the Board has a better ability to compare and contrast?

DR. ANSTEAD: That's certainly the goal. Compare what the reference points mean in relation to each other between the single species and the ERP, what management advice, how these models operated and why that might be different. It's not specific only to that but to all of kind of these two different reports; to

really talk about how they are the same and different and why.

CHAIRMAN MESERVE: Are there any further questions? Seeing none; we would look for any changes to the terms of reference. **Otherwise, a motion from the Board to approve the Terms of Reference for the 2019 Atlantic Menhaden Single Species Benchmark Stock Assessment and Peer Review would be in order at this time.** Robert Boyles.

**MR. ROBERT H. BOYLES, JR.: So moved, Madam Chair.**

CHAIRMAN MESERVE: Thank you, is there a second to the motion; Cheri Patterson. Is there any discussion on the motion? Seeing none; are you ready to vote on the matter? I'll read the motion one more time. Move to approve the Terms of Reference for the 2019 Atlantic Menhaden Single Species Benchmark Stock Assessment and Peer Review.

**Those in favor please raise your right hand; any opposed, 0, any null votes or abstentions, the motion carries unanimously 18-0-0-0.**

**REVIEW AND POPULATE THE ATLANTIC  
MENHADEN STOCK ASSESSMENT  
SUBCOMMITTEE MEMBERSHIP**

CHAIRMAN MESERVE: We will move on next to Item 5, to Review and Populate the Atlantic Menhaden Stock Assessment Subcommittee Membership. Again, the SAS is specific to the single-species assessment, so I'll turn back to Kristen for a quick overview of this.

DR. ANSTEAD: I just have one slide on this with our current Stock Assessment Subcommittee membership. This is what we operated under last week for our data workshop. But we do need it to be approved officially by you all. Amy Schueller was our Chair through the SEDAR 2015, as well as the update; and she remains our Chair and the lead modeler. She runs the BAM model.

Joey Ballenger is now our TC Chair, so the TC Chair does sit on the SAS to provide that bridge to the TC. We have Matt Cieri from Maine, Micah Dean from Mass, Rob Latour from VIMS, Chris Swanson from Florida, and he's replacing Behzad. Jason McNamee in Rhode Island, Ray Mroch also in the NMFS Beaufort Lab where Amy is from, Jeff Brust from New Jersey, Alexei Sharov from Maryland, and then the three of us on staff.

CHAIRMAN MESERVE: Any questions about the membership of the SAS? **Seeing none; if there are no suggested changes, we would be looking for a motion to approve the membership of the SAS for the 2019 assessment.** Cheri Patterson.

**MS. CHERI PATTERSON: So moved.**

CHAIRMAN MESERVE: Thank you is there a second to the motion; Roy Miller, thank you. Is there any discussion on the motion? If we are ready to call the question I will read it one more time. **Move to approve the Atlantic Menhaden Stock Assessment Subcommittee Membership. All those in favor please raise your right hand, 18, any opposition, null votes, abstentions.**

**Seeing none; the motion carries 18-0-0-0.**

**REVIEW AND CONSIDER APPROVAL OF THE TERMS OF REFERENCE FOR THE 2019 ATLANTIC MENHADEN ECOSYSTEM-BASED BENCHMARK STOCK ASSESSMENT AND PEER REVIEW**

CHAIRMAN MESERVE: We'll move on to Number 6, and we'll be looking to Review and Consider Approval of the Terms of Reference for the 2019 Atlantic Menhaden Ecosystem-Based Benchmark Stock Assessment and Peer Review; and for this we'll turn to Katie Drew.

DR. KATIE DREW: I will be going over the Terms of Reference for the ERP Assessment; which has sort of its own TORs, in order to focus on what we want to be reviewed on and evaluated on for this particular assessment. There are some

differences between what we're going to be talking about for the single species, and what we're looking at for the ERP assessment.

I'm going to start out with the Assessment Terms of Reference; this is for the ERP Workgroup to accomplish. TOR Number 1 is going to be review and evaluate the fishery dependent and fishery independent data used in the Menhaden Single Species Assessment, and justify the inclusion, elimination or modification of those datasets.

This is our first big difference is we're going to be building on the work that the Menhaden TC does to develop, review and evaluate the menhaden-specific data. So that we don't duplicate their efforts we're going to take the work that they do in preparing that menhaden-specific data that we need for our models.

Make sure that it fits and lines up with our models, and basically just justify why we're using or why we're not using their data, rather than duplicate their efforts. We will be spending more time on TOR Number 2; which is to characterize the precision and accuracy of additional fishery dependent and fishery independent dataset; including the diet data that were going to be used in the ecological reference point models.

This is where we're going to get into more of the detailed data work; like providing the descriptions of the data sources, describing the calculation and standardization of any indices, the trends and the uncertainty, and justifying the inclusion or elimination of these data sources, as well as talking about the specific strengths and weaknesses of these sort of non-menhaden or non-menhaden-single-species datasets.

Number 3 is to develop models used to estimate population parameters such as F, biomass and abundance of Atlantic menhaden that take into account menhaden's role as a forage fish. This is kind of really the specific

TOR that gets at what is the ERP doing that's different from the single-species assessment?

Develop these models; as well as analyzing the model performance, and that includes things like making sure that we document the history of the model usage, the theory and the framework. Test it with simulated data if it's a new model. Justify the choice of ecological factors; such as predator and prey species or environmental factors that will be going into these models. Describing the stability of the model is justifying the parameterization of the models; as appropriate for each model. The models that we're looking at for the ERP Workgroup range extremely; in terms of complexity, in terms of theory and framework.

We want to make sure that we're doing this appropriately for each model; as well as performing sensitivity analyses, model diagnostics, and explaining the model strengths and weaknesses, including each model's capacity to account for environmental changes. Number 4 I think is probably the key Term of Reference for this entire assessment; which is to develop methods to determine reference points and total allowable catch for Atlantic menhaden that account for Atlantic menhaden's role as a forage fish.

I think this is what the ERP Workgroup sees as sort of the core purpose of this assessment; and so this gets its own specific TOR. I think the key here is that we are developing the methods to create these reference points and create these quotas. But it will be up to the Board to settle on the final value after evaluating the tradeoffs between these different models, and between the different assumptions in these models.

