Atlantic States Marine Fisheries Commission

ISFMP Policy Board

January 27, 2022
1:00 – 3:00 pm
Webinar

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 *(S. Woodward)* 1:00 p.m.
2. Board Consent *(S. Woodward)* 1:00 p.m.
   - Approval of Agenda
   - Approval of Proceedings from October 2021
3. Public Comment 1:05 p.m.
4. Executive Committee Report (*S. Woodward*) 1:15 p.m.
5. Review and Discuss 2021 Commissioner Survey Results (*D. Tompkins*) 1:30 p.m.
6. Consider Policy on Information Requests **Action** (*R.* Beal) 1:50 p.m.
7. Update on East Coast Climate Change Scenario Planning (*T. Kerns*) 2:05 p.m.
8. Committee Reports **Action** 2:15 p.m.
   - Habitat Committee (*L. Havel*)
   - Atlantic Coast Fisheries Habitat Partnership (*L. Havel*)
9. Review Noncompliance Findings (If Necessary) **Action** 2:40 p.m.
10. Other Business/Adjourn 2:45 p.m.

This meeting will be held via webinar, click here for details.

MEETING OVERVIEW

ISFMP Policy Board
Thursday January 27, 2022
1:00 – 3:00 p.m.
Webinar

Chair: Spud Woodward (GA) Assumed Chairmanship: 10/21	Vice Chair: Joe Cimino (NJ)	Previous Board Meeting: October 21, 2021
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (19 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from October 21, 2021

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. Executive Committee Report (1:15- 1:25 p.m.)

Background

- The Executive Committee will meet on January 26, 2022

Presentations

- S. Woodward will provide an update of the Executive Committee's work

Board action for consideration at this meeting

- none

5. Review and Discuss 2021 Commissioner Survey Results (1:25-1:45 p.m.)

Background

- Commissioners completed a survey of Commission performance in 2020 (**Briefing Materials**). The survey measures Commissioner's opinions regarding the progress and actions of the Commission in 2021.

Presentations

- D. Tompkins will present the results of the 2021 Commissioner survey highlighting significant changes from the previous year.

Board discussion for consideration at this meeting

- Determine if any action is required based on the survey results

6. Consider Policy on Information Requests Action (1:45-2:00 p.m.)

Background

- ASMFC member states have committed to transparent and open ASMFC decision-making, record-keeping, and public meeting processes. A policy had been drafted to provide clarity to the public on making information requests for information that is not available on the Commission's web page.

Presentations

- R. Beal will present the policy on information requests (**Briefing Materials**)

Board action for consideration at this meeting

- Approve Policy on Information Requests

7. Update on East Coast Climate Change Scenario Planning Initiative (2:00-2:15 p.m.)

Background

- In November 2020, the Northeast Region Coordinating Council (NRCC) initiated a region-wide scenario planning initiative. Through this East Coast Climate Change Scenario Planning Initiative, fishery managers and scientists are working collaboratively to explore jurisdictional and governance issues related to climate change and shifting fishery stocks.
- The specific focus of this scenario project is (i) to assess how climate change might affect stock distribution, availability and other aspects of east coast marine fisheries over the next 20 years, and (ii) to identify what this means for effective future governance and fisheries management.
- A scoping process was conducted in August-September 2021 to introduce the initiative to stakeholders, to seek input on the draft project objectives, and to solicit input from stakeholders on factors and issues that might shape the future of East Coast fisheries. Scoping consisted of a series of three kick-off webinars and an online questionnaire. A summary of the scoping process and input received can be found here.

Presentations

- T. Kerns will provide an update of the initiative

Board action for consideration at this meeting

- None

8. Committee Reports (2:15-2:40 p.m.) Action

Background

- The Habitat Committee met in the fall of 2021
- The Committee updated the Commission's Submerged Aquatic Vegetation (SAV) Policy (**Briefing Materials**)
- In the Fall of 2021 the ACFHP Steering Committee met and provided update on endorsed projects and a summary of FY2023 National Fish Habitat Partnership project applications

Presentations

• L. Havel will present a summary of the HC fall meeting • L. Havel will present updates to the Commissions SAV Policy • L. Havel will present an overview of ACFHP activities
Board action for consideration at this meeting • Approval of the update SAV Policy

9. Review Non-Compliance Findings, if Necessary Action

10. Other Business

11. Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ISFMP POLICY BOARD

Webinar
October 21, 2021

These minutes are draft and subject to approval by the ISFMP Policy Board.
The Board will review the minutes during its next meeting.

Draft Proceedings of the ISFMP Policy Board Webinar
October 2021

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ATTENDANCE

Board Members

Pat Keliher, ME (AA)
Cheri Patterson, NH (AA)
Ritchie White, NH (GA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
Dan McKiernan, MA (AA)
Raymond Kane, MA (GA)
Jason McNamee, RI (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Justin Davis, CT (AA)
Bill Hyatt, CT (GA)
Sen. Craig Miner, CT (LA)
Jim Gilmore, NY (AA)
Joe Cimino, NJ (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, proxy for Asm. Houghtaling (LA)
Kris Kuhn, PA, proxy for T. Schaeffer (AA)
Warren Elliott, PA (LA)
John Clark, DE (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Bill Anderson, MD (AA)
Russell Dize, MD (GA)
Pat Geer, VA, proxy for S. Bowman (AA)
Shanna Madsen, VA, proxy for B. Plumlee (GA)
Chris Batsavage, NC, proxy for K. Rawls (AA)
Bill Gorham, NC, proxy for Rep. Steinberg (LA)
Mel Bell, SC, proxy for P. Maier (AA)
Doug Haymans, GA (AA)
Spud Woodward, GA (GA)
Erika Burgess, FL, proxy for J. McCawley (AA)
Marty Gary, PRFC
Karen Abrams, NMFS

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

Staff

Robert Beal
Toni Kerns
Tina Berger
Laura Leach
Lisa Carty
Maya Drzewicki
Pat Campfield
Kristen Anstead
Emilie Franke
Lisa Havel
Chris Jacobs
Jeff Kipp
Dustin Colson Leaning
Savannah Lewis
Kirby Rootes-Murdy
Sarah Murray
Caitlin Starks
Deke Tompkins

Guests

Katie Almeida
John Almeida, NOAA
Max Appelman, NOAA
Mike Armstrong, MA DMF
Pat Augustine, Coram, NY
Julia Beaty, MAFMC
Adam Belk, NEFMC
Rick Bellavance, Kingstown, RI
Bill Biswanger
Sarah Bland, NOAA
Ellen Bolen, VMRC
Bonnie Brady
Jeff Brust, NJ DEP
Thomas Burrell, PA F&B
Mike Celestino, NJ DEP
Peter Clarke, NJ DEP
Heather Corbett, NJ DEP
Carson Coutre, MAFMC
Jessica Daher, NJ DEP
Kiley Dancy, MAFMC
Lennie Day
Greg DiDomenico
Michelle Duval, MAFMC
Dan Farnham
Emily Farr, Manomet
Lynn Fegley, MD DNR
Skip Feller
Marianne Ferguson, NOAA
Cynthia Ferrio, NOAA
Lewis Gillingham, VMRC
Bob Giordano
Angela Giuliano, MD DNR
Willy Goldsmith, SGA
Robert Groskin, Teaneck NJ
Sonny Gwin
Brendon Harrison, NJ DEP

Guests (continued)

Hannah Hart, FL FWC
Dewey Hemilright
Jay Hermsen, NOAA
Helen Heumacher, US FWS
Jaclyn Higgins, TRCP
Harry Hornick, MD DNR
Asm. Eric Houghtaling, NJ (LA)
Peter Hughes, Atlantic Capes
Jacob Jaskiel
Jeff Kaelin, Lund's Fisheries
Emily Keiley, NOAA
Moira Kelly, NOAA
Adam Kenyon, CMRC
Wilson Laney
Scott Lenox
Tom Little, Ofc. Asm. Houghtaling
Mike Luisi, MD DNR
Dee Lupton, NC DENR
Chip Lynch, NOAA
John Maniscalco, NYS DEC
Chris McDonough, SC DNR
Kim McKown, NYS DEC
Conor McManus, RI DEM
Nichola Meserve, MA DMF
Steve Meyers
Mike Millard, US FWS
Jose Montanez, MAFMC
Chris Moore, MAFMC
Brandon Muffley, MAFMC
Allison Murphy, NOAA
Lindsey Nelson, NOAA
Willow Patten, NC DENR
Mike Pentony, NOAA
Nicholas Popoff, FL FWS
Will Poston, SGA
Kathy Rawls, NC (AA)
Paul Risi, Kingsborough CC
Scott Sakowski, NOAA
Tara Scott, NOAA
Somers Smott, VMRC
Scott Steinback, NOAA
David Stormer, DE DFW
Rustin Taylor
Marek Topolski, MF DNR
Wes Townsend
Carolyn Tyson
Carrie Upite, NOAA
Mike Waine, ASA
Kate Wilke, TNC
Angel Willey, MD DNR
Derri Williams
Sara Winslow
Horace Wynn
Sarah York, NOAA
Erik Zlokovitz, MD DNR
Renee Zobel, NH FGD

The ISFMP Policy Board of the Atlantic States Marine Fisheries Commission convened via webinar; Thursday, October 21, 2021, and was called to order at 12:45 p.m. by Chair Patrick C. Keliher.

CALL TO ORDER

CHAIR PATRICK C. KELIHER: Welcome everybody to the October meeting of the Interstate Fisheries Management Program Policy Board. My name is Pat Keliher, the current Chair of the Commission, the outgoing Chair of the Commission. We're going to work down through this agenda as efficiently as we can.

As folks involved noticed, we do have members of the Mid who have joined us, and we will open that portion of being up as Item Number 4.

APPROVAL OF AGENDA

CHAIR KELIHER: Before we get to that, I've got a little bit of business to go through, first being Board Consent for Approval of the Agenda. Does anybody have any items that they would like added to the agenda under Other Business?

APPROVAL OF PROCEEDINGS

CHAIR KELIHER: Seeing no hands, I'm assuming that the agenda is fine as presented, so I will proceed to Approval of Proceedings from the August 2021 meeting. Does anybody have any additions, deletions, or comments on those proceedings? Seeing no hands, we will consider those approved.

PUBLIC COMMENT

CHAIR KELIHER: Item Number 3 is Public Comment. Is there any member of the public who would have a comment on something that is not on the agenda? Do you have any names, Toni?

MS. TONI KERNS: I have no names and I see no hands.

UPDATE ON DRAFT AMENDMENT AND FRAMEWORK ON THE HARVEST CONTROL RULES FOR BLUEFISH, SUMMER FLOUNDER, SCUP, AND BLACK SEA BASS

CHAIR KELIHER: At this time, we are going to move on to Item Number 4, which is a joint meeting with the Mid-Atlantic Fisheries Management Council, and it is an update on Draft Amendment and Framework on the Harvest Control Rules for Bluefish, Summer Flounder, Scup, and Sea Bass. Before I turn it over to Toni to kick this off, I just recognize Mike Luisi, and Mike, do you have any comments before we kick this off?

MR. MIKE LUISI: No, I don't have anything in addition. I'm looking forward to the discussion. I just want to welcome the Council members who were able to make it here today. Hopefully next time we get together we'll be able to be together in some capacity. Thanks though, for a good opportunity, and I guess I'll turn it back to you for Toni's presentation.

CHAIR KELIHER: Thank you, Mike. Just so the members of the Policy Board and the Council are aware. If we do get to a vote situation, Mike and have discussed this prior to, and we will proceed for this particular meeting as we have in the past with like motions, if it comes to that. With that, I'm going to turn it back over to Toni Kerns.

MS. KERNS: Thank you Mr. Chair, and I just wanted to let everyone know that Savannah Lewis and Julia Beaty have been here meeting the PDT and FMAT. The group has been working very diligently on the Harvest Control Rule for the past several months. We're going to have a little bit of a team presentation. I think, Savannah, did you have any additional things you wanted to say, or are we going to go straight to Dustin?

MS. SAVANNAH LEWIS: Hey Toni, thanks for that. Yes, we're going to go straight to Dustin, and it will be myself, Dustin and Julia Beatty from the Council presenting. We're just looking forward to sharing what we've been working on, so I'll turn it over to Dustin to kick us off.

MR. DUSTIN COLSON LEANING: As has been alluded to, we'll be covering the Harvest Control Rule throughout the Addendum Framework. I'll begin with the review of the draft options, then I'll be followed up by Julia, who will provide some overview caveats of the different options, and then also she'll follow up with accountability measures under all of the options.

Then Savannah will provide a recap of the Science and Statistical Committee's Sub-Group Peer Review Report on the two models which are currently being developed to help inform the recreational measure setting process. Savannah will then close out with PDT/FMAT recommendations for next steps, and then after questions on the presentation, the Policy Board and the Council will have time to provide feedback and guidance on the options and next steps.

I'll open with goals of the draft addendum framework, just to kind of jog your memory here. But the goals are to establish a process for setting recreational bag and season limits for summer flounder, scup, and black sea bass and bluefish, such that measures aimed to prevent overfishing are reflective of stock status, appropriately account for uncertainty in the recreational data, take into consideration angler preferences, and provide an appropriate level of stability and predictability in changes from year to year.

I'll start with the status quo action option, Option A that is within the fishery management plans for summer flounder, scup, and black sea bass, as well as within the FMP for bluefish. This process currently in place, aims to prevent overages of the recreational annual catch limit or ACL, and the acceptable biological catch limit or ABC, not through the implementation of recreational measures that are reasonably expected to achieve, but not exceed the recreational harvest limit.

The Monitoring Committee and the Technical Committee have considerable flexibility when doing this, and how they develop the measures for federal and state waters. But generally, MRIP data from one or more recent years are used to predict impacts of bag, size and season limit on harvest.

The TC and MC can also focus on other factors that can be considered. For example, the resource's availability, changes across the coast, stock status, changes in recruitment, or as the different year classes recruit through the fishery, and data considerations, such as the variability in MRIP estimates. Now getting into the heart of the options for the harvest control rule. You have Option B, which is the percent change option. This starts with an MRIP to RHL comparison. Management responses are narrowed down, depending on if the RHL is within, above or below the 80 percent joint distribution confidence interval of the MRIP estimates. The RHL will ideally be a two-year average, and the confidence interval will consider the two most recent years of harvest, because the intent is to have a multi-year measure setting process.

It is synced up with the two-year stock assessment cycle that we're now on with the management track assessments run by the Science Center. The PDT/FMAT analyzed a variety of different approaches for generating a confidence interval, and settled on the joint distribution method, which takes into account both the PSE values of each individual estimate for a given year, as well as the variability between the two years of estimates.

The PDT/FMAT also discussed the possibility that this MRIP versus RHL comparison could be replaced with a statistical model-based estimate of harvest and an associated confidence interval, which would be compared to the RHL. The standard MRIP to RHL comparison assumes same measures are likely to achieve the same level of harvest, even if stock dynamics are changing.

Using statistical models could take into consideration metrics such as recruitment, and biomass trends potentially produce a more

predictive and robust estimate of harvest, considering changing stock dynamics. The next step of this approach is to compare spawning stock biomass to the target.

In years that responses differ, depending on if biomass is below the target, between the target and 150 percent of the target, or more than 150 percent of the target. Essentially, the magnitude of the difference between the MRIP estimate and the RHL in biomass relative to the biomass target, determined the percentage liberalization, reduction, or status quo.

I know that there is a lot of information I just walked through, so for visual thinkers out there maybe this will help. Here we have a visualization of what I just talked about. First, we compare the future two-year average RHL, the MRIP estimates confidence interval, to determine if we are in Row A, B, or C.

Then we look at where biomass is relative to the target, moving over to the next column. Then the right most column provides the associated percent change in measures. I will note here that an analysis was conducted, to help determine the appropriate percent change in measures for each row. This analysis took into consideration historical comparisons of MRIP to the RHL within the black sea bass and summer flounder fishery.

We can get into more details on that if there are follow up questions, I have a back-up slide prepared, but just in the interest of time I'll move on to other considerations. Like I said, there are some additional considerations related to this option, which should be resolved before this is finalized for public comment, and the PDT/FMAT will continue to discuss these.