Number 5 is state assumptions made for all population and reference-point models; and explain the effects of assumption violations on input data and model output. This is kind of making sure that as we talk about these models, we can explain what we have to assume, what we know through data, and how

that's going to affect our final perception of stock status and of appropriate reference points.

That is really tied to Number 6; which is characterize the uncertainty of these model estimates and these reference points, as appropriate for each model, so that we can tell you kind of how certain we are about these reference points and about the information coming out of these models.

Number 7 is; evaluate stock status for Atlantic menhaden from the recommended models as related to the reference points if available. Again, this is kind of recognizing that we're going to be presenting sort of a suite of models that have different strengths and weaknesses; and that give the Board different information related to their management objectives of menhaden.

It will be up to the Board to make the final choice about reference points; but we'll provide the stock status relative to each of those reference points, so the Board can kind of understand what each model is telling you. Number 8 is similar to what was in the single-species method; that is to compare the trends and population parameters, and reference points, among the proposed modeling approaches, including the results of the Single Species Benchmark Assessment.

If the outcomes differ, then discuss the potential causes of observed discrepancies. Again, this is the mirror Term of Reference for the single-species model where we'll be comparing the output of our models, not just to the multi-species models, not just to the ERP models, but also to the single-species model to really put these numbers in context of both the single-species and the multi-species framework. Then 9, 10, and 11; these are almost identical to the single species, basically if a minority report has been filed deal with that. Explain the majority reasoning and make sure that is all explained. Develop the short and long-term

prioritized list and recommendations for future research; and highlight improvements to be made by the next benchmark review. Recommend the timing of the next benchmark assessment and intermediate updates, if necessary, relative to the biology and current management of the species.

For the ERP group this will also include taking into account the timeline of benchmarks and updates for our predator and alternative prey species; as well as what the Menhaden Board specifically needs, in terms of management. That is it for the ERP assessment Terms of Reference. This is what the Workgroup will be working off of.

I will next go briefly over the Review Panel Terms of Reference. Basically the main difference is that instead of doing the work, they have to evaluate our work. They will have to evaluate the justification that we used to include, or not include, or modify any of the single-species data. They will evaluate the thoroughness of our data collection and treatment for additional fishery dependent and independent data that is not part of the menhaden single-species assessment.

They will evaluate the methods and the models that we use to estimate those parameters that take into account the role as the forage fish; including evaluating the model choice and the justification of the recommended models, and evaluating explanation of differences in results as well as the model parameterization, and how we set up those models, to make sure those are the most appropriate ways to handle that data.

Number 4 is to evaluate the methods used to estimate reference points and total allowable catch. Again, this gets a specific Term of Reference for itself; because of the importance to this assessment. It's really making sure that the methods that we've used to develop these reference points are appropriate.

They will also evaluate our diagnostic analyses; so the sensitivity analyses, the retrospective analyses, as appropriate for each of the models that we are working with in the ERP group. Evaluate the methods that we use to characterize the uncertainty in our estimates and make sure that those implications of that uncertainty are clearly stated; that we're up front and honest about the uncertainty in these assessments.

Number 7 is basically if a minority report has been filed than make sure you review it and give us your opinion on this minority report. Then Number 8 is to recommend the best estimates of stock biomass, abundance, exploitation, and stock status of Atlantic menhaden from the assessment for use in management if possible; or specify alternative estimation methods. This basically gives the Review Panel the chance to weigh in on this and say here is the best out of what you've done; and if none of them work, then will you recommend instead.

Then Number 9 is to review the research recommendations for data collection and assessment methodology; and make additional recommendations as warranted, and prioritize what is needed to inform the next benchmark assessment, as well as to recommend the timing of the next benchmark assessment and updates if necessary. Then finally, prepare a Peer Review Panel report that basically summarizes everything that they have done; and complete and submit that report within four weeks of the workshop conclusion. That is it for the ERP Terms of Reference; and I'll be happy to take questions on these.

CHAIRMAN MESERVE: Questions for Katie on the TORs for the ERP assessment. Bob Ballou.

MR. BALLOU: I've been trying to flip back and forth between the information provided in the meeting materials and the updates that include the SASC edits. Can you just highlight a few of

the key edits that were made? That would help me a lot, thank you.

DR. DREW: Sure, sorry. Yes, the Workgroup reviewed these Terms of Reference at their meeting; and so did make some changes, primarily in order to make sure that they reflect the work that we will be doing and make it most likely that we can succeed in completing this Term of Reference.

I think probably the most important one is for Number 3, to develop models to estimate population parameters that take into account Atlantic menhaden's role as a forage fish. That phrase "that take into account Atlantic menhaden's role as a forage fish" was taken from Number 4. I think originally in the document it was something like that take into account environmental drivers.

I think which we initially put in as it covered some of our models very generally; and I think the Workgroup's concern was that we're not focused on every single environmental driver out there. We know what our important role is in that or that what we care about is Menhaden's role as a forage fish.

We want to make sure that the models that we develop, and what we're judged on, account for that as kind of the most important driver. Rather than this general environmental or ecological drivers term, it's specifically focused on menhaden's role as a forage fish in developing those models, and it lines it up then better with TOR Number 4, which is the reference points.

Then we sort of tightened up some of these sub bullets under there to recognize that the models that we're using for the ERP Workgroup are not the traditional sort of statistical catch-at-age model that was really in mind when we developed the generic terms of reference; and that we are covering a much wider range of model types and model structures.

To make those kinds of suggestions about model diagnostics and sensitivity analyses, a little more general to apply to a bunch of different types of models in here. I think that was the most important one; as well as kind of highlighting, trying to look at each model capacity to account for environmental changes as well.

CHAIRMAN MESERVE: John Clark.

MR. CLARK: I'm just curious, Katie as to how these Terms of Reference take into account the size of the predator populations; as you've just mentioned in the roles of forage fish. Yesterday of course we had a long discussion about what our striped bass estimates would be coming out of the next assessment. How does that play into how you will look at the forage fish role of menhaden; depending on the species size of striped bass?

DR. DREW: That's a good question; and it depends a little bit on what type of model that we end up going with. We are exploring a wide range of types of models; so each model will have sort of its own special characteristics of ways of dealing with that. But I think sort of overall the idea would be that each model sort of takes into account information on those predator species; as you described the past.

We know what happened in the past, and we can say here is how the menhaden population changed, and here's how the striped bass and bluefish populations changed with it. Then going forward the question becomes how much menhaden should we take; and how much should we leave in the water?

That is really related to what are your goals and objectives for those other predator species? Our models as we develop those reference points will require us to set target and threshold levels for these other predator species; so that we can ensure we are maintaining an appropriate level of menhaden for them.

I think the plan for the Workgroup is to use what has been established as the targets and thresholds for these predator species; to say this is how much, if we want to maintain our current target and threshold for these other predator species, here is how much menhaden you need to leave in the ocean, and here is how much you can take.

I think further on down the road obviously this Board is going to have to talk to those other boards and establish a relationship and establish kind of a set of shared goals and objectives for all of these species together. But that is something that is going to have to come after the assessment.

CHAIRMAN MESERVE: Allison Colden.

MS. ALLISON COLDEN: Thank you for the presentation. I think these Terms of Reference are very thorough. I just wanted to build on Bob's comments a little bit; and fortunately this Term of Reference is repeated in this one, so I got another bite at the apple. But I also acutely recall some of the issues that we had at the November meeting; when discussing the ERP models versus the single-species models, and some of the issues and confusion that there were around the differing reference points between the two different approaches.

I really appreciate that that is explicitly included in here as a Term of Reference to examine those differences. I just want to reiterate again that if there are places where there are natural analogs between the single-species and the multi-species models that those are addressed and explicit.

Then where there are places where there are not direct or natural comparisons, between either the model outputs or the reference points, between those two different approaches that there is sufficient narrative and explanation; so that at least the Board can put it in the context of the concepts from the single-species approach that we're familiar with. I

think that will be really crucial moving forward; because again if we're to adopt these ERPs it's an entirely new, different management approach and management strategy. I think that there may be some challenges ahead; and we got some sneak peeks of that last November. But I would really appreciate all the work that you guys could do, and as much work as you could put into making those connections wherever possible, and then thoroughly explaining the differences where they are not possible.

DR. DREW: That is absolutely the intent, I think of the Workgroup, is making sure that these are sort of presenting a coherent story across both the single species and the ERP Workgroup, so that you guys can kind of understand these reference points in context with each other and with the historical management of this species.

CHAIRMAN MESERVE: Roy Miller.

MR. ROY W. MILLER: Katie, could you refresh our memories as a follow up to John Clark's question on which suite of predators we're talking about?

DR. DREW: We're still sort of in the process of finalizing our which ones will actually go into the model. But we are looking at striped bass, spiny dogfish, bluefish, and weakfish as sort of the most important predators. We're also considering Atlantic herring as sort of an alternate prey species within this model; to kind of understand the tradeoffs between those species.

CHAIRMAN MESERVE: John McMurray.

MR. JOHN G. McMURRAY: Regarding Reference Point Number 4, develop methods to determine reference points and total allowable catch for Atlantic menhaden that account for Atlantic menhaden's role as forage. I think what is missing from that is an explanation of how we intend to use those. My understanding is they will provide us context. They'll give us a better

understanding of what the tradeoffs are. But that's not really implicit in any of this. I just think maybe it should be made clear somewhere.

CHAIRMAN MESERVE: John, do you feel that TOR 7 captures that to evaluate the stock status from the different models and the reference points?

MR. McMURRAY: Yes, to some extent. But I think to the public and to the average Joe it's not terribly clear. Maybe it's enough to just put it on the record now that that is the intent. That is the intent if I'm understanding it correctly; to have the information, to understand what the tradeoffs are between taking fish out of the water and leaving them in. Then it becomes a policy decision by the Board after that.

DR. DREW: I mean I would say it's sort of semi-jokingly. That would be your Term of Reference is to evaluate these tradeoffs and things; and that where we would provide the information would be as our Chair said, Number 7. That is providing not just a single estimate of stock status, but a range of estimates of stock status and a range of estimates of catch and reference points. But also Number 8, to compare the trends in these population points. Compare the reference points among the proposed modeling approaches; and explain why they're different, which would include things like there are different tradeoffs and different assumptions that are underlying it. I think if you guys wanted to edit this at all to make it more clear, you could. But I think we recognize that that is the outcome of this. We did I think soften some of the language in here that is no longer talking about a preferred model; but it's talking about a recommended suite of models, recognizing that there is going to be differences for you to choose among, depending on your management objectives for this species.

CHAIRMAN MESERVE: Are you comfortable with the language, John, with the discussion we've had?

MR. McMURRAY: Yes, I am. I think there is enough on the record too; to make it very clear.

CHAIRMAN MESERVE: Are there further questions? Doug Brady.

MR. W. DOUGLAS BRADY: Thank you for this good presentation. Back to, I'm just assuming that you have identified some of the predator species. Then somewhere in here I guess you evaluate, you mentioned I think the herring. But you evaluate I guess the amount or the percentage of menhaden in the diet of these particular species, and other forage species are diet species that they consume. I mean how do you get all that information? I know you're working on it, but do you take into account all the other things that these fish eat?

DR. DREW: Good question. The way we evaluate or chose our preferred suite of predators is Number 1, we did look at the Northeast Fisheries Science Center has an extensive food habits database. Basically, when they've been doing their trawl all the way back to the 1970s and beyond. They've been taking stomachs as they go of both the predators and the prey, and evaluating basically what are these animals eating.

We have information on what is an important component of the diet in these stomachs. But then we also have information on sort of the abundance of these predators; as well as taking then into account information. Do we have additional information that would support a model of these predators?

I think spiny butterfly ray I think eats a significant amount of menhaden. But we don't have enough information to really model that and we don't manage that. That kind of gets shunted aside in some of these models; in favor of other significant predators that we have

sufficient data to model, and to include and to manage.

That's kind of how we came up with our suite of predators. We're also looking at alternative prey species; such as herring. I think we're also looking at scup as another potential; to kind of evaluate the ability to prey switch, and the ability to kind of to tradeoff between these prey species. But it also depends on the model.

Our most complex model would be something like EWE; which would model all of these individual predator/prey relationships, all the way down from detritus up to whales and things like that but requires a huge amount of effort and input, down to our extremely simple production models that only model one or two predators. We are trying to select a range of predators that is relevant for managers; that's relevant to the biology of the species, in order to account for the desires of the management Board in a way that is biologically meaningful. I hope that helps.

CHAIRMAN MESERVE: Emerson Hasbrouck.