The first consideration relates to the boxes outlined in red, specifically for the lower red boxes. Some PDT/FMAT members had concerns about always allowing status quo when biomass is above 150 percent of the target, and an RHL overage is expected. Regardless of the magnitude overage, things would still be held at status quo. One suggestion was maybe to change that to a 10 percent reduction, rather than keeping it at status quo. But really, the PDT/FMAT has not yet reached consensus on the best approach for this. There are considerations about mirroring things up and down, and what really is the most appropriate, considering the RHL comparison, as well as stock status.

Some PDT/FMAT members thought status quo would be appropriate, given that biomass is still high above the target. The results of some consideration and discussions about the top red box, specifically, is it appropriate to always maintain status quo when biomass is below the target, but an RHL underage is expected. These things will need to be resolved.

For the boxes outlined in orange, the PDT/FMAT discussed whether the change in measures should be capped such that the percentage liberalization reduction does not exceed the percentage difference between the two-year average RHL and the two-year average MRIP estimate. This would prevent the use of larger changes, when otherwise needed.

But it also brings this option a lot closer to the no-action alternative, in terms of how this process is done. Moving away from a binned approach and more of a targeted, more precise percentage change approach. Another thing to note here is that this alternative considers changes from a starting point.

The current management measures may not be appropriate for a starting point, for a variety of different reasons. For example, there is widespread angler dissatisfaction with some of these measures, and there is also potential for notable ACL overages for some species under the current allocation.

The FMAT/PDT is considering ways to define the appropriate starting point for each species under each option, by using statistical models and other methods. Additional time is again needed to further develop these ideas, and updates will be

provided at a future Council and Policy Board meeting.

Before I move on to the next Harvest Control option, I thought it would be great to highlight this infographic that Savannah created with the PDT/FMATs help. The hope is that someone who used this infographic, along with the previous table that I showed on the last slide, they will gain a basic understanding of the control rule option.

This infographic, along with all the other infographics with the other options, were included in supplementary materials, which may be helpful to view if Policy and Board and Council members have trouble viewing this with the small font, or would like to provide feedback at the end of the presentation.

Option C is the fishery score approach, where multiple metrics are combined at the one fishery score value, to determine what each bin or what bin each stock falls into, and which predetermined set of measures should be specified. High scores are reflective of good stock status, with a maximum score of five, and then a minimum score of one. The first metric considers fishing mortality, or F relative to the threshold fishing mortality, which is defined as maximum sustainable yield or the relevant proxy for each stock. The F over Fmsy metric was updated to three categories, where F is at least 5 percent less, at least 5 percent greater, or within 5 percent of Fmsy. Essentially, the lower the ratio of F over Fmsy, the higher the score. Then moving on to the second metric., which is spawning stock biomass relative to the spawning stock biomass target.

Biomass from the most recent stock assessment would be given a value of 1 through 5, depending on the ratio of biomass to the target, and the higher the biomass is relative to the target, the higher the resulting score. The third metric considers recruitment. The most recent three-year average estimate of recruitment is compared to the 20th, 40th, 60th, 80th, and 100th percentiles of the distribution of the time series of recruitment used in stock projections.

The higher the three-year average recruitment value is relative to the historical percentile, the higher the score for this metric. Then the last metric is fishery performance, or more specifically, a comparison of the two-year average upcoming RHL with a confidence interval of the most recent two years of MRIP harvest.

If the RHL is above the confidence interval it scores a 5, if RHL is within the confidence interval it scores a 3, and then following if the RHL is below the confidence interval it scores a 1. This metric could potentially be calculated by comparing the average RHL to the confidence interval associated with a statistical model-based estimate of harvest. We'll get into that later.

Each metric will have a specific weighting, but the Monitoring and Technical Committee will have the opportunity to recommend adjustments to the weightings during the specifications process. Once the metric values are calculated, and the appropriate weightings are applied, the stock will receive a corresponding fishery score and associated bin that will be reflective of stock status and fishery performance outlook.

Each bin will have a predetermined set of measures, as I said before, and the higher the fishery score the more liberal the measures, and then in reverse, the lower the fishery score the more restrictive the measure. Here we have an infographic that was recreated to help visualize the steps that are reviewed on the previous slide.

I recognize that this may be a very small font for some people, especially if you're looking on a cell phone or a small laptop. But this again was also made available through supplemental materials, and this graphic just highlights the two-year specifications cycle that begins with a new stock assessment result, then calculates fishery score metrics, uses the formula to calculate the fishery score, and then determines the appropriate

management bin in measures based on the fishery score.

Option D is the biological reference point approach, and there are two primary metrics that determine which bin the stock should be assigned to. The first spawning stock biomass relative to the biomass target in fishing mortality, relative to the fishing mortality threshold, are both pulled from the most recent stock assessment. If a stock is entering its second specification cycle in the same bin, then secondary metrics are used to determine if the measures should be liberalized, restricted, remain status quo, or whether the default measures should be reevaluated. These secondary metrics are recruitment compared to the time series median, biomass trend, and expected catch or harvest compared to the ACL or RHL respectively. Fishery performance relative to ACL or RHL is only considered when the latest stock assessment indicates that overfishing was occurring in the terminal year of the assessment.

This again is a visual representation of what I just walked through. In total there are 13 sets of predefined measures. Bins 1 and 2 in green have default measures, and a more liberal set of measures if biomass trend is increasing. Bins 3 through 6 in yellow have a default set of measures and a more restrictive set of measures if either recruitment or biomass are increasing, and if the stock is entering its second specification cycle in Bins 4 through 6 on the right-hand side, which is where F exceeds the threshold, and catch or landings exceed the ACL or RHL.

Then the default measures within that Bin would be reevaluated and reassigned. Lastly, if a stock is overfished it falls into Bin 7 there at the bottom, with the most restrictive measures assigned until the rebuilding plan is implemented. The fish pictures on the screen indicate which bin each stock will be placed in based on the current stock status.

Again, we have another infographic that provides visual representation of the biological reference point approach. This again was included in supplementary materials, and the nuances of this option were a little challenging to capture, so the PDT/FMAT is open to feedback on how to improve this infographic, and of course you are welcome to provide feedback on all of the infographics that we show here today.

Option E is the biomass-based matrix approach. This alternative has remained largely unchanged since it was last presented in August. A stock is assigned a bin based on two factors, spawning stock biomass compared to the target, and second the most recent trend in biomass. As can be seen on the table, stock status is defined as abundant, healthy, below the target and overfished, and biomass trend would be classified as either increasing, stable or decreasing.

Each Bin would have a predetermined set of measures assigned, with the most liberal assigned to Bin A, and the most restrictive assigned to Bin F. Again, the fish pictures on the screen help indicate which bin each stock would be placed in based on the most recent stock assessment information coming out of the June, 2021 management track assessment.

Again, we have the infographic for the biomass-based matrix approach, and again any and all feedback on this graphic is welcome at the end of our presentation. The PDT/FMAT also created an option comparison table to help summarize the options and differentiate them from each other. The first column lists the option, the name of the option, and columns 2 through 6 list which metrics are used in which of the options.

Just to clarify here, expected harvest refers to expected harvest under status quo measures compared to the upcoming year's RHL. This could also be based on past MRIP estimates, including consideration of confidence intervals for those estimates, or in model-based estimate of harvest, including consideration related to uncertainty in that estimate. The methods range from the no

action status quo option that only compares expected harvest to the upcoming RHL to the more complex biological reference point option that uses all five metrics. Under Column 6, we can see that measures are not predetermined under the no action option, nor the percent change option, but are for the remaining option. Then the seventh column lists the expected number of sets of predetermined measures under each option, and lastly, measures are ideally specified for two years under all options, excluding status quo. Now I'll turn it over to Julia, who will cover some additional aspects of the Harvest Control Rule options, along with information on the accountability measures under each option.

MS. JULIA BEATY: Thanks, Dustin. First, we wanted to emphasize some things about stock under a rebuilding plan. I want to say this is most relevant for bluefish right now, hopefully never relevant for the other species. But we do have everything in the draft, pretty much an addendum set up, so that it's clear that when the stock is under a rebuilding plan, the rebuilding plan dictates what the measures are, not the Harvest Control Rule.

Plus, the options in this action, they will not replace those rebuilding plan measures, but in some instances the options could include measures that would be implemented as temporary measures until a rebuilding plan can be implemented, because once a stock is declared overfished, it can take up to two years until the rebuilding plan is implemented.

During that up to two-year time period, there is room for, for example the most restrictive measures under a Harvest Control Rule option to be implemented. But once the rebuilding plan is in place, then whatever the rebuilding plan says goes. Then once the stock is no longer in a rebuilding plan, then measures can be set based on the Harvest Control Rule.

We thought this would be a reasonable way to kind of address what would happen on the rebuilding plan, and set the stage so that when bluefish gets out of a rebuilding plan the process can be ready to go that these options could be used when the rebuilding plan is not in place any longer.

The next topic is how will we go about setting measures for each bin? This only applies for the options that you bin, so specifically the fisheries score, biological reference point and the biomass-based matrix options. Those all have bins with predetermined measures associated with them. The FMAT and PDT has agreed that the measures for each bin will aim to achieve a range of harvest that is appropriate for stock conditions associated with each bin.

For the most part the bins already have a clearly defined stock status associated with them, for example, based on biomass compared to the target level. But for options that consider multiple other metrics in addition to biomass compared to the target, so for example the fishery score that Dustin described. That contains consideration of multiple different metrics.

But we have worked in some examples into the document in the briefing materials about how we would go about specifying the stock status that is associated with each bin, and the expected level of harvest associated with that bin, even though deciding which bin you're in is based on multiple factors. The measures with each bin would be based on stock status considerations.

For all of the options the PDT and FMAT are still discussing the details, or how to define the appropriate level of harvest from each bin, and how to take measures to go along with that level of harvest, including considerations for how this relates to the ACL or the RHL. This can include considerations related to confidence intervals and other statistical metrics and models, and it can be assumed that each set of measures will result in a range of expected harvest, which is what we've seen in reality is that you keep the same set of measures in place over time it will result in varying levels of harvest.

Even though we're saying that each set of measures will aim to achieve a range of harvest that is appropriate for stock status. That doesn't mean that we're trying to pinpoint an MRIP estimate on an RHL, that we can take in these other considerations. But again, I think these are really important details that the FMAT and PDT will continue to work through over the next few months.

Then also, all the measures under any of these bins will be informed by a combination of quantitative analysis and stakeholder input. Ideally, we will have a statistical model that we could use to help inform our setting of measures, and Savannah will later describe two models that we're hoping to use.

We can also use other quantitative methods to help us pick the measures that might be appropriate. But we're not going to pick it just based on a model, or just based on quantitative analysis. Stakeholder input is still going to be very important here, because a model is not going to be able to answer all of our questions for us.

A model might be able to tell us something like, if you're aiming to achieve a certain level of harvest here are ten different combinations of measures that you could use to get you there. Then stakeholder input can be a very important way to help us pick which of those ten to use, or even if we don't have a model, or we want to consider something beyond what the model tells us. Stakeholder input will be very important for that.

We will definitely have a role for the Advisory Panel in this, because this action is establishing the process that we will use to set the measures, when it's not setting the specific measure, because those will be implemented and can be modified through the specifications process, and the Advisory Panel already has a clearly definable in the specifications process. That's just one example of how stakeholder input will play into this.

Also, the measures will be regularly reevaluated, to ensure that they remain appropriate. Again, they can be modified through the specification process. Next, we just wanted to touch on the Magnuson Stevens Fishery Conservation Magnuson Act requirements. There are some details relating to these specific requirements, so specifically ACLs.

Like I said in the previous slide, there are still some details that we're going to work through, in terms of how does the ACL play into the measures associated with each bin, for example. But just wanted to kind of say up front that all of the options that the Council would consider for implementation to the Council's framework, have to comply with the Magnuson Act.

The Council's framework action must be approved an implemented by NOAA Fisheries, and NOAA Fisheries will not approve measures that are inconsistent with the Magnuson Act. NOAA Fisheries provides guidance throughout development of Council actions, to help ensure that we're getting to a place where we're putting forward something that is consistent with all applicable laws. The first two bullets on the screen here are the Magnuson Act requirements that we think are probably the most directly relevant to this action.

First of all, no matter what management program we come up with, we have to prevent overfishing. We also have to have annual catch limits and measures to ensure accountability. I'll describe accountability measures in a little bit more detail over the next few slides. In terms of accountability measures, the only language in the Magnuson Act is that we need annual catch limits, including measures to ensure accountability.

The language on the screen here comes from the National Standard Guidelines, which provides more guidance on how we go about having measures to ensure accountability. There are two different types of accountability measures or AMs. The first type is reactive AMs, which are measures to prevent ACLs from being exceeded in the first place.

Those are the proactive AMs, and then the reactive AMs are measures to correct or mitigate for ACL overages if they do occur. Also, AMs should address and minimize both the frequency and magnitude of overages, and correct the problems that cause the overage in as short a time as possible.

In terms of proactive accountability measures, we don't think there are any changes needed to our current proactive AMs, because under each option measures would be set based on considerations related to stock status. Like I previously said, measures would be expected to achieve a level of harvest appropriate for stock status, and the considerations that go into that vary by options, as listed on the screen here.

But just the fact of having measures that attempt to constrain harvest to appropriate levels, that in and of itself is a proactive AM. The FMAT and PDT didn't see a need to build in specific options related to proactive accounting doing that, just because we felt that that is already covered under the options as they are.

In terms of reactive accountability measures, so measures that are used if an ACL overage did occur. There are some recommended tweaks to the current reactive AMs under each option, and I'll go through them for each of the options. In general, there are two steps for the reactive AMs, and the first step is to determine if a reactive AM was triggered, and then the next step is if it was triggered then what is the appropriate response?

We're not recommending any changes at this point in time to Step 1, because especially for summer flounder, scup and black sea bass, the FMAT and PDT thought that's an appropriate comparison, where we look at a three-year average ACL compared to a three-year average of recreational dead catch to determine if the ACL was triggered.

The FMAT and PDT thought it was appropriate to see a three-year average, a current regulation that's been in place for several years, and the three-year average helps to kind of deal with some interannual variability and uncertainty in the MRIP data. For bluefish it is actually single-year comparison at this point in time. With the recent bluefish amendment, the fishery will move towards separate commercial and recreational ACLs, so it may make more sense to consider using a three-year average comparison for the recreational accountability measure for bluefish in the future. But at this point in time, it is a single-year comparison.

Again, Step 2 is what is the appropriate response if this trigger has been met in Step 1? That's what I'm going to walk through in the next slides. But in general, the FMAT and PDT tried to have the response as closely matched to the current AMs as possible, with modifications as necessary to fit with the intent of the alternative, so to address things like if you have a binned approach, we need to change some of the language so that it makes sense, logic with that.

This slide summarizes the current reactive accountability measures of the recreational fishery, and I am going to walk through this in detail, because it sets the stage for the next few slides, so just bear with me while I walk through the amount of text on the screen here. First of all, this is assuming that an AM was triggered.

First there is consideration given to stock status, which is what the 1, 2, and 3 is here. Already this sounds some similarities to some themes that are considered through some of the options in this action. If you're in Category 1, that is the worst stock status. The stock is overfished under a rebuilding plan, or stock status is unknown.

This requires the most strict response to an ACL overage, or an exact overage amount must be paid back as soon as possible. If you're in this middle category, Number 2, that's when biomass is above the threshold but below the target, and the stock is not under a rebuilding plan. Then there is consideration given to, if only the recreational ACL was exceeded or if the ABC was also exceeded.

If only the ACL was exceeded, then the bag size and season limits should be adjusted, taking into account performance of the measures and conditions that precipitated the overage. It doesn't specify exactly how they will be adjusted, or what new level of harvest they are aiming to achieve. It just says that they have to be adjusted because there was a problem, and stock status is not great, so a change needs to be made moving forward.

If the ABC was also exceeded, then a more strict response is required, where there is a payback required, but it's not the full overage amount. The payback is calculated based on biomass, and the formula shown on the screen here, such that the payback is lower when biomass is closer to the target and it's higher when biomass is further below the target.

Again, it kind of scales so that the response is more strict at lower biomass. Then if you're in Category Number 3, biomass is above the target. You had an ACL overage, but stock status is good. There is actually no change required. Adjustments to the bag size and season just need to be considered, but it's not requiring any change.

Again, you should take into account the performance of the measures and the conditions that precipitated the overage. Again, these are the current reactive accountability measures, and then on the next slide I'll summarize just the changes from this that the FMAT and PDT is recommending for each option. The first option, other than no action, is the percent change alternative. As Dustin described that, this does not have predetermined measures, it's just kind of has the bins of, are you making 10, 20, or 40 percent liberalization or reduction, or no change based on the considerations outlined in that option.

The only change recommended to these regulations is to say that when a payback is needed that it can be spread equally across two years, to help allow for constant measures across two years. But everything else would stay the same, other than the current regulations for the reactive AMs. Things get a little more complicated.

We need a little bit more changes for the fishery score and biomass-based matrix options, because those are two options that use bins. To make it so the accountability measures kind of fit more with the intent of the binned approach, we changed the language so it's not saying things like payback in a certain number of pounds, it's based more on the existing bins.

If you're in stock status category Number 1, which is bad, stock is overfished, under a rebuilding plan, or stock status is unknown. Then the most restrictive measures would be implemented. This would be whatever the most restrictive bin is under these options, those are the measures that would be implemented, except if the stock was already in that bin.

If those measures were already implemented and an ACL overage still occurred, or if those measures are otherwise expected to continue to result in overages. Then they must be further restricted, such as they aim to prevent future overages. This kind of gets at the idea that the most restrictive measures under the bins are kind of set forward as an intention, but they're not a hard bore, that we will go below them if we need to, if stock status is bad, and an AM restricted.

If you're under the middle category here, Number 2, if biomass is above the threshold but below the target, and the stock is not under a rebuilding plan. Again, you give consideration to if only the ACL was exceeded, or if an additional metric was also exceeded. If only the ACL is exceeded, then basically the measures associated with all bins needs to be reevaluated.

This is trying to keep it in line with the current regulations, where when you're in this category it says the measures need to be adjusted, and it doesn't specify how. This is the same thing, just saying that the measures for the bin you were

previously at, you know if they caused an overage, so they need to be reevaluated, with the intent of preventing future ACL overages.

We also indicated that measures for all other bins also need to be reevaluated, because the bins are set relative to each other. If you change one bin, then the other bins might not logically be related to each other any longer. You need to consider whether the measures for all bins could be reevaluated.

Then if you're under that second bullet point under Number 2, where an additional metric is also exceeded, and it exceeds the ACL, then you need a more strict response. Instead of having a scaled payback under the current regulations, you would instead drop down a bin, compared to where you would otherwise be. Then again, you would need to reevaluate measures for all bins, with the intent of preventing future ACL overages. Then if biomass is above the target, you're under Number 3, then this part of the regulations would basically stay the same. You just need to consider whether you should adjust measures, but you're not required to adjust measures. With the tweak that this would apply to all bins, because again like I said before, the bins are relative to each other, so you should consider all of them into a change, but an action is not required.

This slide is for the biological reference point option, which is the one that had the big matrix, and it had like the bins within bins. To address that it needed really one major difference compared to the previous slide, to reflect the fact that in the instance where you're under the second bullet under Number 2, the language couldn't say that you just step down to the next bin, because it's dependent on where you are to start with.

You would either be stepping down to the next bin or stepping down within a bin, depending on your starting point. The language here would say that you stepped down to the next most restrictive set of measures, which like I said, could be down a bin or down within a bin. Then under Number 3, the only tweak in the language there is just to again reflect the bin structure, but it's the same intent considering adjustments.

Basically, everything here is the same as on the previous slide, but just with some tweaks that kind of deal with the bin or within a bin approach. This is the last slide related to AMs. You may have noticed that I've glossed over one detail on the previous few slides, where under that second bullet under Number 2. It says that if stock status is in that medium category, then you consider if only the ACL was exceeded, or if the ABC was also exceeded or the Fmsy or fishing mortality threshold was also exceeded.

Under the current regulations that consideration is for the ABC. Again, there is a more strict response if the ABC was exceeded in addition to the ACL than if just the ACL is exceeded. The FMAT and PDT thought it would be appropriate to consider swapping out the ABC with Fmsy, or the fishing mortality threshold for this specific part of the reactive AMs.

The reason that they thought this would be worth considering as an option to choose from, is that it considers its total removals negatively impacted the stock. It uses more recent data than the data used to set the ACL and the ABC. The ACL and the ABC are set based on stock assessment projections, and then when we get to the point where we're evaluating ACL overages, we're looking back in time to say, did we actually exceed that amount just based on catch?

By the time we get to that point where we can look back in time on that, we might have an updated stock assessment information that could help us understand, you know if we did exceed the ACL what was the actual impact on the stock? Sometimes we're in situations where we get to that point and we have a few more years of data than we had when we set the ACL and the ABC.

That could tell us that maybe the ACL wasn't set quite right, because maybe there was a year class that moved through, and that was a lot bigger or smaller than average, or the fishery performed a lot differently than we predicted that it would, or for some other reason, the impact on the stock was different than what we thought it might be when we first set the ACL and ABC. This would allow us to consider that. Maybe you exceeded your ACL, but something changed in the fishery that it didn't actually have a negative impact on the stock. This would allow for a less strict response to occur in that case.

This relies on us having regularly updated F estimates, which we think will occur, given that we're anticipating that we'll get management track stock assessments for these species every other year moving forward. But if for some reason we're not able to get regularly updated F estimates, then we would just default back to that ABC comparison.

Again, in both cases, regardless of which option you use here, that AMs are set up such that there is a more strict response if the ABC or F threshold was exceeded, than if just the ACL was exceeded. That was my last slide, and Savannah is going to take it over for the next few parts of this.

MS. LEWIS: All right, thank you, Julia. Now I'm going to walk through some of the specific recommendations coming out of the PDT and FMAT since the last update we provided in August, as well as a brief overview of the SSC report. In September, a subgroup of the Council's Scientific and Statistical Committee met to review two recreational models, in order to identify the potential utility, benefits, uncertainties and limitations of each model, for use by the FMAT and PDT during the Harvest Control Rule development.

They also provided any guidance as to whether these models represented an improvement to the current process by which we set recreational measures. Overall, two models were proposed and reviewed. The first model was a recreational fleet dynamic model, or the RFDM. This is a statistical model that estimates harvest in discards from MRIP data, while utilizing and incorporating a variety of explanatory variables, such as bag, minimum size, even length and weight.

The SSC recommended additional work prior to the use of this model for management, including work on model specification, as well as some further exploration on the correlation between harvest and discards within the model. The second model that the SSC looked at was the recreational economic dynamic model or the REDM.

This is a bio-economic model that is currently in development for use with the summer flounder MSE. The SSC did find that this model was properly specified, but did provide recommendations to improve the model for use with the harvest control rule. Overall, the SSC concluded that both models should be considered for use to set measures within the Harvest Control Rule methodology, and even used in tandem after recommended improvements are made.

This quote from the report which was provided in supplemental materials, I thought summed up what they found very well. Both models have value for management upon revision, and that their limitations are accounted for in management decision, they will have real value when they are used together. This would be a major improvement over the ad hoc approaches that are used now. The models would predict the impact of multiple regulation from the harvest and discards, and angler welfare. The PDT and FMAT will continue communicating with the model developers, to incorporate recommendations from the SSC, and further refine the models for use within the Harvest Control Rule methodology. Moving on to recommendations from the FMAT and PDT. The first recommendation that was provided in the memo with meeting materials, is about revising the proposed timelines.

The initial timeline proposed for the Harvest Control Rule intended to have a finished draft addendum for the Board to review and approve today for public comment. However, due to additional work needed for the model, following the SSC review, as well as specifics for the Harvest Control Rule options themselves, as Dustin walked through.

The PDT and FMAT recommended against approving the Draft Addendum for public comment at this time, and instead reviewing it in either December 2021, or in January or February 2022. The Draft Addendum provided to you in the meeting materials represents the work that the PDT and FMAT has done up until this point.

As my colleagues presented earlier, there are still some small but very important details that we feel need additional work and attention. With that said, I have here on the screen a proposed an updated timeline for the Board and Council. The Policy Board and Council will review and approve a final range of options in the Draft Addendum for public comment later this year, with public hearings on the document to follow soon after in the new year.

At the same time there will be continued development of the models to inform measures with the measure setting process. The PDT and FMAT and the advisory panels will meet to consider public comments and recommendations for final action following completion of public hearings. The Policy Council and Board will then take final action on the draft framework and addendum in spring, 2022.

Immediately following the development of a NEPA document, federal rulemaking will begin. In addition, in the spring and summer, a socioeconomic survey by the Northeast Fishery Science Center will begin and be completed, and the data can be used to update models and inform measure setting. I'll touch on that in these slides. The Monitoring Committee and the Advisory Panels will again meet to provide input on 2023 measures next fall, and then following that, based on whichever Harvest Control Rule option is selected, measures will be set for 2023.

The Advisory Panel will be an important venue for stakeholder input on the measures to be implemented throughout the Harvest Control Rule for 2023 and beyond. As Julia said, the models are going to help us determine which measures will be appropriate, but they will not be the only source of information used. Another recommendation from the PDT and FMAT was to not include example measures in the Draft Addendum.

After much discussion and review of previous actions, the PDT and FMAT hopes the preferred option from the Harvest Control Rule options will be selected based on the merits of the approach, rather than the resulting measures. The Draft Addendum and framework are meant to only put into place the methodology of the Harvest Control Rule and not the measures themselves. The measures themselves will be discussed and selected after a selection of a Harvest Control Rule option, and the measures selected can be revised through processes built in through different options. As such, the PDT and FMAT hope for stakeholder input on which options incorporate metrics they feel are the most appropriate for management in the long term, and the mechanism in which those metrics are used, rather than the option that may seem to provide short term beneficial measures.

The group did not want to mislead the public in any way, and the inclusion of example measures may be misleading, in that they may not be the final measures selected. The Monitoring Committee and the Technical Committee will also play a part in refining the methodology to select measures during a specifications process.

While the Harvest Control Rule option that is selected will stay constant, the way that measures are set, may change as more data becomes available and as models progress. Again, the Advisory Panel and the Monitoring Committee will be important venues for stakeholder input on

measures to be implemented through the Harvest Control Rule.

Another recommendation coming out of the PDT and FMAT is regarding the stakeholder workshop. The initial timeline presented included an opportunity to host fall and winter stakeholder workshops, to provide updated angler preference data, to better inform the models, as well as decisions of the Council and Board.

The only other available angler preference data is from a 2010 survey. However, based on the revised timeline I just presented, the PDT and FMAT felt that it would be more valuable to use the results from the upcoming Northeast Fishery Science Center socioeconomic survey, the North Atlantic Recreational Fishing Survey, instead of the stakeholder workshop.

The survey, which I'll cover in the next slide, will reach a wider audience than the workshops that the PDT and FMAT would be able to conduct. The only concern raised by the PDT and FMAT regarding these workshops, and moving to the use of this North Atlantic Recreational Fishing Survey, is that bluefish is not included in this or on prior surveys.

However, once bluefish is no longer under a rebuilding plan, angler preference information could be gathered utilizing stakeholder workshops. Gathering this data at a later time will allow for better angler preference data on the stock, after it is allowed some time under the rebuilding plan, and hopefully the completion of the ongoing bluefish research tracked stock assessment.

Just a brief overview of what survey we're looking at using. This is the North Atlantic Recreational Fishing Survey. It will be sent out in early 2022 to target saltwater anglers that fish for summer flounder, scup, and black sea bass throughout the North Atlantic. Surveys will be sent to anglers that's are randomly drawn from 2021 saltwater recreational fishing licenses through state level license frames.

A survey of this design reaches a wider audience, and captures differences in fishery utilization in a way that workshops cannot. Surveys like this are conducted across the United States, and the best example of the application of such as survey in our area is with the cod and haddock model up in New England, and incorporates survey data into measure setting. In addition, the random sample of anglers is designed to reduce biases among the angler preference data as much as possible, by preventing one single group from influencing the direction of management measures. The purpose of the North Atlantic Recreational Survey is to provide information necessary to quantitatively estimate angler preferences for summer flounder, scup, and black sea bass.

Some of the specific topics that the survey tries to understand, includes the value of keeping or releasing additional fish caught once the bag limit has been reached, so what is the value assigned to an additional summer flounder caught or black sea bass. It helps to understand what role minimum size may play in fish value, such as what is the value of an 18-inch black sea bass compared to a 15-inch black sea bass, and what are the angler tradeoffs among these species, such as what is the value of keeping the summer flounder compared to keeping a black sea bass or scup.

Additionally, the survey will help to tell how angler behavior will change under different regulatory scenarios among summer flounder, scup and black sea bass. This data will be able to feed directly into that REDM model that I described earlier, which currently uses the 2010 survey data.

However, the data collected doesn't need to go into a model directly, but can be used to infer things from other models, such as the RFDM model, which is the other model I presented. Overall, this survey will provide a lot of different information surrounding these fisheries, including tradeoffs between species, and that's currently not

accounted for in our current measure setting process.

As a note, work has been underway on the survey since 2019, including several focus groups in which key facts was collected to ensure consistent interpretation of survey questions, and to make sure that questions were realistic and straightforward, in order to evaluate angler tradeoffs amongst species. I know that we covered a lot of information today, so I want to thank everybody for their patience.

But before I get to the question slide, I just want to highlight two main discussion points. We're not looking for any major decisions today, but we are hoping to receive some input on the revised timeline presented, as well as any further guidance that Council and Board members want to provide on the development of the options presented today, before we prepare the document for your approval for public comment. With that, the staff are ready to take any questions that members may have, and we thank you for your time.

CHAIR KELIHER: Great, thank you very much. I would like to thank Dustin, Julia and Savannah for these presentations. There is a lot of information there, so why don't I open up the discussions. Does anybody have any questions for staff? The first hand is Tom Fote.

MR. THOMAS P. FOTE: There was a lot of great information there, and put through pretty fast. They spoke as fast as I usually do. People say they have a hard time understanding because it's done so fast. But I was thinking, if we're going to send out a survey like that to 4,000 individuals, before the people complete the survey and the questionnaire. Is there going to be a page they can go to, to see a video and a presentation like we just got here, so they have a better understanding of what we're asking them? I mean we hand out surveys to 4,000 people randomly, and we don't know how much they're involved in the process of the questions, or really understand. Without doing something like that it's very hard. I mean my background is not fisheries, my degrees are in marketing and advertising. We always wanted to make sure people understand the message you are putting out.

CHAIR KELIHER: Next hand is Kate Wilke.

MS. LEWIS: Mr. Chair. May I have a moment to respond to Tom's question, just to clarify, if that's all right.

CHAIR KELIHER: Sure, go right ahead.

MS. LEWIS: Tom, just to clarify a bit on that. It's not actually our group that is going to be doing the survey, so the survey that I described is actually already being conducted by the Northeast Fishery Science Center, so it's an ongoing survey that was already planned, that it just kind of works out really well with our timeline that the survey will be conducted and completed at a great time for us to really utilize it. It's more of the Northeast Fishery Science Center's survey, and it's not something that we're going to be sending out.

CHAIR KELIHER: Thank you for that. We've got two more hands up. I've got Kate Wilke and then Michelle Duval.

MS. KATE WILKE: I have a question about Option B, the percent change approach. Maybe if you could bring up the slide that has the table on it. Number 17, they are nicely numbered. Oh no, that's not the right number. Option B. Yes, my question is, so in the upper left column there is a comparison of the future RHL versus the MRIP estimate.

I assume the MRIP estimate is another way of saying catch. This method compares the average catch from the previous year's towards the confidence interval, with the average RHL for the upcoming two years. I'm just wondering why the offset in the timing. Why doesn't the method compare the catch from the previous two years with the RHL that was specified for those years?

Yes, and I might have a follow up, depending on the answer. Thanks.

MR. COLSON LEANING: Mr. Chair, this is Dustin, I can take this.

CHAIR KELIHER: Yes, please do, Dustin. Thank you.