MR. EMERSON C. HASBROUCK: I'm just wondering, are there going to be two separate peer review panels; one for each approach, or the same people are going to peer review both.

DR. DREW: The intention is that the same panel will review both of these assessments; so that they have both of them in front of them to compare.

CHAIRMAN MESERVE: It will be through a SEDAR peer review. Is that correct, Katie?

DR. DREW: Yes that is what I've been told; so it will be a panel comprised of CIE experts.

CHAIRMAN MESERVE: Next I had Colleen Giannini.

MS. COLLEEN GIANNINI: Katie, I think you kind of touched on it, because maybe I just didn't

completely understand. I'm thinking about the larger marine mammals that prey on these fish; whales, seals. Is that incorporated? I mean is that a more data rich source, or is it incorporated in a different way?

DR. DREW: It depends on the model that we're talking about. We are going forward with several different models for the ERP Workgroup. The EwE models, the Ecopath with Ecosim models, do have the ability to incorporate that into their extremely large and complex models. The sort of intermediate level of complexity models that we're talking about, represent sort of a tradeoff between complexity and data availability.

We have looked at is there enough information about Number 1, menhaden consumption by these predators, such as marine mammals or birds; and Number 2, is there enough information on their population size and their population dynamics to be folded into a model explicitly. I believe they're incorporated in the EwE context.

But in some of our more intermediate and simpler models they are not, because there is not enough information on population, total numbers of population, and the diet composition on an annual level, to be folded into some of these more intermediate complexity models.

CHAIRMAN MESERVE: John McMurray.

MR. McMURRAY: Colleen actually asked the question I was going to ask; but I would take it a little further. I understand the problem with the complexity of including marine mammals as a predator. But was there any effort to do a reasonable estimate? I mean because just anecdotally they appear to be the largest predator eating the most menhaden. It would seem that there would be some effort to include that somewhere in here.



DR. DREW: I mean like I said, it is included in the EwE model that is kind of as a complement or a supporting model to this; and we have looked into the literature, in terms of what is available. I mean as you say there is kind of the anecdotal perception that they're important. But I think then translating that into not just the idea that they're eating a lot, but how has that changed over time?

What is the actual diet composition of those whales and those predators compared to other species that we have more information on? I mean we recognize that it is potentially an important driver of these dynamics. But the data that are available are not comparable to the data that are available on some of our important finfish predators.

I think that is something the Board is going to have to take into consideration when they receive these final numbers; is do these models provide you with the information that you are looking for in terms of, what are your management objectives? If your management objectives are to manage for whales and to manage explicitly for seals and things like that; then maybe you do want the more complex EwE type models.

If you are more focused on the tradeoffs between our managed finfish, then maybe the intermediate complexity is sufficient for you. But I think that the assessment will definitely lay out those kinds of tradeoffs and those relationships. Hopefully we would come to very similar answers. But that is part of where TOR 8 comes in, which is there is tradeoffs in all of these models from both a modeling perspective and then from a management perspective.

CHAIRMAN MESERVE: It feels like we're winding here a little bit on questions. But I did see one more hand from David Blazer; and after that look to the public to see if there are any burning questions about this. I know there is a lot of public interest on this stock assessment. David, go ahead please.

MR. BLAZER: Katie, very complex. You and your team have a lot to address. Let me just ask one more question. If there is any ability to look at some of the issues that we've dealt with in the last six to nine months in a spatial capacity, you know our folks in the Bay are concerned about the interaction between stripers and menhaden. I just ask; will anything here help us with those questions?

DR. DREW: Not really. I think adding the spatial component is something we are interested in; and we recognize it's important. But that is going to have to be for the next benchmark.

CHAIRMAN MESERVE: As I said, is there anyone in the public who has a burning desire to ask a question right now? I see one hand. Please come to the microphone and state your name for the record.

MR. PATRICK PAQUETTE: Patrick Paquette, member of the AP; recreational angler from Massachusetts. Just a question, there is a suite of species that hasn't been mentioned that I didn't read that I just wanted to check on. Up in New England we believe that our small pelagic or funny fish fishery, false albacore, Atlantic Bonita and sometimes Spanish mackerel, and actually in the last couple of years king mackerel are migrating based on abundance of juvenile menhaden. I'm just wondering if that classification of those species were considered at all in the background. I don't imagine they would be one of the dominant species; but we just want to make sure that that seems to be a different time of the year and a different suite of species that make a lot of money for our for-hire and tourism fleet.

DR. DREW: I would say they did not shake out as a major player; in terms of the overall diet composition data, which is why they're not included in some of our intermediate complexity models. Our truly complex models, the ecopath, the full blown ecosystem models does have the ability to kind of fold those predators in, as well as focusing on a little bit of

some of the size class differences of recognizing that they're preying on juvenile menhaden. There may be the ability to kind of compare some of the output of these models; of the more moderate complexity to the truly complex models that do take into account those additional predator species.

CHAIRMAN MESERVE: Anyone else in the public? Seeing none; we'll bring it back to the Board. If there are no further questions, we'll look for any changes to the TORs or a motion to approve the TORs for the 2019 Atlantic Menhaden Ecosystem-based Benchmark Stock Assessment and Peer Review. Robert Boyles.

**MR. BOYLES: I make a motion that we approve these as presented.**

CHAIRMAN MESERVE: Is there a second? Bob Ballou, thank you. Is there any discussion on the motion? We will call the question then. **Move to approve the Terms of Reference for the 2019 Atlantic Menhaden Ecosystem-based Benchmark Stock Assessment and Peer Review. All those in favor please raise your right hand; 18, all those opposed please like sign, any null votes, and abstentions? The motion carries 18-0-0-0.**

#### **REVIEW AND CONSIDER THE 2018 FISHERY MANAGEMENT PLAN REVIEW AND STATE COMPLIANCE REPORTS**

CHAIRMAN MESERVE: We are on to our last item; which is to Review and Consider the 2018 Fishery Management Plan Review and State Compliance Reports. This is an action item. The FMP review also looks at state implementation of the Amendment 3 requirements for 2018; and Max will start us off with a presentation.

MR. MAX APPELMAN: This is the 2018 FMP review of the 2017 fishery for Atlantic menhaden. A quick look at my presentation here, we'll touch on the status of the management plan, status of the stock, status of the fishery, jump into compliance requirements

for 2017, and then as our Chair pointed out, we'll wrap up with state implementation of Amendment 3 and then PRT recommendations.