MR. COLSON LEANING: Yes, so our current process takes into account recent MRIP harvest. Actually, when doing the MRIP landings comparison to the RHL, you typically use the landings rather than catch value. But just sticking to your question specifically. Like under the current process you use recent years of landings, sometimes like a few years, sometimes MRIP projections for the current year, and then compare it to the next year's RHL. This process that's outlined in Option B is very similar, except that it establishes the two-year timeframe. Let's say this year we're in 2021, and we're trying to determine measures for '22 and '23. We would look at 2019 and 2020 landings, find the average estimate and the confidence interval for that, and compare it to the recreational harvest limit for 2022 and 2023, the average of those. That would help us determine what the appropriate measures are, if the landings value is well or the RHL is well within the confidence interval of the landings estimate. Maybe that's indicative that we should keep measures at status quo.

That's all well and good, but let's say the RHL for the upcoming two years is much higher. Then maybe that's indicating that we can liberalize some. It's a very similar system that we already have in place, but it just establishes that two-year timeline, to fall in line with the assessment cycle. That is on a three-year cycle currently.

MS. WILKE: Okay, thanks for that clarification. I guess I was just slightly worried or wondering. Like if there is no looking back to see how you did, only looking forward to estimate how you should set measures, then I'm thinking in terms of like a feedback loop with the stock assessment.

If you keep exceeding limits, then a high amount of recreational catch goes into the stock assessment, which thereby increases the estimate of the biomass, and ultimately increases the upcoming year's ABC. I don't know, maybe I'm getting it too far into the weeds, and if it's better to talk offline we can do that too, if you're not following what I'm asking.

MR. COLSON LEANING: No, I think I am, and it's a good question. We definitely wanted to think through these situations. I think what you're talking about when it comes to like overages or whether we're able to react in time, the changing biomass. That really comes into play when we're looking at accountability measures.

You know if there is a payback that's needed, that payback is tacked on to future years RHL. When you are doing the comparison of recent MRIP harvest to the future of RHL, you're incorporating that payback, so like the necessary reductions would kind of be factored in that way. Does that make sense?

MS. WILKE: Okay, yes, yes that helps, thanks, Dustin.

CHAIR KELIHER: Okay, let's move right along to the next folks with hands up. I've got Michelle Duval and then Erika Burgess. Michelle.

DR. MICHELLE DUVAL: A huge thanks to the FMAT and PDT for all of the hard work that they've been putting in on this. I know that everyone has been really focused on really defining the bins or the steps for each of these approaches so far, and hasn't had time to consider how measures would be developed and what are the next steps.

My question is, so Dr. Paul Rego, who is the Chair of the Mid-Atlantic Council's SSC, had developed a little ensample analysis after we talked about this, I think at the Council's June meeting, evaluating the risk of applying a Harvest Control Rule, sort of when you get to the edges of each of those bins or steps.

I think mainly that there is a higher risk when you're at a transition point between those steps, that they particularly as the population status decreases. You know my question is, is this something that the models that were reviewed can help address, and if not, I do think that we need to find a way to do this as the FMAT and PDT think about how to set those measures. I think it's important to incorporate, or to at least address this analysis of risk that Dr. Rego put forward. Again, is that something that you guys think the models could address?

CHAIR KELIHER: Anybody on staff willing to take that one?

MS. LEWIS: I can take that, this is Savannah. We are still working through the measure setting process, and so the paper is something that we will consider moving forward. I will say that there have been some discussions about how when we were trying to determine what measures would be appropriate, and what kind of our starting point would be in each bin, to try to set measures around.

That we do want to make clear that there is some uncertainty associated with that. We can make sure of that whenever we're trying to set measures that we feel pretty confident that they'll fall within that range. But that is something that we are going to consider, and it's part of the work that we do anticipate doing here in the near future.

CHAIR KELIHER: Are you all set, Michelle?

DR. DUVAL: Yes, Mr. Chair, thanks for now. I might have some follow up after, depending on questions that other Board and Council members ask. Thank you.

CHAIR KELIHER: Great, thank you. I've got two more. I've got Erika Burgess and then Eric Reid.

MS. ERIKA BURGESS: Thanks to staff for putting together a great presentation. I can tell you've put a lot of work into this, and to see it develop from where you were before to now is very impressive. I like how it was laid out today, and the graphics and figures really help me understand and compare the different options better.

If we could go to Option B. I have some questions. I don't mean to get in the weeds too much, but given the next step is public hearings, I want to be prepared to discuss things with the public, and I have questions about this particular one. I think you have put together options here that are really responsive to what we've been hearing from the recreational fishery at large, a way to provide a transparent process for setting regulations and understanding where we're going.

But one challenge I still have, and I raised this the last time we talked is, what does a percent liberalization for recreational fishing regulations mean? Can staff provide an example? Not to say, give a theoretical example for bluefish or scup, but just what does a percent liberalization regulation mean?

CHAIR KELIHER: Staff, do you have a response?

MR. COLSON LEANING: Yes, I was trying to think about that. You're saying, what does the liberalization meet? I'm not sure if I'm hearing you correctly.

MS. BURGESS: Percent liberalization, so we set regulations for fishing with bag limit, size limit, seasons et cetera. What does a 40 percent change or 20 percent change? Go to that table, it might be helpful. If you're in the situation you have 40 percent liberalization, 20 percent liberalization, 10 percent. What does that look like?

MR. COLSON LEANING: Got you. Okay, yes thanks that's helpful. Under the current process that we have, the Technical Committee and the Monitoring Committee meet together and perform analyses, looking at basically what harvest has been in recent years, and if something is being considered like a change in bag limit.

There is analysis that is conducted to look at like the frequency of anglers who catch different amounts of fish. Let's say anglers are encountering 10 fish, but are limited by a 4-fish bag limit. If you were to increase the bag limit to let's, say 6 fish, then there would be like an X percent increase in harvest expected.

There are also evaluations that are done for like frequency distributions that we're looking at minimum size, changes, and then there is seasonal analyses that can be conducted, all of which are really pulled from MRIP data. There is inherent in that process a lot of uncertainty and variability, and so that's factored in as well through the different statistical methods.

It's a process that's already kind of used by the Monitoring Committee and the Technical Committee under the traditional kind of response that's been given. It's kind of, based on these analyses we expect that these new measures will result in a 20 percent liberalization, 40 percent liberalization and so on.

That's one way that it could be handled. The other way is you know really using these statistical models at the peer review, to help inform what a 40 percent liberalization would look like. Really from there you would probably set like a catch level or a landings level that you're hoping to achieve, and then what sets of measures are reasonably expected to achieve that level of catch or harvest.

This all being said, you know there has been some like retrospective look at how well this has performed, the traditional method, and it's maybe not as precise as what we would have hoped. In some cases, you may see like a 60 percent increase in harvest without even changing the measures, or you change the measures and you see no change in harvest.

It's a challenging process, but that is basically the crux at what this whole management action is trying to address, helping us to better target changing levels of biomass, changing catch levels and how do we do that? I think the statistical models are a real improvement in that direction, and the FSD kind of said some support for that, some language to that effect, given adjustments to those models and further refinement.

CHAIR KELIHER: Great, thanks, Dustin. We're going to move right down the list. I've got Eric Reid.

MR. ERIC REID: My question is about the SSC and the modeling. It said the SSB reviewed the models. Is that the full SSC, or was that the peer review subgroup?

MR. COLSON LEANING: Good catch there, Eric. I used the word SSC there. It was a subgroup of the SSC.

MR. REID: Was it three people from the SSC or something like that?

MR. COLSON LEANING: I believe it was four, correct me if I'm wrong, other staff.

MR. REID: Three or four that's fine. Later on in the presentation it was mentioned that the SSC, which I wasn't clear on what that was. They were going to be able to review the changes that were made on those models. Then in the presentation about the timeline the SSC was mentioned again. My question would be, one, is that going to be a full SSC with the economists and the whole lot of them that are going to review this, and will that be before we send this document out to the public, or sometime later on in the timeline?

MS. LEWIS: Mr. Chair, this is Savannah. I'll. Take that one. Thanks for the question, Eric. I apologize for any confusion. The SSC that reviewed this was a subgroup of the SSC, as Dustin clarified, with three individuals that contributed to the report. Right now, we don't have anything set up for the SSC Subgroup to review things again. They've provided their recommendations and have left it up to the PDT and FMAT to ensure that those revisions are made, and that we fall in line with the

recommendations that they have before we present these for management use.

MR. REID: Okay, so yes, you did mention that the SSC was going to review these things, but I needed the clarification on what that was going to look like, so they're not going to get another look at it. I would be concerned that they're not going to get another look at this before this is ready for primetime.

CHAIR KELIHER: Next on my list is Dewey Hemilright.

MR. DEWEY HEMILRIGHT: I appreciate and thank everybody for this in-depth presentation. There is a lot to wrap around here. One thing in particular I noticed throughout the presentations, there was the word if and could. I was wondering if this gets Bubba developed. Would they be changed to a shall and known, to create a lot of the – it's not wiggle room – but a lot of the ambiguity of how is it going to work?

Also, I expect the public is going to have a lot of questions about, you know the ifs and the coulds, because in my world of fishing, if and could don't really exist, it's shall and known, and it's more of I would like to see the outcome. I know in the inner workings here of this getting developed, maybe that's how it kind of works out. But there needs to be a template that is to me a lot clearer, and also would be in favor of the full SSC getting this before it went out for public consumption, because I don't know if the due diligence has been done to the point of development of this, for it to go out to the public. My last question would be, could we use this template to be the same use for the commercial industry as fishing up and down the biomass?

CHAIR KELIHER: Staff.

MR. BEATY: Hi, this is Julia. I'll take a first stab at that and maybe Savannah or Dustin can jump in if I miss some things. I guess in general with like the if and shall language. When we get down to the point where we're finalizing the language that will be used in the final addendum and the final framework, and the federal regulations. We are really careful about the language that we use for that.

I know some of that comes into play with the accountability measures, for example. There are some `coulds' built in there, you know along the same lines for situations where biomass is above the target, for example, so there is more flexibility there but it's more strict. There are more `ifs' and `shalls' when biomass is not so great.

I guess without knowing what specific examples that you're thinking of, that just to say that when this is like final, final week we'll be very careful about what language we use. Related to the SSC review. I just wanted to point out that on the Council side of things we don't normally have the SSC review framework actions, and we did have a subgroup of them review two recreational fishing models that could be used under the current process.

Even if this framework and the Addendum doesn't move forward, we could still use those models, and we cut that review and really focused on the models and not on the options that are in this action. But we are planning to have the Technical and Monitoring Committees weigh in on these options.

They will provide very valuable input, based on their technical expertise, and also they seem really knowledgeable about how the measures process actually works, in terms of the realities of setting recreational management. I think that will be a very important thing to get the Technical and Monitoring Committee input on that.

I guess the short answer for this is being concerned for the commercial fishery, I mean the answer is you've probably heard like almost everything and you heard the answer would be no, and that this is focused on the recreational fishery due to inherent differences, and the data that we have and our ability to manage the fishery in different ways. I

don't know if any other staff want to add in on any of that, or if there is a question that I missed, I'm happy to try again.

MR. HEMILRIGHT: One more question, please.

CHAIR KELIHER: Go ahead, Dewey.

MR. HEMILRIGHT: It was could the commercial industry be managed the same way of fishing the stock up and down, according to the methodology here. I understand that this is a recreational initiative, is what it's been called. But I am curious, could that be the same way, because it would probably help us be able to achieve the same parity appears like maybe. That was my question, could that be possible?

MS. BEATY: I think I might need more clarity on which specific methodology. In regards to the accountability measures, the same types of things, at least in terms of the current accountability measures where it is more strict when biomass is lower than when it's higher.

That is already part of the commercial accountability measures, when it comes to discard overages, but not on some of the landing's overages. It gets back to the different data that we have and the confidence that we have in that data. But if you're talking about a different methodology besides that, then I might need more clarity on that.

CHAIR KELIHER: It sounds like because Dewey is going in the direction of kind of the what if son using for the commercial sector. It might be a better conversation to take off line. I've got several more hands coming up, so is there any more specific part to your question, Dewey, you want addressed?

MR. HEMILRIGHT: That will be fine, thank you.

CHAIR KELIHER: Thank you, appreciate that. I've got three more hands up, David Stormer, Rick Bellavance and then back to Kate Wilke. David.

MR. DAVID STORMER: Thanks so much for the presentation, really amazing effort all around, and a lot of great information. I just was wanting to clarify, and I think I got it, but I thought maybe I mistakenly heard a couple of plans for species that are overfished, like bluefish. An overfished species would be subject to the Harvest Control Rule upon implementation of a rebuilding plan, just placed in the most restrictive bin? Is that correct?

MS. BEATY: This is Julia, I'll take that one too. Kind of, but it really says the most restrictive bin is just what you use until the rebuilding plan is all the way implemented, and then the rebuilding plan decides what the measures are. It's kind of saying that once the rebuilding plan is implemented then the Harvest Control Rule is not used.

It could be used temporarily until the rebuilding plan is fully developed and all the way implemented. Then once it gets out of the rebuilding plan, then the Harvest Control Rule could be used. While it's in the rebuilding plan there would be nothing like these binned approaches or options in here. It's totally up to the rebuilding plan what the measures would be.

MR. STORMER: Okay, okay, thanks. A follow up if I could.

CHAIR KELIHER: Go ahead.

MR. STORMER: But angler input wouldn't be considered until an overfished species is out of a rebuilding plan, thus not included in the recreational economic model until it's out of a rebuilding plan. Is that right?

MS. LEWIS: Mr. Chair, I'll take this one. That's a good question, David. Right now, we're collecting data on summer flounder, scup, and black sea bass through that survey. We'll be using data that they provide. We really haven't settled on a final path, and rebuilding plan you traditionally take into consideration angler input.

The one instance here is bluefish, in which we don't really have a survey, so we would have to do extra

angler workshops. Again, the survey is not the only way, it just lined up well with our timeline. We are looking for angler input at all stages right now, and then if we did need to transition into a rebuilding plan for any of these species, additional angler input would be taken at that time.

MR. STORMER: Got you, great, thank you so much.

CHAIR KELIHER: Rick Bellavance.

MR. RICK BELLAVANCE: Hats off to the staff for a really good presentation with a tremendous amount of information. It was very helpful to me. I did have a question. If I understood it right, I think the PDT/FMAT recommendation is to not include any example fishery measures in the document before it goes out to the public. Did I understand that right? Then if I could have a follow up.

MS. LEWIS: Yes, we did determine that we do not want to include, we're recommending against including example measures in the Draft Addendum, because we really want to make sure that it's understood that these are kind of two separate action. The Draft Addendum and Framework really focuses on the methodology and the mechanism of how this works. We would like to focus on what metrics are important to stakeholders when we're considering setting measures.

Then the flip side of that is going to be recreational measure setting. That's where the models, the Advisory Panel input Monitoring Committee, Technical Committee, all of those things come into play more on that side. That's where we wanted to do that to retain some flexibility to update our measure setting process, as we get more data in, and as our models continue to grow and update, and as the fishery changes as well.

MR. BELLAVANCE: Okay, thanks, and if I could follow up with one more quick question, Mr. Chairman.

CHAIR KELIHER: Sure, yes, go ahead, Rick.

MR. BELLAVANCE: I guess I feel like there might be some stakeholders that would probably kind of connect the two together, and would benefit from seeing example measures. But I can kind of understand the teams thinking there. I'm wondering if it would be possible to maybe include like the current measures.

We've had the current recreational measures for some of these stocks anyway for quite a while now, and if it's possible to maybe insert those particular measures into where that would fit on the different alternatives. If that is something that would be possible, to give folks a sense of kind of where we are now and then where the potentials are for us to go here, you know as the stocks increase or needs more conservation. Is that something that could be considered for the public to look at?

MS. BEATY: We've kind of done that in looking at, I put the slide up on the screen here for the biomass-based matrix. We did look at kind of look at kind of where stocks are right now, but we don't really have a starting point for these, so it's really hard to tell what measures would be, and how we would start and set things.

But we can kind of get an idea based on current stock status where things may be, but again, because this is still under development, we don't want to create a situation in which we mislead the public in any way, because we don't want to say one thing when we're presenting this draft, and then something else come out during the measure-setting process.