Kind of clear your minds of Amendment 3, and recall that the 2017 fishery was operating under Amendment 2. The coastwide TAC was distributed solely based on landings from 2009 to 2011. We had timely reporting requirements in place. The 6,000 pound bycatch allowance was also under Amendment 2.

The Chesapeake Bay reduction fishery cap was set at 87,216 metric tons. That also included the eligible rollover; so it was a bit higher than that. Then 1 percent of the overall TAC was set aside for the episodic events program. Additionally Addendum I to Amendment 2 allowed two licensed individuals to harvest up to 12,000 pounds of bycatch when working together from the same vessel; fishing stationary multi-species gear. Obviously a big management decision was made in 2017; so I'm highlighting that here, Amendment 3. As big as that document was, there were few regulatory changes. Most of it had to do with how that total TAC was allocated to the states. I'm just highlighting the few regulatory changes here; and also highlighting that there is some strong language in the Amendment focusing on the want for menhaden-specific ERPs as soon as they come online.

Our state allocation scheme changed. There was a 0.5 percent fixed minimum, and then the remaining balance is distributed based on 2009 to 2011 landings. The 6,000 pound bycatch provision was changed in the sense that it defined those applicable gear types; and our Chesapeake Bay reduction fishery cap was reduced to 51,000 metric tons, and the rollover was removed.

This is status of the stock. Recall we had an update last year; and our reference points changed slightly, with the addition of new years of data. Those new reference point values and definitions are up in the table; upper left hand

side. Our stock status did not change; we're still not overfished, overfishing is not occurring.

Our stock status figures there on the right should look familiar; and of course again two benchmark assessments underway; scheduled for review at the end of 2019. Taking a look at the status of the fishery, in 2017 our overall TAC was 200,000 metric tons; which is roughly 440.9 million pounds.

Our directed harvest, so this is excluding bycatch landings, but is including our episodic events set-aside landings that equated to about 378.12 million pounds; which represents 14 percent underage of the TAC, and is 4.7 percent decrease from our 2016 estimate. Bycatch harvest was estimated at 2.73 million pounds; which is a slight increase from 2016 bycatch landings.

Remember that this does not count towards the TAC; another small statistic that it's about on par with what we've seen relative to the whole time series, so no red flags there. I'll get into more about the bycatch later in my presentation. We combined those two numbers and we have a total harvest of 380.85 million pounds; which is a 4.6 percent decrease relative to 2016.

Zooming in a little bit on the bait fishery, harvest was estimated 96.62 million pounds. This is a 1.8 percent increase from 2016; but still below the previous five-year average. New Jersey, Virginia, Maine, Massachusetts and Maryland landed the largest shares. Looking at the reduction harvest, we have an estimate of 284.2 million pounds.

This is a 6.2 percent decrease from 2016, and 8 percent below the previous five-year average. Looking at reduction harvest from the Chesapeake Bay, again the cap was 87,216 metric tons plus the rollover; and harvest in 2017 was about 20,000 metric tons, which is below that cap. This is a figure that everyone

should be pretty familiar with; showing the trajectories of the different sectors.

We have two different axes here; so our reduction landings are on the left axis, and in the blue dotted line, and it's an order of magnitude larger than our bait landings which are on the right, and in the red. Again, the take home here is that the reduction fishery harvest continues on that downward trend; and our bait fishery harvest continues on that upward trend, again keeping the magnitude of those landings in perspective. This is our 2017 bycatch analysis. This is looking at landings that occurred under the 6,000 pound bycatch provision; so once the directed fisheries are closed states move into this bycatch allowance, and that is what we're talking about here.

This table is showing number of trips; so a total of 3,387 trips landed menhaden under the bycatch provision in 2017, which is a large increase relative to 2016, but if you look at the average over the time series it is about average, actually it's slightly below. Again, the majority of these trips landed less than 1,000 pounds.

This is a fairly detailed table. It might be difficult to see up on the screen; but I urge you to look at it in the report that was in your briefing materials. This is showing average bycatch landings by state and gear type over the 2013 to 2017 period. The predominant gear types here are pound nets and anchored-staked gillnets.

Maryland, Virginia, PRFC and New York landed the largest shares of the bycatch. Again, no red flags in this table. The addition of 2017 data, the percentages by gear type and by state were about the same. Moving on to the episodic events set aside, this table is showing those landings by year. You can see from the table, in the third column the landings column that the landings have increased each year since 2013.

An overage did occur in 2017; so we had three participating states, Maine, Rhode Island and

New York. The landings were estimated at 4.69 million pounds; and the overage of 285,398 pounds will be deducted from the 2018 set-aside quota. The Review Team did have some discussions about this continued rise in set-aside landings. But with the new Amendment 3 quotas in place this year, it's kind of hard to anticipate how landings will shake out under this program moving forward; so no recommended management changes at this time.

Looking at quota performance, there were two transfers that occurred in 2017; both from North Carolina in the amount of 300,000 pounds to New York, and 195,000 pounds to Maine. This was to address overages in those states. The final 2017 quotas are listed in that third column; and then we had a couple overages in 2017, Massachusetts, Rhode Island and Delaware had some overages, which will be deducted from their 2018 quota on a pound-for-pound basis.

Our updated 2018 quotas are on that last column. This does reflect a TAC of 216,000 metric tons. The new Amendment 3 allocations also redistributed relinquished quotas from Delaware, Georgia and South Carolina. Looking at biological sampling efforts in 2017, no red flags here also; and I'll point out a couple things that you might have noticed in the report.

With Maine, you'll see six samples were required only five were collected; and that's really a result of their sampling protocol, where Maine collects a sample on a weekly basis while the fishery is open, and in 2017 that directed fishery was only open for five weeks. Therefore, they didn't have an opportunity to collect that sixth sample, and the PRT saw good faith effort was made to collect those and no issues there. Somewhat similar situation with Connecticut, there was a requirement based on their landings totals to collect a sample, a ten-fish sample. Unable to do that from their directed fishery, again I think this is based on the nature of that fishery, its small volume

operates under that 6,000 pound provision year round. It can be difficult to intercept some of those landings events. What Connecticut has been doing and has continued to do is collect biological data from fishery independent sources.

The PRT and the Technical Committee, I believe, weighed in on this previously and determined that that was sufficient to meet this requirement. De minimis, the states of New Hampshire, Pennsylvania, South Carolina, Georgia and Florida requested de minimis status for the 2018 fishing season.

These states do qualify; because they do not have a reduction fishery, and their bait landings in the two most recent years did not exceed 1 percent of the coastwide bait landings.

### **REVIEW STATE IMPLEMENTATION PLANS FOR AMENDMENT 3**

MR. APPELMAN: With each annual FMP review we of course review the previous fishing season; but we also highlight regulatory changes for the current fishing year, and so that makes a great placeholder for the implementation of Amendment 3.

We recall that implementation plans were due on January 1. They were all received, and states were to implement those provisions by April 15. Implementation plans were to include proposed or already implemented regulatory language; which fulfills each of the requirements of Amendment 3.

As I stated before, as big as that document was there were very few regulatory or compliance related changes in there. Most of them were already implemented coastwide. Following review of those implementation plans, the PRT determined that each state has fulfilled the requirements of Amendment 3, with one exception.

Virginia's 2018 Chesapeake Bay harvest cap for the reduction fishery is higher than that permitted under Amendment 3. One other notable comment from the PRTs review, Pennsylvania, South Carolina and Georgia don't have any directed fisheries at this time, and so those states have indicated that if a fishery were to develop, that they would resubmit implementation plans and demonstrate compliance with the Amendment at that time.

Regarding PRT recommendations, again 2018 being the first year under the new Amendment 3 provisions and new quota allocations, it is kind of hard to see how things will fall out with the bycatch provision and with the episodic set-aside. With all that there are no recommended management changes at this time.

The PRT does recommend approving de minimis status for New Hampshire, Pennsylvania, South Carolina, Georgia and Florida. We will need a motion from the Board that considers approving the FMP Review. Thank you, Madam Chair.

CHAIRMAN MESERVE: This is an action item. But let's begin with any questions. Ritchie White.

MR. G. RITCHIE WHITE: Max, are there in the lengths sampling/age sampling from the Commonwealth of Virginia, is there any being taken in Chesapeake Bay and the coast to see if there is any difference in what's being harvested between the Bay and the coast?

MR. APPELMAN: I'm not certain of the spatial scale. The two different fisheries, the bait and the reduction are sampled separately; I know that. I know it's based on tonnage. I might look at my science staff to chime in here. I think they know the actual data that's collected from that a little bit better than I do.

DR. DREW: For the reduction fishery there is the ability to link a set back to its location. When you take a sample from that final set, we

do know whether it's in the Bay or whether it's on the coast. That information is available and does go into the model. I can't say for sure about the bait fishery; because that's a different sampling protocol, as Max said. I would defer to Virginia itself on whether that type of information is being collected.

CHAIRMAN MESERVE: Follow up, Ritchie?

MR. WHITE: Is that information that could be provided to the Board, I guess is a question then.

DR. DREW: If the Board is interested in seeing that I would think we could definitely arrange that. It will be part of; I think the final assessment report that type of information. When do you want it? We could probably provide it to you at some point.

CHAIRMAN MESERVE: Within the stock assessment is fine, okay thank you. Are there additional questions? Seeing none; we do have a couple items with this agenda item. It is an action item. We do need to accept the 2018 FMP Review and approve the de minimis requests from New Hampshire, Pennsylvania, South Carolina, Georgia, and Florida. Then the Chesapeake Bay reduction cap is going to warrant some additional discussion among the Board. But let's start with the easy part and look to get this document accepted. Cheri Patterson.

**MS. PATTERSON: I would just like to move to approve the de minimis status for New Hampshire, Pennsylvania, South Carolina, Georgia and Florida.**

**CHAIRMAN MESERVE: Would you be willing to include the approval or acceptance of the FMP review in that motion?**

**MS. PATTERSON: Yes.**

CHAIRMAN MESERVE: Thank you, Cheri, is there a second to that motion? Ray Kane, thank

you. Is there any discussion on the motion? Seeing none; the motion is to accept the 2018 Fishery Management Plan Review for Atlantic Menhaden and approve de minimis status for New Hampshire, Pennsylvania, South Carolina, Georgia, and Florida.

**All those in favor please raise your hand; 18, any opposition, please raise your hands, null votes, and abstentions. The motion carries 18-0-0-0.** We have a great record of that so now we'll move on to the trickier part and I'll look to the Board to have some additional discussion of the Chesapeake Bay Cap. As noted, Virginia did not implement the 51,000 metric ton cap for the reduction fishery in the Chesapeake Bay. Steve Bowman, please.

MR. STEVEN G. BOWMAN: Just as a matter of record. In the Commonwealth of Virginia you may or may not know that the Marine Resources Commission does not regulate the menhaden fishery; as far as the adoption of Amendment 3 is concerned. That is left to the General Assembly. This last General Assembly, a bill was introduced, House Bill 16-10 by a member of the majority party in the General Assembly that moved to adopt Amendment 3. It was heavily supported by Governor Northam and Secretary Strickler, who is my supervisor.

But at the end of the day that measure did not pass the General Assembly; which brings us here today. Just for the record, I wanted to let the Board know that Governor Northam and Secretary Strickler and the administration has advanced, along with members of the General Assembly some this bill, in hopes of adopting Amendment 3. But at this present time they have not chosen to adopt that. I just wanted to make that clear for the record that the attempt had been made to adopt it. At the present time it has not been adopted.

CHAIRMAN MESERVE: Robert Boyles.

MR. BOYLES: Madam Chair, if I could ask Commissioner Bowman a question; direct

question to Steve. Steve, does that also mean that the Commonwealth is fishing under your old quota, the pre Amendment 3 quota?

MR. BOWMAN: That's exactly what that would mean at this time; since there has been no adoption made to Amendment 3.

CHAIRMAN MESERVE: Dennis Abbott.

MR. DENNIS ABBOTT: The question for Steve. The Bill Number 16-10 was that brought to a vote before the Assembly or was it killed in Committee, or was it pocketed, or how did it work in Virginia?

MR. BOWMAN: If memory serves me correctly it was initially voted out of the House Agriculture Committee by one vote. It was re-referred to the House Ag Committee and then I don't believe there was another vote made on it. I guess if you can use the term, I don't want to use the term pocketed, because that is a privilege utilized by the members of the General Assembly. But that is the trail that it took and that is where it is now.