If there is a strong desire to have something included, we might be able to add it as an appendix. But we just really want to prevent confusion, and really focus on getting feedback on what metrics and what methodology the public would like us to

use when considering recreational measures for the species.

CHAIR KELIHER: I've got two hands left up, and I'm conscious of the time here. We're running a bit over. I've got a bunch of Commission business left, so we could try to keep our questions short and answers condensed, and then we'll move along. I've got back to Kate Wilke then Michelle Duval and then Ellen Bolen.

MS. WILKE: I don't know if we're still just in a question period of if we've moved into discussion. But I guess I can phrase mine as a question. On Slide 19, it says that the PDT and FMAT are still discussing details, including the role of the ACL or the RHL. I'm curious, what does that mean? What does the ongoing discussion entail? I guess depending on the results of how those conversations come out.

I mean I followed this process really quickly, and so if ACLs are going to be treated differently or employed differently than they have been in the past, it seems like that might be a big departure from how we would normally manage. In which case, SSC review may be warranted. I know Julia just said that the SSC usually doesn't weigh in on framework.

But it's kind of a lot in one framework, and depending on how those conversations turn out, I'm just thinking it may require some SSC review. Then there is a fairness component among sectors, depending on the outcomes of those ongoing discussions as well. If staff has any insight or more detailed explanation about what does that mean, I would appreciate it.

MS. BEATY: This is Julia, I'll start off. Sorry because I think that there is not much more to say at this point, beyond what we said in the presentation. It says on this slide that we're going to add measures that will aim for the level of harvest as appropriate for stock status, or stock conditions associated with each bin. The ACL and the RHL are already reflective of stock status, you know based on the best information available at the time that we set them, so if they couldn't set based on the ACL or the RHL, if it's a different way. We haven't worked through this discussion yet at the FMAT and PDT about how we will actually go about doing this. These are really important conversations that we will continue to have. But as we also noted on a different slide that we are required to have ACLs under the Magnuson Act. We're still going to have an ACL, we just haven't worked out the details of how does the ACL and or the RHL relate to the measures, specifically under the options where there are bins.

Under the current process our measures are really closely tied to the RHL. We predict that the measures will have a level of harvest, and we try to match it up so that level of harvest does not exceed the RHL. That's really closely tied into the current process, but if we move more to the binned approach, there are still conversations that we need to have about how exactly does the RHL or the ACL play into that.

CHAIR KELIHER: Next on my list is Ellen Bolen. I'm sorry, Shanna Madsen.

MS. SHANNA MADSEN: I actually had a question. I don't know if we're moving into comment section. My question kind of goes back to what David was discussing earlier, in that I was curious, Julia, during your part of the presentation you were discussing what would happen if we had a stock that was going to be in a rebuilding plan. Essentially, we have two years in order to get that stock into its rebuilding plan.

During that time, it sounds like that stock would be in like a really restrictive bin under some of these options. I guess my question sort of is related to while we're kind of in the pre-rebuilding plan, and knowing that that's what we're going to be shifting over to, is this restricted bin a bin that could only be reached by being in pre-rebuilding, I guess I'm calling it, or is it a bin that could be reached by other means?

MS. LEWIS: I'll take this one. When we were designing a lot of these options with the rebuilding

plan, taking into consideration stock that might be in a rebuilding. We were kind of trying to create, kind of almost a safety net. It's a catch-all to where we can put the stock until it moves to the rebuilding plan process. We didn't want to have the opportunity for a stock to remain in any bin that might lead to additional harm to the stock, so we tried to create kind of a catch place for stocks to go while that rebuilding plan was being constructed.

As Julia kind of explained, once the stock is in a rebuilding plan it gets pulled out of this Harvest Control Rule mechanism, and is strictly under the rebuilding plan until a time we think that it's going back. Until it's declared rebuilt and they can move back into the Harvest Control Rule. It's more of just a safety net as a place for stocks to go once they've hit that point. I hope that that kind of provides a little more clarity.

MS. MADSEN: Yes, I think it does. A quick follow up if you don't mind, Mr. Chair.

CHAIR KELIHER: No, that's fine, go ahead.

MS. MADSEN: It sounds like then in that case there is really no other way for a stock to fall into this more restrictive bin, other than sort of being in this pre-rebuilding zone.

MS. LEWIS: Technically, yes. If a stock, for example with the fisheries score, if it does end up in that lowest bin, based on a couple metrics combined. Then I think it would be pretty indicative that the stock is going to need to be in a pre-rebuilding plan. Those bins are worst case scenario bins.

There is kind of two ways they could get there, either it's overfished and it's put into that bin, or there is some sort of combination of metrics that is placed in that bin. That's kind of another way that this Harvest Control Rule mechanism can serve to really help provide more reactive management that we can see while the stock is not doing great, maybe we should consider looking into the rebuilding process.

CHAIR KELIHER: Great, thank you. We've kind of merged out of questions and there were kind of questions and comments section. Again, cognizant of time, but I do have four hands that are up. I think I owe Michelle Duval an apology. I think I skipped over Michelle, so I've got Michelle, Dan Farnham, Adam Nowalsky and Mike Pentony.

DR. DUVAL: No apologies necessary. I'll just be brief. I'll just note that I support the modification to the timeline that the PDT and FMAT have put forward. I thought this was an ambitious timeline to begin with, and this represents a pretty, potentially a huge shift in a management approach. I think it's important to get it right.

I also think it's going to be important to include in the draft addendum and framework some discussion of the survey that the Science Center is putting together to evaluate, you know those tradeoffs among angler preferences, so that there is some understanding and aware of that. I think there was some public comment on that.

Then I also would encourage reaching out to Dr. Rego about that uncertainty analysis that he provided back in June as the FMAT and PDT start to get into how to set management measures, because I think that risk could be transitioned from one bin to another, it's going to be really important.

Then I think the last thing, Mr. Chair, that I'll just throw out there is that, you know I mentioned this the last time we talked. But I didn't see any mention in the draft of being able to justify this to one stock, and I think I expressed some concern about that before. I would just encourage everyone to think about that, about just being able to apply a Harvest Control Rule to one stock before moving to such a wholesale change in management across all four stocks. I would recommend black sea bass, so thank you, Mr. Chair, I'm done.

CHAIR KELIHER: Thank you, Michelle. We're going to keep moving along on the list. Dan Farnham is next.

MR. DAN FARNHAM: I'm just going to make a brief comment. You know I know we're doing this through an amendment process on the Council level. But in the beginning I think it was kind of debatable whether or not we should go forward with an amendment or a framework. I think we shed some of the items off the agenda so we could make it frame-workable. But I'm still a little worried about, not the timeline, but just the magnitude of what we're doing here. I hate the thought that maybe we're rushing it. I agree that we should go forward with it. I'm pretty excited about all the different options here, and that something should be done with recreational reform. But I think Eric Reid hit the nail on the head there before. We really should reach out. I know we don't usually have an SSC review for a framework on the Council level, but maybe in this instance we might want to consider asking for that, due to the magnitude of this action.

CHAIR KELIHER: Great, thanks, Dan, those are good comments. I'm going to keep moving down the list. Next is Adam Nowalsky.

MR. ADAM NOWALSKY: I thank the FMAT and PDT for putting this presentation together, having had the pleasure of working with a lot of them over the last few months. I think the consolidation of information today was exceptional and (faded out) as well. Two questions at this point. One is, where does this leave us with 2022?

One of the purposes for this action was to try to address some concerns that we had regarding specifications that we're going to be setting jointly with the species board then the Council in just a couple of months. If the goal was to make progress and implement this, if we revise this timeline where does that leave us?

The second question would be building on Michelle Duval's comments. This was an action that initiated with a species board. Dr. Duval has suggested a limited approach. We've talked a lot about what we would do with bluefish here, potentially rebuilding species may or may not use elements of one or more of these options, particularly depending on which one we choose.

We know that the species throughout the years there are different fisheries management plans between bluefish and the other species. Are there benefits that there could be tweaks to this? We recognize that the modeling work that's ongoing for specification setting, bluefish is the farthest behind in both of those models. I understand they are on efficiencies, particularly from the staff perspective of trying to wrap this up from all four species at once.

But I would ask today, Mr. Chairman, is this the time to have the discussion about whether it's time to split this action directed to one of the species boards, following with Dr. Duval's comments it would seem the summer flounder, scup, and black sea bass might be the right place for it. Keeping an eye with what's going on with bluefish using the data, using the analyses, but is today the time to have that conversation, and again what does this imply for 2022 if we accept the delay as recommended?

CHAIR KELIHER: Thanks, Adam, for that. That question is obviously the Policy Board has wrestled with that particular question before. I think what I would like to do, so we can continue to get any remaining questions and last final comments in, is allow for some of the additional comments and questions received, and then park that question until the very end, since it is a really a Policy Board conversation. Is that all right with you, Adam?

MR. NOWALSKY: I would defer to your best judgment, and I appreciate your willingness to consider that question today.

CHAIR KELIHER: Sounds good, Adam. Let's come back to that larger question for the Policy Board. I've got on the list now Mike Pentony, Ellen Bolen, and I think Shanna Madsen, I think you put your hand back up as well. Mr. Pentony.

MR. MICHAEL PENTONY: Thanks to the tech team and the PDT for all the work putting this together. I think a lot of progress has been made over the last several months, thinking back to April and June, and the infographics I thought were excellent, in terms of explaining the basic principles behind each of the alternatives.

I really appreciate, and commend everybody who worked on those. I think that's a really good tool as we move through this, to educate the public about the different policy options that we're considering. I think all of the options that are on the table today, you know with the exception of status quo, obviously, could help us have a potential to help us move forward in a productive way for how we can manage the recreational fishery more effectively, and more responsibly.

However, I do have some concerns with some of the AMs as they were presented here today, in the sense that you know trying to think through the different potential outcomes of the AMs the way they were described today, may not actually fix the problems that we're trying to address if we are overly reactive in some cases.

You know as I kind of understand the Harvest Control Rule system, it's sort of fundamentally designed to have a set of measures and apply those measures under the appropriate conditions, and not be going back and changing the measures, you know frequently. I think there are ways to set up some AMs that are responsive to what we really care about, which is overfishing.

Any activity on the recreational side that could contribute to or lead to or result in overfishing would be an issue to address quickly. I would just ask the PDT, and it's not a question for today, so it's sort of moving into comments. But suggest that the PDT take another look at those AMS, think through those a bit more. Make sure that they are constructed in a way that focuses on overfishing as the thing that would trigger a response, and ensure that the AMs aren't structured in a way that puts us right back in the situation we're in now, but in a more complicated way, because obviously it would be better to simplify measures, simplify our process, but also provide the recreational fishery with options and a process moving forward that's more predictable and more responsive to stock status.

CHAIR KELIHER: I think your raised concerns about the AM have been noted, and the PDT can address those the next time they're back together. I appreciate the information. Let's move right along to Ellen Bolen and Shanna Madsen. Ellen.

MS. ELLEN BOLEN: Like everyone else, really appreciate and recognize all of the really hard work that staff put in on this. This is a pretty big issue and possibly a pretty big shift for both how the Council and ASMFC manage pretty critical stocks for the region. I know that you wanted to park the question about what's in and what's out, so that's why I raised my hand. I wanted to echo what Michelle Duval said, which I think is worth considering how we put this forward, for a couple of different reasons. One, the volume of the information we have will have, and will have in the Public Information Document, I'm concerned that what is going to happen with this is going to be similar to the feedback we have had around the commercial/recreational reallocation, which is people see a lot of information, it feels like too big of a change, and they go to status quo.

That's what they fall back on, and so it's hard to get meaningful public input, because it's overwhelming. I mean we are grappling with what this looks like on the water and what it would mean. I want to really think about how we're going to get meaningful input from the public. I think one of the options could be, building off of what Dr. Duval's point was is we have a couple different options for vehicles to move this.

We have framework and we have amendments, talking about the Council side. I think one of the

sweet spots to do this would be we could advance black sea bass under a framework, that would be a smoother process, would move faster. That stock is healthy, it's doing well. Then if we wanted to do all of the rest of them, then I think we should move it through an amendment process.

I think given the volume of information, the changes of how we're going to management, I think that would merit more of an amendment-based process. I think that is how we could split it up. But I think we need to give a lot of thought to how we're going to get meaningful public input on this, because right now it's a lot of information, and I think splitting up the species could be a way to do that.

CHAIR KELIHER: Yes, that certainly goes beyond the question that Adam brought up. I think it's the delay in timing and the additional work that it would take moving from one process to another, is something I think we're going to have to wrestle with. It's a bar conversation, maybe late in the day to start it.

But something we may continue offline, and then bring it back to one of our next meetings. Let's continue to chew on that and then circle back. Last person on my list is Shanna Madsen, and then I want to go back to the question Adam raised, and potentially have it bleed-into what Ellen has raised. Shanna.

MS. MADSEN: I guess I just want to start off with some light comments. I first just want to say that the PDT and FMAT has done an absolutely amazing job on this. It's a lot of work, and I really just want to give them a good shout out for everything that they've done. I want to say that I think that Table 1 is incredibly helpful for moving this along. As I was reading through all of the different options, the first thing I thought was, oh gosh, I just love to have something that compared all of them in a meaningful way. I think this does that.

I think making that really understandable to the public when this goes out, would be really useful, so I would encourage them to kind of think about how to frame this in a way that's public friendly. I think it's easy for some of us managers to understand. It might be a lot for the public to chew on. But I do think comparing all of the options is an incredibly useful tool. I would also like to echo Mr. Pentony's comments regarding these infographics, they are absolutely wonderful, and I think they really help to illustrate what each one of these actions does. To follow up on those comments, I just wanted to say that I agree with Dr. Duval's comments, and my colleague in Virginia, Ellen Bolen's comments, regarding thinking about the question on whether or not this should go forward with all four of these species, or whether we can think about doing this for something such as black sea bass, to really see how this works before we apply this across the board. It is a fundamental change in the way that we do things, and I think that bears a lot of consideration. I won't stress that point any longer, but thank you very much.

CHAIR KELIHER: Thank you for those comments, Shanna. There is definitely a lot to chew on here, and I would want to echo everybody's thanks to the staff. There is a lot of work that has gone into this, and obviously this is meant to be an update, and there is a lot more work that needs to go into this going forward. Before I shift to Adam's question, I just want to make sure that staff has what they need, as far as moving forward with next steps.

MS. LEWIS: I do think we have what we need. We just wanted to provide an update and make sure that there were no large red flags that were raised in any of the options as presented. We will continue work on those options, as well as for the accountability measures that have been discussed and a few other options, that we have some good news, so I think we're in a good spot.

CHAIR KELIHER: Okay that's great, thank you. With that, I do want to circle back to Adam Nowalsky's comment or question in regards to the Commission, and whether it remains the prerogative of the Policy Board or the work of the Policy Board to continue

on with recreational reform, or whether this should be remanded back to a species board.

There are a couple things at play here. I have talked to staff about that. Some real staff concerns have been raised if it does become a species board issue. If the bluefish issue is parked, because we're in a rebuilding mode, we then have the issue of the states to the north and the south that will not be at the table, as recreational reform continues, because they are not on the Black Sea Bass Board.

There are a few hurdles to that. The determination was made early on that this would be a policy board discussion, but I guess what I would ask for from the Commission's Policy Board perspective. I don't think we can resolve this issue today at this late hour, but is there a desire by other members of the Policy Board to revisit this issue? If there is, if I could have a couple hands. Tom Fote.

MR. FOTE: Yes, I just raised my hand to say you should revisit this issue, and that's why I raised my hand. I thought that's what you asked.

CHAIR KELIHER: Yes. Thank you. Adam, your hand is up.

MR. NOWALSKY: Just briefly, I appreciate you giving the time to this. I don't see the actions that we're taking here as the complete recreational reform package. Recreational reform is significantly more than what we have here. We trimmed things down to this. I almost feel like the process we're at right now should be renamed recreational specification setting, because that's really what we're focused on right now. I would heartily endorse the Policy Board remaining part of the broader aspect of recreational reform, including getting updates on what we do for these changes to the rec spec setting process, and certainly as we circle back to the other recreational reform issues, I certainly think there is a place for the Policy Board to be the decision making at those items. But again, given what we're focused on right now, which is these are options that focus on rec spec setting. I will remain confident that we would be most efficient at employing them at a species level, and this will occur particularly for species that need it.

CHAIR KELIHER: I don't have any other hands that are being raised on this particular issue, so unless I am taking this incorrectly, I'm assuming that there is no burning desire to split this right now and have this go back to the species board, remain at the Policy Board. What I'm going to do is just we'll make a determination that we will continue on as we have in the past, and then maybe ask at a future Policy Board meeting that this issue is revisited.

It's worth some time. To reiterate some of Adam's concerns, the size and scope of what is being discussed here, it deserves some check-ins from the Policy Board as we continue on with this. I think the next Policy Board meeting, the new incoming Chair may want to readdress this. With that I'm going to make the determination to just move on. With that, unless staff has anything they would like to end with, I'm going to move on with the agenda. Hearing none, Mike Luisi, do you have one final comment from a Council standpoint?

MR. MICHAEL LUISI: I would just thank the Council folks, just basically for their discussion, and yes there were a lot of good thoughts, a lot of good questions. I'll look forward to seeing the revised version of this initiative with the model development. The one thing I will bring up, just to put in everyone's mind.

The comment made regarding doing this for one species, and seeing how it works before we try it out with others. There could be some problems with that, and this gets to Adam's point about what to do in 2022. Well, we'll be in the same position in 2023, unless we apply this initiative to the three species excluding bluefish.

We'll find ourselves in a position where we would have to use more of the status quo approach for summer flounder and scup. Just something to think about as we move forward. The status quo I don't

think is anything we want to use right now. I'll just put that on everyone's radar for the follow up discussion at another time. But thanks everybody, and Pat, I'll turn it back to you to continue with Commission's work, so the Council is off the hook and it's all you, Pat, thanks.

CHAIR KELIHER: Great, thank you, Mr. Chairman, so this concludes the joint meeting of the Policy Board and the Mid-Atlantic Council, and we're moving along now to Item Number 5 on the Policy Board agenda. With that said though, I am going to ask everybody's indulgence for a three-minute recess, let everybody grab a glass of water, whatever they need to do, and we'll return back to the table in three minutes. If staff could put a clock up that would be great.

(Whereupon a recess was taken.)

CHAIR KELIHER: Welcome back everybody to the ISFMP Policy Board meeting. Toni, are you back, Bob are you back?

EXECUTIVE DIRECTOR ROBERT E. BEAL: I'm here, Pat.

EXECUTIVE COMMITTEE REPORT

CHAIR KELIHER: All right, we're going to jump right back into the business of the Policy Board. Moving down the agenda list to Item Number 5, which is the Executive Committee report. Yesterday morning the Executive Committee met for a few hours to talk about several topics. I'm going to give an overview of all of those topics, and at the end of my update, if there are any questions, I would be happy to entertain them.

The first item on the list was the review and consideration of the approval of the FY 2021 audit. Spud Woodward is the Chair of the AOC Committee for the Commission. The AOC had reviewed in detail with Laura Leach and Bob Beal the audit. No issues were identified, and the Commission continues with its strong fiduciary responsibilities. The Executive Committee did accept the findings of the audit and approved the audit.

The AOC is also continuing to look at our investments. This is an issue that came up a few meetings ago. We had a presentation by Laura Leach, and as I say, the AOC is going to continue to look at the investments in our investment policies. They do have more work to do on this, and it's an area they will continue to look at and reporting back to the Executive Committee, and ultimately back to the Policy Board.

The other issue that was discussed was the draft policy on responding to FOIA request. Bob Beal brought this to leadership's attention a few months ago. We do get more and more requests for information. We occasionally get them structured as a FOIA request, but because we are neither a state agency nor a federal agency, we don't have any laws governing that particular type of request.

Bob put together a draft document that would lay out a process or it's really a guidance document for the Executive Committee to consider. There were a lot of comments, especially from state directors, as it pertains to specific laws within their states, to help bring some language forward that would strengthen that document.

Then the question that came at the end of that is, are we really looking at a guidance document, or should this be a policy? I think the majority of the Executive Committee were Colson Leaning in the direction of developing a final policy. Bob at that time said that he had enough to do a rewrite of the policy. It will be brought forward to the next Executive Committee meeting.

Once it is finalized it will be brought back to the Policy Board for a Policy Board vote for at the winter meeting. Next item on the agenda was the discussion of involvement in wind energy. Joe Cimino brought this forward. As you all know, we have had some presentations on wind development in the past. The Habitat Committee has looked into this in the past as well.

But it's certainly an area of growing concern for many fisheries agencies, vital in the Mid-Atlantic and now up into the Gulf of Maine. We're all engaged at various levels. While the Commission has held some meetings on offshore wind, we were asked once again to look at whether we should become more engaged. The comments that we received at the Executive Committee certainly bear out the fact that we do need to have more of a presence in the wind conversation. The issue of even hiring a new number of staff that would be focused solely on wind, to help with coordination and data was brought up. Nothing was decided, and there was going to be further discussion on this issue with the Executive Committee, but it's obviously likely to come back before the Policy Board for additional input.

The next item on the agenda was the discussion of the seafood processors pandemic response safety block grant program through the USDA. The USDA announced the block grants for both agricultural and seafood processing. Coastal states will receive money ranging in the many millions, which Alaska I think is in the high 20 or low 30 million, to just a few hundred thousand dollars.

There are many states who did not have direct contacts with the USDA, and it was felt that we needed to have a better approach to help with the coordination. At this time, it was determined that Bob Beal would reach out to the USDA to see if they would be willing to give a presentation to states that would like to participate, and an overview of the program to help give additional guidance on how to distribute the funds.

Currently eight states have raised their hand who would like to participate, I'm sure it will be more in the end. But Bob will, he's going to have to pull that together very quickly, due to the deadlines that are coming up. States will be hearing more about that in the very near future. There was also a discussion on the appeals process. Bob brought forward a document on the appeals process, and we had some additional input from Delaware.

The discussion of the appeals process, as you all know, has been ongoing ever since the black sea bass appeal by the state of New York. The Executive Committee did review the policies around the appeals process, and have asked staff to give some thoughts to possible areas where changes in the clarity could be made. We had very good discussion, but there were no final decisions, and Bob is going to take the input that he received at the meeting and we'll revise the draft for additional considerations at a future Executive Committee meeting.

Those changes again, will come back to the Policy Board for any adoption, if the changes need to be made. Then what we thought was going to be the last agenda item was Laura Leach bringing up the future annual meeting updates. She updated the Executive Committed on the annual meetings that are now scheduled.

We are going to remain in New Jersey for 2022, Beaufort, North Carolina in 2023, Maryland in '24, and Delaware in '25. After brief conversations around those annual meeting dates, the question was asked about this January's meeting. Laura said that we had to make a decision this week regarding the contract that had to be submitted to the Westin in Alexandria. After taking several comments from the Executive Committee, it was determined that we will in fact plan on meeting face-to-face for our winter meeting at the end of January.

It was determined that the winter meeting will be a hybrid, where Commission members and staff will meet together. However, the public portions will be done virtually, to help minimize any potential risk with COVID. The Executive Committee is going to continue to discuss the approach for the face-to-face meeting as it pertains to vaccinations and masking. That concludes my update, but I would ask the Policy Board if they do have, besides the issue of the January meeting, if there are any thoughts or any questions on any other items that

I've addressed. With that I will open the floor for questions or comments. I'm seeing no hands.

REVIEW THE MANAGEMENT SCIENCE COMMITTEE TASK TO ADDRESS THE CONSERVATION EQUIVALENCY CONCERNS

CHAIR KELIHER: Seeing no hands and no questions, then we are going to move right along with the agenda to Item Number 6, which is review the Management Science Committee Task to Address the Conservation Equivalency Concerns. Toni Kerns.

MS. KERNS: Mr. Chair, if I could ask a favor. Mike Pentony has a timing conflict, and wanted to see if he could do his agenda item before CE tasks. He won't take long, he said.

CHAIR KELIHER: I certainly have no objections, and if there are no objections from the members of the Policy Board, we'll move right along. Seeing no hands, Mike, why don't you go ahead?

PRESENTATION BY NOAA FISHERIES ON EFFORTS AND NEXT STEPS TO REDUCE SEA TURTLE BYCATCH IN SEVERAL TRAWL FISHERIES IN THE GREATER ATLANTIC REGION, INCLUDING SUMMER FLOUNDER, ATLANTIC CROAKER, AND LONGFIN SQUID

MR. PENTONY: Thank you, Mr. Chairman, and yes, thanks too for accommodating my schedule. I've got a number of issues I've got to wrap up by four o'clock today, so I'm going to get back to that. I appreciate the opportunity to talk with the Policy Board today about an issue. This is really just intended to give everyone a heads up about an outreach process that we're going to be starting later this year.

For those of you who participate or sit on either the Mid-Atlantic or New England Fishery Management Councils, you've heard me already mention this, and both Councils will be getting a full presentation and explanation of the background and the process for this issue. We would be happy to give a similar presentation, more complete presentation to the Commission at the February meeting.

But I wanted to make everyone aware that we are over the next few months going to be conducting outreach on potential measures to reduce the incidental capture of sea turtles in the various east coast trawl fisheries. We're starting up a public process to seek information from the fishing industry, researchers and others about ways that under the authority of the Endangered Species Act.

We could take actions to aid in the protection and recovery of listed sea turtle populations, by reducing the incidental bycatch and mortality of sea turtles in our Northeast and Mid-Atlantic U.S. trawl fisheries. We do see that bycatch is one of the highest threats, if not the highest threats to sea turtles in our waters.

In the greater Atlantic region, the highest level of sea turtle trawl bycatch occurs in the Atlantic croaker, longfin squid, and summer flounder fisheries. Therefore, we are focusing our efforts on looking at those fisheries. We have been, as many of you may know, evaluating, researching and addressing bycatch of sea turtles in trawl gear since at least the late eighties, so this isn't new.

We have developed various bycatch estimates, implemented regulations in certain fisheries such as turtle excluder devices in shrimp and summer flounder trawls, and we've hosted workshops, not for a little while, but back in 2007 and 2010, with the fishing industry and other interested parties, which have led to many suggestions for potential future gear measures to mitigate that bycatch. Then based on a lot of the ideas of the workshops we've conducted, gear research toward bycatch and mortality reduction, the gear research that's been going on for over 20 years in these fisheries. One of the things that we're going to be doing as part of these presentations, and the outreach is really just reporting on the progress made, and the various different types of gear modifications, and gear work

that has been done to inform the public, inform the industry and the Councils and the Commission.

But then we're also going to be looking for some suggestions on next steps, in terms of modifications or changes that we might make in these fisheries, based on this research, based on the experiences we've had that could further mitigate and reduce the bycatch of sea turtles in these fisheries. As I said, we'll be providing a full briefing by actual experts in this issue, rather than just me, at the December Council meetings, and then we'll certainly be happy to give a full presentation at the next Commission meeting as well.

Then we'll be soliciting comments from the public over a period of several months, starting in December, probably through the April timeframe. That's all I have, Mr. Chairman, thank you for the time. I guess if there are any initial questions, I can try to take those, but I really just wanted to give people a heads up to look for at the next meeting, you know a more in-depth presentation of these issues.

CHAIR KELIHER: Great, thanks, Mike. I do really appreciate the heads up. I'm going to get these on the early side, it gives us a chance to start thinking about this. Any preliminary questions for Mike Pentony? Seeing no hands, Mike, you're off the hook. Thank you very much, appreciate the update.

MR. PENTONY: Thanks, Mr. Chairman, and thanks to Toni for the schedule change.

CHAIR KELIHER: Great, that brings us back on track with the agenda for Item Number 6, so Toni, you're up.

MS. KERNS: In your briefing materials you received a memo that was addressing some conservation equivalency issues. Several Boards and the Executive Committee have raised concerns regarding the Commission's use of conservation equivalency in different FMPs. The Executive Committee put together a workgroup of individuals from the Committee, to put together a list of tasks to have the Management and Science Committee look at to address some of the concerns that have been raised by the Executive Committee and various species boards regarding conservation equivalency.

As you all know, conservation equivalency is something that is defined within the ISFMP Charter. It is actions that are taken by states that are different from those of the FMP, but achieve the same level of conservation. The application of conservation equivalency is described in the Commission's Conservation Equivalency Policy and Technical Guidance Document.

This document has some general policy guidance, and there are both recommendations and requirements on CE. There are some specific recommendations on the types of information that has to be included in proposals from states. These include a rationale, data needs, how the FMP goals are met, plans for the state to monitor and evaluate the program. There are also some specific guidelines for proposal submission and review process. Then the CE Guidance Document also has guidance on what happens after there is a proposal that states should describe and evaluate the CE program through the compliance reports.

The Plan Review Team evaluates all CE programs during their FMP review. A program can be suspended if a state is not completing monitoring to evaluate the program, and the PRT provides annual reports to the Board. Based on the Executive Committee's guidance, we're going to review the Guidance Document, and bring forward proposed changes to the Guidance Document itself.

As part of that we've asked the Management and Science Committee to look at a couple of issues. I want just the Policy Board to see these tasks that are being described, hear from you all if you see if there are any additional tasks that you would want the Management and Science Committee to look at today.

First is to develop a better way to characterize and address uncertainty of CE proposals. For example, could we develop a buffer to account for uncertainty. When thinking about a buffer, should stock status be accounted for when establishing buffers? You could have tiers, steps, maybe control rule.

We don't want a buffer that is overly burdensome on the fringe states. The buffer could maybe apply differently to those states. We've asked them to develop a retrospective analysis, to see how well conservation equivalency performs, and included in that retrospective analysis to look at the coastwide measure for comparison.

Maybe this could help inform the buffer, and we would also want to consider harvest versus total removals if that is consistent with the fishery management plan. For species and measures that are harder to evaluate equivalency should CE be allowed at all? Some measures are non-quantifiable, should those types of proposals be able to go through?

Should there be bounds on CE programs or is anything allowed unless specifically excluded by the FMP or the management board? We've asked the Management and Science Committee to reevaluate data standards. Are there minimum data standards that a CE proposal should have? Is there a required level of review of the datasets used, if they are not within the bounds of the minimum data standards?

Should things that cannot be quantified be permitted under CE under the data standard? Should there be a time limit on conservation equivalency programs? Should we set a specific number of years? Should it be following an assessment cycle? Maybe there are other ways that the MSC comes up with.

Should stock status impact the ability to use conservation equivalency, if so, how? You know if a stock is declared overfished and overfishing is occurring, then should CE be reevaluated for that FMP? These are the tasks that we have given the MSC to start to consider. But I want to see if there are any additional tasks that the Policy Board wants to bring forward to the Management Science Committee.

CHAIR KELIHER: Great, thank you, Toni. I've got a quick hand from Shanna Madsen. Shanna, go ahead.

MS. MADSEN: Thank you, Toni, I think this is a really comprehensive list. I got to take a sneak peek at it through our MSC member, and I must say it's a really good step in the right direction. There is one thing that I was thinking of, and it might be that I had looked at an old guidance document, so please, correct me if I'm wrong.

When I was going through the Guidance Document, I noted that while there were some timelines for submitting a proposal, there wasn't timelines set on how long a TC or PDT would have to actually review this proposal. I'm kind of thinking back to some of my days on TCs. Sometimes we would be given a proposal and two days to read it before a meeting, or a day to read it before a meeting, or things like that.

I kind of wanted to see if there is a way to have the Management Science Committee sit and think about timelines for how long folks on the TC and PDT should have to actually have that proposal in hand, have the appropriate amount of time to review it, because I think it's really important that we depend on our TCs to provide that sort of scientific insight on the analysis that are associated with these conservation equivalency proposals.

MS. KERNS: I've got that, Shanna. It's not currently in the document. Right now, we pretty much always pass along proposals as soon as we get them from a state, so we're just bound by when the state gets it to use to pass it along to the Committee, for the most part. We'll put that in the list.

CHAIR KELIHER: Thanks. Roy Miller.