CHAIRMAN MESERVE: Roy Miller, pass. Bob Ballou.

MR. BALLOU: Again if I could through you, Madam Chair to the Virginia Commissioner. What are the prospects for having the Virginia Legislature circle back to this issue in a timely fashion?

MR. BOWMAN: Well, I think the prospects are up to the dialogue that is conducted. Furthermore, the Virginia General Assembly is still technically in session; because in Virginia by virtue of the constitution we have to pass a balanced budget, and that needs to be done by July. To answer your question, the General Assembly is subject to recall to consider any motion or any bill that would be provided to them for consideration.

CHAIRMAN MESERVE: Malcolm Rhodes.

DR. MALCOLM RHODES: Again, just a question. What is the pre Amendment 3 cap that the state is operating on currently?

MR. BOWMAN: It's around 87,000 metric tons, yes sir.

CHAIRMAN MESERVE: John McMurray.

MR. McMURRAY: I have a question for Commissioner Bowman too. In the presentation we saw that Virginia was about 20,000 metric tons in 2017, the Bay harvest. That is way, way below the 87,000 metric ton cap. Is there any reason to believe that it would be at all different this year; that that cap would get close to being exceeded or met?

MR. BOWMAN: That cap hadn't been exceeded in a very long time. It has not been exceeded, no.

CHAIRMAN MESERVE: Chris Batsavage.

MR. CHRIS BATSAVAGE: We're concerned about the new cap not being implemented in time, and looking at this through how we've looked at compliance with other FMPs, and how we've had to make sure that for instance our Marine Fisheries Commission stayed in compliance with the cobia implementation plans that were just recently passed.

Yes, I appreciate Virginia's efforts to try to move this forward as best they can. It just didn't happen. However, I have a motion that we find the Commonwealth of Virginia out of compliance with Amendment 3 to the Menhaden FMP.

CHAIRMAN MESERVE: Is the motion on the board your full motion?

MR. BATSAVAGE: Actually I can go ahead and read that one. **Move the Atlantic Menhaden Board recommend to the ISFMP Policy Board that the Commonwealth of Virginia be found out of compliance for not fully and effectively**

**implementing and enforcing Amendment 3 to the Atlantic Menhaden Fishery Management Plan if the State does not implement the following measures from Section 4.3.7 (Chesapeake Bay Reduction Fishery Cap) of Amendment 3: The annual total allowable harvest from the Chesapeake Bay by the reduction fishery is limited to no more than 51,000 metric tons.**

CHAIRMAN MESERVE: Is there a second to the motion? Jim Estes. Discussion on the motion, please. Bob Ballou

MR. BALLOU: Either to you or through you to our Executive Director. I just would be interested in being reminded of the process that would follow if this motion were to not only pass this Board, but also be approved by the Policy Board. What would be the sequence of events that would follow? In particular I'm interested in whether that would afford the Virginia Legislature the opportunity to come into compliance, prior to anything being sent up to a higher level.

CHAIRMAN MESERVE: Bob, go ahead please.

EXECUTIVE DIRECTOR ROBERT E. BEAL: If the Policy Board agrees with this motion then it actually gets forwarded to the Full Commission; so that would be three votes, but if the Full Commission agreed that the state was out of compliance that triggers a clock of ten business days for me to send a letter to the Secretary of Commerce, notifying of the noncompliance finding by the Commission.

Once the Secretary receives that letter, Secretary Ross would have 30 days to make a determination whether he does or does not concur with the Commission's findings. His finding is based on two questions, one, did the state implement regulations consistent with Interstate FMP, and that is a pretty direct yes or no question.

Then the second question would be, does the lack of implementation of the provisions included in our noncompliance finding have a conservation impact on that stock. That's a judgment area by the Secretary of Commerce. There are 30 days for him to make that determination. If the Secretary does agree the state is out of compliance, the Secretary has six months to implement a moratorium.

You've got a 30 day period while a decision is made, and then a six month discretionary window on when a moratorium could start. Does that allow Virginia to come back into compliance; I think is your second part of that. There is a series of time steps there that have to happen. But I'm not sure if that would or would not provide sufficient time for Virginia to come back into compliance.

CHAIRMAN MESERVE: Adam Nowalsky.

MR. ADAM NOWALSKY: Keeping in mind a recent finding by the Secretary of Commerce. Does the Commission feel that it can make a compelling argument to the Secretary of Commerce that this regulation is needed for the conservation of the resource?

CHAIRMAN MESERVE: I'll look to Robert Boyles, please.

MR. BOYLES: Madam Chair, if I may, let me take a swing at that. I pulled up the U.S. Code and would remind you of the 1993 Atlantic Coastal Cooperative Fisheries Management Act. Finding of the U.S. Congress Section 5-1-01 of the U.S. Code, "the failure by one or more Atlantic states to fully implement a coastal fishery management plan can affect the status of Atlantic Coastal Fisheries." I would like to add emphasis here, Madam, "and can discourage other states from fully implementing coastal fishery management plans." I'll speak for myself and say I'm discouraged. We have embarked on this action, and it took a long time to bring us to Baltimore. I went back and I looked, and it was a strong vote to approve

Amendment 3; 17 to 1, I believe. I'm discouraged. I think if I may, Adam to get back to your question. I think we can make a strong case that we really want compliance here.

The law requires compliance. But I saw an opening and I saw the words discouraged. I think part of what we need to keep in mind here is that as you all know I like to quote Dr. Franklin, who said "If we don't all hang together we will certainly hang individually." Thank you.

CHAIRMAN MESERVE: Pat Keliher.

MR. PATRICK C. KELIHER: I appreciate Robert Boyles' words. I certainly also appreciate that the Commonwealth of Virginia has continued to try to make good faith efforts to come into compliance; and because of that good faith effort, I would like to move to postpone. I've sent some language down to Toni.

I'm not sure if she got it. But I don't see it. There it is. **I would move to postpone to the August Commission Meeting Week and in the Interim send a letter to the Commonwealth of Virginia detailing the contents of the postponed motion.** If I get a second I'll give further justification.

CHAIRMAN MESERVE: Second from David Borden; continue Pat.

MR. KELIHER: It's my understanding that the Virginia General Assembly is still indeed in session, and has not gone into recess yet. With an opportunity to correct the Commonwealth's status or statute for menhaden, they have the opportunity to correct those statutes, and they would have the ability to come back into compliance if we give them this delay.