MR. ROY W. MILLER: What I didn't see on Toni's list was how to handle or how to review preexisting

conservation equivalency measures. As this topic came up yesterday, with regard to striped bass, some of the conservation equivalency measures have been in effect since, well let's say the early 1990s. Is there a sunset rule for these measures, or when should they be reevaluated? Is it with every benchmark stock assessment, that kind of thing?

MS. KERNS: For measures that don't have, like if we do end up putting in guidelines for how long a plan should be in place for measures that are already there that are not being evaluated, or don't have a sunset clause. Should they get one or how to approach those.

MR. MILLER: Yes, that's the idea.

CHAIR KELIHER: Thanks for that, Roy. Any other hands on the issues of conservation equivalency and the task list? Seeing no hands, so Toni, you've got a couple more to add. That issue of prior CEs was something I was actually going to raise, so Roy stole my thunder on that. Unless anybody has got a last comment, I'm going to move right along to the next item.

UPDATE ON THE EAST COAST CLIMATE CHANGE SCENARIO PLANNING INITIATIVE

CHAIR KELIHER: Toni, we're going to move along to East Coast Climate Change Scenarios, so you're up.

MS. KERNS: This is just a quick update on the East Coast Climate Change Scenario Planning Initiative, and as a reminder, this is the initiative that we are conducting with all three East Coast Councils, NOAA Fisheries, GARFO, and the Southeast Regional Office, and the Northeast Fishery Science Center.

Just as a reminder, scenario planning can be used to explore and address a lot of different situations, particularly those challenges where the future is highly uncertain. The exploration that we are focusing on has two main objectives. One is about exploring and learning. We want to investigate how fisheries governance and management issues will be affected by climate driven change.

We expect that climate will affect stock availability in distribution. One of the project objectives is to explore what might change, in terms of availability. What this means for how we conduct fishery management and governance in the future. Our second objective is to take our learning and create an approach and a set of reusable tools, so that we can improve our fishery management strategies in situations of uncertainty.

We have conducted or done the first two steps in our multi-year initiative, both the orientation and the scoping step. We held three webinars this summer. We had over 250 participants, where we introduced the topic of scenario planning, the initiative itself, and we also provided participants the chance to review the project objective, and provide their own personal perspectives on climate change.

Following those webinars, we conducted an online questionnaire to gather input on the initiative and the forces of change that can be affecting fisheries over the next 20 years. We received 383 responses to the survey. We have a lot of information to dig through, and we'll be doing that over the course of the fall.

This sort of fall and winter we're going to dig through the questionnaire responses, and figure out, develop a full summary of the findings of that scoping phase. Then come winter, 2022 we're going to hold a small number of driving forces webinars. These are going to look at the research behind some of the possible driving forces.

For example, temperature change, sea level rise, shift in currents, consumer demand, some of the driving forces that came out of the questionnaire and the webinars. Then we will, later winter early spring, we're going to hold an in-person workshop to create a framework and set of scenarios that describe how climate change might affect stock

distribution, availability, and other aspects of east coast fisheries by 2024. I can take any questions.

CHAIR KELIHER: Any questions for Toni on the Climate Change Scenario Planning? Toni, I've got just a real quick question on scoping. The stakeholder input that you received, did you have a breakdown, by chance, you know from an industry perspective from commercial to recreational? We in Maine have a very big effort here going on with our Climate Council. What we found is we had very little input from stakeholders on the fishery side. Just wondering how that might have broken out, if you even had that information.

MS. KERNS: I know that we got responses from all, I believe it's all aspects of the industry, expect for maybe shore side support, Pat. But we did get commercial, recreational, dealers, some other folks involved in the questionnaire. I don't have the numbers in front of me though.

CHAIR KELIHER: That's fine, we can follow up later. Any questions for Toni on Climate Change Scenario? Seeing no hands, move along to other items on the agenda, which are Review Noncompliance Findings, which we have none. Is there any other business to be brought before the Policy Board?

I am seeing no hands, and with that I can tell you that because we have no noncompliance finding, the 4:30 Business Session will not be needed. We made up a lot of time, we're going to end early. With that I just want to thank, again, the Commission for all of their support the last two years, as you put up with me being your chairman. I look forward to the next two years under the leadership of Spud Woodward, who I am sure will do a bang-up job.

ADJOURNMENT

CHAIR KELIHER: With that, the meeting stands adjourned. Thank you very much for a very successful week.

(Whereupon the meeting adjourned at 3:15 p.m. on October 21, 2020.)

AMERICAN SALTWATER GUIDES ASSOCIATION
BETTER BUSINESS THROUGH CONSERVATION

December 9, 2021

Patrick Keliher, Chair
Atlantic States Marine Fisheries Commission (ASMFC)
1050 North Highland Street
Suite 200
Arlington, VA 22201

Mike Luisi, Chair
Mid-Atlantic Fishery Management Council (MAFMC)
800 North State Street
Suite 201
Dover, DE 19901

Dear Chair Keliher and Chair Luisi:

We are writing to express our continued concerns regarding the recreational Harvest Control Rule (HCR) effort being conducted as part of the joint ASMFC-MAFMC Recreational Reform Initiative (RRI). The HCR approach seeks to fundamentally change how the recreational fisheries for black sea bass, summer flounder, scup, and bluefish are managed—namely, by relying "less on expected fishery performance" and instead using an approach that "places greater emphasis on stock status indicators and trends."[1] While we recognize the continued challenges of managing recreational fisheries for these and other species, and appreciate efforts to improve management approaches, we continue to have doubts that the HCR approach in its current form will effectively prevent overfishing and maintain accountability as required by the Magnuson-Stevens Act.

In the last year, the HCR developed from an unsolicited idea to four potential alternatives today. At the June 8, 2021 Recreational Reform Initiative meeting, Dr. Paul Rago offered some thoughts on scaling risk associated with HCRs—management decisions will involve more risk when the stock nears a new step or box within an HCR framework.[2] And at the October 21, 2021 ASMFC meeting update, the joint ASMFC Plan Development Team (PDT) and MAFMC Fishery Management Action Team (FMAT) tasked with developing the HCR proposed four different HCR alternatives.[3] Initially planned for implementation for as soon as the 2022 fishing

[1] MAFMC. Recreational Reform Initiative. https://www.mafmc.org/actions/recreational-reform-initiative .
[2] MAFMC. Recreational Reform Initiative Update and Discussion (Joint Meeting with the ASMFC Policy Board). June 8, 2021. https://www.youtube.com/watch?v=smwlkWsGvGI.
[3] ASMFC. ISFMP Policy Board Proceedings. October 22, 2021. https://www.youtube.com/watch?v=PHfYxdHU6dc.

season, the HCR initiative has since been delayed to 2023 to allow for further development of two models and more time to refine key details, such as the role Annual Catch Limits (ACLs) and Recreational Harvest Limits (RHLs) will play in the four HCR alternatives.[4] The PDT and FMAT have made considerable progress: at their November 30th meeting, they began explicitly considering how measures will be set, the role of ACLs and/or RHLs, how conservation equivalency will or will not be employed, and the development of "guidelines" for how the HCR should function.

Given this delay in implementation and the fact that the HCR approach represents a significant departure from how recreational fisheries for these four species have been managed to date, we believe that this is an appropriate time to be deliberate in answering some of these questions and addressing the concerns of Council members and stakeholder groups across sectors. During the October 21, 2021 Interstate Fisheries Management Program Policy Board meeting, Council members and Commissioners raised concerns that the only scientific oversight of this initiative to date has been a three-member subgroup of the Scientific and Statistical Committee (SSC) regarding the two models that will be used to set measures.[5] Several Council members then suggested the idea of sending the entire HCR proposal in its current form to the full SSC for review. However, the meeting concluded without any formal consideration of tasking the full SSC with reviewing these HCR approaches.

We echo the perspective of those Council members and Commissioners and request that the full SSC review each of the four proposed alternatives and confirm that they can adequately prevent overfishing prior to any further management action. Full review is even more important considering the current HCR timeline that calls for no additional review of the draft alternatives by the SSC sub-group or by the Monitoring and Technical Committees.

It is worth noting that we do have additional concerns with this HCR proposal. These include: 1) the lack of public input and involvement to date; and 2) the Council's intention on moving forward with four species—one of which is overfished[6]—instead of first applying the HCR on a trial basis.[7] We consider a full SSC review the essential step to ensuring the scientific rigor of HCR approach in its current form, along with its compliance with the mandates of the Magnuson-Stevens Act.

Fishery managers around the country are closely monitoring the HCR's progress, as it could serve as a model for how other Councils apply so-called alternative management measures for the recreational sector. The Council and Commission are potentially setting a precedent with these actions that will guide other councils, and the process deserves greater scrutiny, transparency, and participation—both from a scientific and stakeholder perspective—than we have observed to date. Anything less would be doing a disservice to the larger fishing

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[4] Joint PDT/FMAT for Recreational Reform. Overview of work, major accomplishments, and timeline recommendations. October 1, 2021. http://www.asmfc.org/files/Meetings/2021FallMeeting/ISFMPPolicyBoard.pdf
[5] ASMFC. ISFMP Policy Board Proceeding Oct2021. October 22, 2021. https://www.youtube.com/watch?v=PHfYxdHU6dc
[6] Northeast Fisheries Science Center. Operational Assessment of the Black Sea Bass, Scup, Bluefish, and Monkfish Stocks Updated Through 2018. January 2020. http://www.asmfc.org/uploads/file/61546191noaa_23006_DS1.pdf
[7] Northeast Fisheries Science Center. Black Sea Bass Operational Assessment for 2021. July 2021. https://apps-nefsc.fisheries.noaa.gov/saw/sasi/uploads/BSB_Operational_assessment_2021-iii.pdf

community. We appreciate your consideration and urge you to ensure that any efforts to better align regulations with stock status don't undermine the Council's ability to ensure long-term stock health and stability.

Thank you for the opportunity to submit our comments.

Sincerely,

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A.G. "Spud" Woodward (GA), Chair *Joseph Cimino (NJ), Vice-Chair* *Robert E. Beal, Executive Director*

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

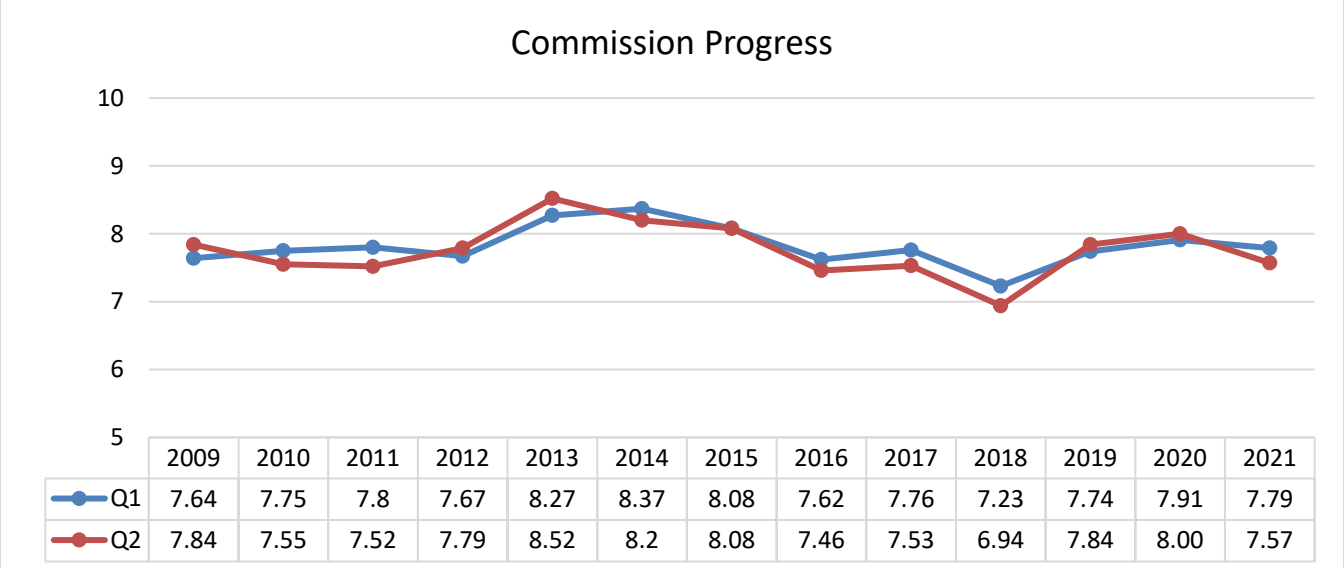
SUBJECT: 2021 Commissioner Survey Results
TO: ISFMP Policy Board
FROM: Deke Tompkins
DATE: January 10, 2022

28 Commissioners and Proxies completed the 2021 ASMFC Commissioner Survey, which is based on the Commission's 2019-2023 Strategic Plan. Questions 1-16 prompted respondents to rate their answer on a scale of 1 to 10 (ten-point Likert scale) and questions 17-21 prompted respondents to provide a written response. Questions 7, 8, 14 and 15 were new to the 2015 survey and Question 16 was added in 2020.

This memo includes graphs tracking responses for questions 1-16 throughout the time-series (2009-2021), a summary of the five open-ended questions for 2021, and unabridged responses to the five open-ended questions.

Commission Progress

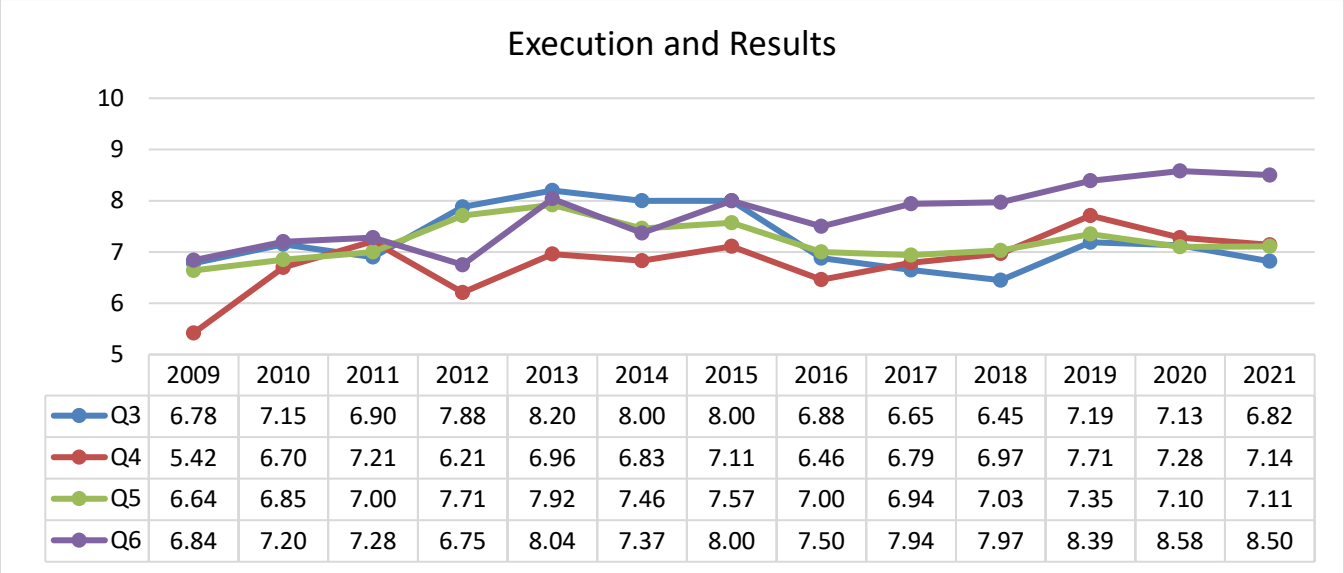
1. How comfortable are you that the Commission has a clear and achievable plan to reach the Vision (Sustainably managing Atlantic Coastal Fisheries)?
2. How confident are you that the Commission's actions reflect progress toward its Vision?