It is also my understanding that Virginia has, as I said earlier, made a very good faith effort to come into compliance. They will continue to hopefully do so, based on the comments from Steve Bowman. I believe that is the case. The fishery is just getting started. They have not



had an opportunity to even start fishing on these 51,000 metric tons for the Bay cap. I think again this would be in the spirit of Robert Boyles' comments to make sure that we're all working cooperatively here, and have an opportunity to come back into compliance as a body.

CHAIRMAN MESERVE: We have a motion to postpone to a definite time, which is a debatable motion, so I'll look to the Board for further discussion of this. Steve Train.

MR. STEPHEN TRAIN: I hate to go against Pat on something, so I need an answer from Virginia if possible; because the last thing I want to do is ever tie up fishing boats and a healthy resource. What is the likelihood that the 51,000 metric ton allowance would be exceeded if Amendment 3 has not been implemented in a timely fashion before we get back in August? Is there any guess probability?

MR. BOWMAN: I think the historical numbers would show that it has been six years since that 51,000 metric ton has been exceeded. I think it would take longer than August, in all likelihood, to exceed those 51,000 metric tons.

MR. TRAIN: with that answer I have a comfort level with the postponement.

CHAIRMAN MESERVE: Dennis Abbott.

MR. ABBOTT: As you probably all know, I'm a very black and white person; in that it's either right or it's wrong. I don't sometimes find myself going to the middle ground. However, I think that this issue goes beyond even the issue of noncompliance with Virginia. It really goes to the health of this organization. Therefore, I will support the motion to postpone, because I think that is where we should go at this point in time.

CHAIRMAN MESERVE: Jim Gilmore.

MR. JAMES J. GILMORE: I think I agree with a lot of the comments, and I would just add that based upon the history of harvest in that cap and the concern of maybe damage to the resource. The harvest has been so low and that is a healthy stock. On top of that I think I share Robert's comments about, we are concerned.

This is something that is serious and it's what we're here for. But we have to recognize in deference to Virginia that they do have a new administration; and they're just sort of getting their act together in some respects, as most administrations do. I think in the spirit of cooperation, you know giving them that extra time to consider this I think is appropriate at this time, so I support the motion.

CHAIRMAN MESERVE: Chris Batsavage.

MR. BATSAVAGE: Yes there are certainly some unique circumstances with this particular compliance issue; especially where Virginia's General Assembly manages the menhaden fishery as opposed to the State Agency. I guess a question I have is if this motion passes are we setting precedent for other instances where states don't implement compliance measures by a certain date?

I know there are some times when we have to give states a little extra time if they give us advanced notice. But are we setting a precedent here for say our recreational fisheries that we often have to implement measures on an annual basis?

CHAIRMAN MESERVE: I too remember a number of times that we've given some leeway to states to implement measures when they have difficulties with Legislature or other timing of regulations. I see staff nodding their head to some degree. I don't believe this would be a precedent setting action. I see Toni Kerns is nodding her head. I saw Ritchie White next.

MR. WHITE: I as well will support this motion. I think it also allows Omega Protein to show good

faith with this Commission; and not actively pursue catching the Bay cap. I think it gives them a chance to show they want to work with the Commission to allow proper regulations to come into effect.

CHAIRMAN MESERVE: Tom Fote

MR. FOTE: Being a recipient over the years of when we used to do striped bass by legislation instead of as we can do it now. There were many times, one time because the State House flooded, and we couldn't get in for a vote. We had to have a special meeting by the Senate to actually get a striped bass. I understand the problem. The Commission has always been sympathetic to those situations. I guess I have to be understanding for Virginia too.

CHAIRMAN MESERVE: David Borden.

MR. DAVID V. BORDEN: I totally agree with many of the provisions and points that Robert made on this issue; but I seconded this. Being mindful of the question that Chris asked about have we done this before? I just remind everybody that about six months ago we did this, or maybe less. We did this with the Commonwealth of Massachusetts where they had not adopted a mesh size regulation; and we basically allowed them three months to bring their regulations into compliance, and they did. Hopefully we'll get the same result.

CHAIRMAN MESERVE: Thank you for that reminder, David. John McMurray.

MR. McMURRAY: I certainly understand the concern about precedent. But as we've heard from a practical perspective, it is very unlikely that that 51,000 metric ton cap is going to be exceeded. But I guess my question is; what is the plan for Virginia? Is the Legislature even in session to deal with this? Is there a game plan?

MR. BOWMAN: I wouldn't consider it a game plan. I don't want to use the word "game." It's a plan, and that would be that should this

august Board decide to adopt the motion, we would then distribute the letter outlining the concerns to the Legislature and explain thoroughly during the course of the dissemination what the ramifications are again, for not coming into compliance with Amendment 3.

CHAIRMAN MESERVE: Doug Brady.

MR. BRADY: We should assume that the Legislature has until July 1 to pass a bill. If nothing happens up to the July 1 it's a moot point; because after that the Legislature has adjourned for the year, and we know where we're headed. Can we assume that?

MR. BOWMAN: One could assume that but the General Assembly in the Commonwealth of Virginia is always subject to recall by the Governor of the Commonwealth.

CHAIRMAN MESERVE: Any additional comments from the Board? Is there anyone in the public who would like to address the motion to postpone? Seeing none; are we ready to call the question? Is there a need to caucus? It seems pretty quiet so we'll go ahead. **The motion is to postpone to the August Commission Meeting Week and in the Interim send a letter to the Commonwealth of Virginia detailing the contents of the postponed motion. All those in favor please raise your right hand; opposed like sign, null votes, and abstentions, 2. The motion carries 16-0-0-2.**

#### OTHER BUSINESS

CHAIRMAN MESERVE: We are down to other business. Is there any other business to bring before the Board? Dennis Abbott.

MR. ABBOTT: I note in our document paperwork in front of us that we do not have a Vice-Chair. Are you planning to have a Vice-Chair or are you going to handle it all by yourself for two years?

**ADJOURNMENT**

CHAIRMAN MESERVE: I would love a Vice-Chair. Max has advised that we'll take care of that at the next Board meeting. Is there any other business to come before the Board; if not we will adjourn the meeting.

(Whereupon the meeting adjourned at 12:20 o'clock p.m. on May 2, 2018)