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Q1	7.64	7.75	7.8	7.67	8.27	8.37	8.08	7.62	7.76	7.23	7.74	7.91	7.79
Q2	7.84	7.55	7.52	7.79	8.52	8.2	8.08	7.46	7.53	6.94	7.84	8.00	7.57

Commission Execution and Results

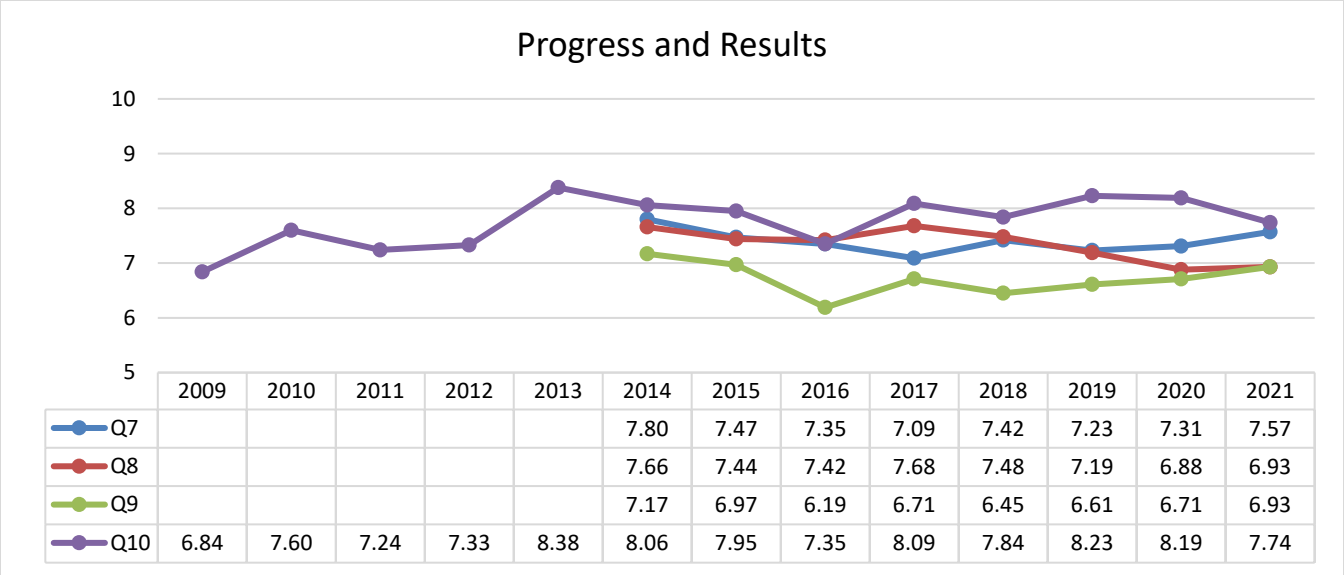
3. How satisfied are you with the cooperation between Commissioners to achieve the Commission's Vision?
4. How satisfied are you that the Commission has an appropriate level of cooperation with federal partners?
5. How satisfied are you with the Commission's working relationship with our constituent partners (commercial, recreational, and environmental)?
6. How satisfied are you with the Commission's effort and success in securing adequate fiscal resources to support management and science needs?



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Q3	6.78	7.15	6.90	7.88	8.20	8.00	8.00	6.88	6.65	6.45	7.19	7.13	6.82
Q4	5.42	6.70	7.21	6.21	6.96	6.83	7.11	6.46	6.79	6.97	7.71	7.28	7.14
Q5	6.64	6.85	7.00	7.71	7.92	7.46	7.57	7.00	6.94	7.03	7.35	7.10	7.11
Q6	6.84	7.20	7.28	6.75	8.04	7.37	8.00	7.50	7.94	7.97	8.39	8.58	8.50

Commission Progress and Results

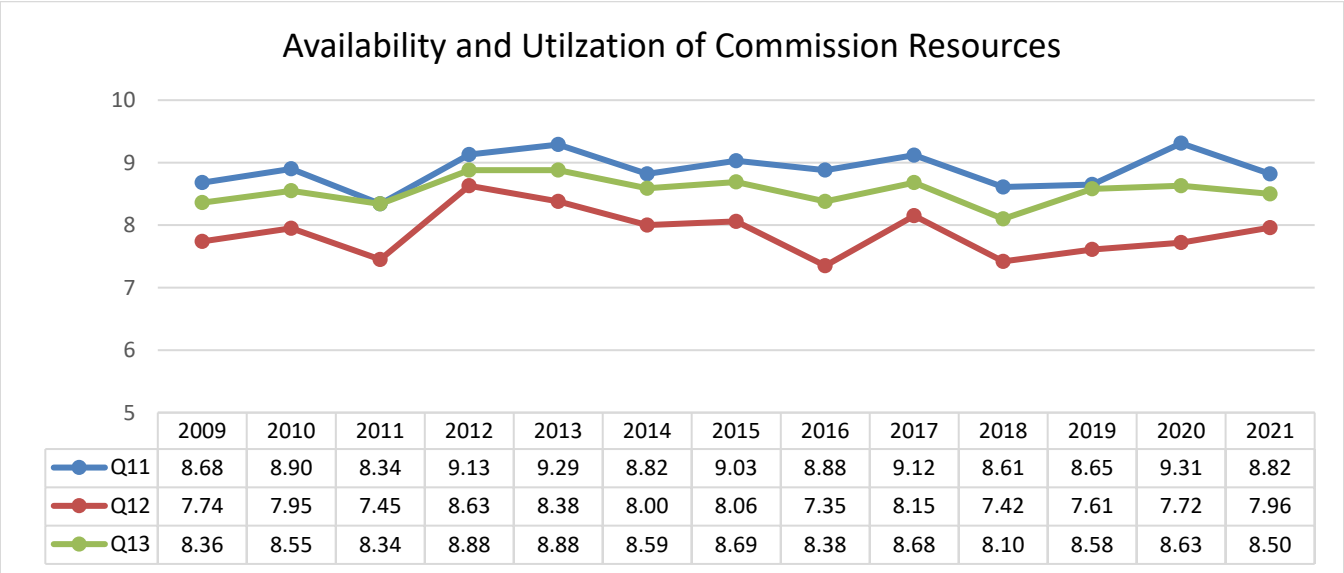
7. One of the metrics the Commission uses to measure progress is tracking the number of stocks where overfishing is no longer occurring. Is this a clear metric to measure progress?
8. How satisfied are you with the Commission's progress to end overfishing?
9. Are you satisfied with the Commission's ability to manage rebuilt stocks?
10. How satisfied are you with the Commission's efforts to engage with state legislators and members of Congress?



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Q7						7.80	7.47	7.35	7.09	7.42	7.23	7.31	7.57
Q8						7.66	7.44	7.42	7.68	7.48	7.19	6.88	6.93
Q9						7.17	6.97	6.19	6.71	6.45	6.61	6.71	6.93
Q10	6.84	7.60	7.24	7.33	8.38	8.06	7.95	7.35	8.09	7.84	8.23	8.19	7.74

Measuring the Availability and Utilization of Commission Resources

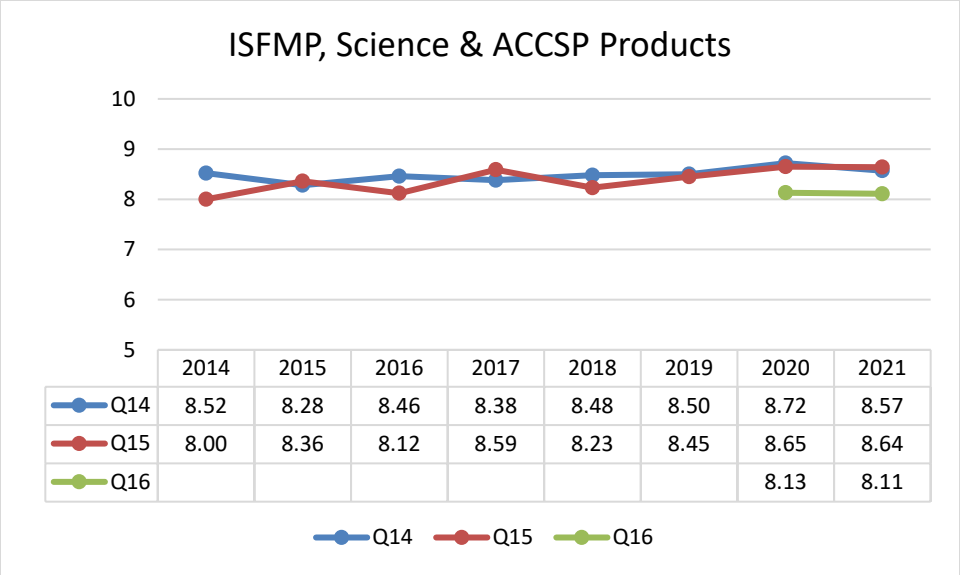
11. How satisfied are you that the Commission efficiently and effectively utilizes available fiscal and human resources?
12. How comfortable are you with the Commission's performance in reacting to new information and adapting accordingly to achieve Commission Goals?
13. The Commission has a limited scope of authority. How comfortable are you that the Commission spends the appropriate amount of resources on issues within its control?



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Q11	8.68	8.90	8.34	9.13	9.29	8.82	9.03	8.88	9.12	8.61	8.65	9.31	8.82
Q12	7.74	7.95	7.45	8.63	8.38	8.00	8.06	7.35	8.15	7.42	7.61	7.72	7.96
Q13	8.36	8.55	8.34	8.88	8.88	8.59	8.69	8.38	8.68	8.10	8.58	8.63	8.50

Commission Products

14. How satisfied are you with the products of the ISFMP Department?
15. How satisfied are you with the products of the Science Department?
16. How satisfied are you with the products ACCSP?



	2014	2015	2016	2017	2018	2019	2020	2021
Q14	8.52	8.28	8.46	8.38	8.48	8.50	8.72	8.57
Q15	8.00	8.36	8.12	8.59	8.23	8.45	8.65	8.64
Q16							8.13	8.11

Discussion Question Summaries

Some of the most mentioned **obstacles to the Commission's success in rebuilding stocks (Q17)** include a need to improve cooperation among states and federal managers; managing fisheries in changing environmental conditions; and the social impacts of management decisions.

The most **useful products produced by the Commission (Q18)** include Science trainings; Meeting Week materials and summaries; ISFMP and Science products (stock assessments, compliance reports, FMPs and amendments/addenda), www.asmfc.org; virtual meetings; Annual Report; Status of the Stocks Report; Atlantic Coast Fisheries Newsletter; and Public Comment.

Additional products the Commission could provide (Q19) include in-person trainings and workshops; enhanced data management/storage opportunities for states through ACCSP; earlier access to Meeting Week materials; an Annual FMP review; easier access to reports and board membership on the website; summaries of lengthy documents; easier access to graphs and tables from Commission products; access to software and licenses (ArcGIS); summaries of marine law enforcement initiatives; and spelling acronyms the first time they are used in a document.

Issues the Commission should focus on more (Q20) include allocation; improving recreational management strategies (party and charter mode split, processes that allow for uncertainty in recreational harvest estimates); adapting management to changing environmental conditions; filling data gaps; advocating for increased state and federal agency resources; cooperation with federal partners; improving federal enforcement; technical trainings; social impacts of management decisions; making Commission products concise and easy to understand; more frequent stock assessments for species not assessed as often as others (weakfish, cobia); increasing state level MRIP intercepts; improving the efficiency of meetings (Roberts Rules, adhering to schedules); limiting the reduction harvest of Atlantic menhaden; real time science on fish conditions/populations and timely recommendations; and right whale conservation impacts on Commission-managed species.

Please see page 8 for **Additional comments (Q21)**.

Unabridged Answers to Questions 17-20

Q17 What is the single biggest obstacle to the Commission's success in rebuilding stocks?

1. Interjurisdictional cooperation and compromise
2. Climate change
3. Environmental conditions
4. Social impacts created when reductions in harvest are needed to rebuild stocks...plus, the political pressure that accompanies these impacts.
5. The socioeconomic impacts of conservation measures.
6. building flexibility into the management of interstate fisheries between sectors
7. For jointly managed stocks, the amount of time it takes to get get NOAA and Councils to take action
8. One of the largest is climate, and how to balance significant management actions to mitigate overfishing when climate is the cause for populations decline.
9. Population/distribution changes due to climate change and states unwilling to adapt; States interests above science.
10. Limited human and fiscal resources making it difficult nigh impossible to acquire the the data needed to fully understand anthropogenic and natural affects on commission-managed species.
11. Environmental conditions impacting recruitment
12. We can only manage fishing pressure on stocks, yet several depleted stocks (Weakfish, American Shad) are not responding to decreased fishing pressure. Other environmental factors affecting stocks (climate change, watershed development) may be preventing the rebuild. Commercial and recreational fishers are understandably frustrated when asked to cut back further from already restrictive measures/low quotas, yet the recovery doesn't happen.
13. Cooperation between Commissioners
14. For some stocks (ones that are "depleted" rather than "overfished") not clear that ASMFC has a clear regulatory/policy mechanism to achieve rebuilding. This isn't a knock on ASMFC - it's an acknowledgement that fisheries management is not the solution to rebuilding those stocks.
15. Joint management with MAFMC
16. How to manage depleted species.
17. Environmental issues (habitat, water quality, climate change)
18. Being able to build consensus on difficult issues.
19. inaccurate assumptions in stock assessments and a delay in recognizing/acting on the disconnect between best available science and anecdotal experience.
20. The politics involved in making critical decisions regarding important conservation measures
21. It is very difficult to obtain the consensus of so many stakeholders and the science lags and is not keeping up with current conditions
22. How to consider and account for data uncertainties - particularly with recreational data and missing survey data due to Covid

Q18 What are the most useful products the Commission produces for you?

1. The science trainings (which have slowed down due to the pandemic but I hope can be reimplemented when things become normal again). Simply creating the opportunities for collaboration with the other commission states is the other extremely useful product. Additionally, the help in contracting employees has been extremely valuable, and the management of the funds from the CARES act was hugely helpful."
2. staff products and science

3. Materials accessible via the ASMFC website. Complied briefing materials for each meeting. Press release information on actions taken by the commission.
4. Management information on the website
5. The Commission does is outstanding at communicating with states. The virtual meetings have been run particularly well.
6. Meeting briefing documents; they are the best
7. Stock assessments and fishery management plans/amendments
8. FMP reviews, annual report
9. All of them! We refer to everything from benchmark assessments to compliance reports in responding to management questions here.
10. Commission briefing materials
11. Stock assessments, meeting briefing materials, ASMFC website
12. summaries and meeting materials.
13. Reports, especially assessment reports and status of the stock reports.
14. Meeting summaries (TC, PDTs, APs, quarterly meetings, etc.), FMP Reviews, meeting minutes, annotated agendas for Board Chairs, Atlantic Coast Fisheries Newsletters
15. Meeting Summaries, information on web page for each species
16. Graphics, charts and tables to convey the status of stocks
17. ASMFC has done a remarkable job in building important bonds among the commissioners so that we can analyze issues and problems beyond our single state perspective. I also truly appreciate the input from the public and wish that this "open forum" could be enhanced and expanded.
18. All are useful. I cannot single out any specifics.
19. Draft addenda/amendments as well as stock assessment reports

Q19 What additional products could the Commission create to make your job easier?

1. As mentioned, getting back to trainings is something I look forward to. An additional product could be to enhance the data management/storage opportunities for states through ACCSP.
2. Can't think of anything right now. Staff do a great job.
3. Make materials for board meetings available a week earlier (I don't know if this is practical)
4. Annual FMP review
5. Getting meeting materials earlier before the Commission meetings would be very helpful in preparing.
6. Very satisfied; nothing comes to mind.
7. The web site is very good, but it could be made more intuitive when it comes to finding reports, etc.
8. make website easier to navigate to view membership of species boards, TCs and PRTs, etc.
9. Any documents that provide a summary of other (lengthy) documents are very helpful. Many members have other commitments , such as ""day jobs"" and other fishery management meetings that require a lot of prep and reading materials. cutting back on prep time and still being well informed with summary docs would certainly be appreciated."
10. Make all graphs and tables that the Commission releases accessible so that they can be copied into reports, correspondence, and Power Point talks.
11. Can't think of any
12. possible sharing of software and software licenses (ArcGIS as example)
13. Whiskey...
14. Summaries of marine law enforcement initiatives so that we can make accurate and prudent assessments of this critical phase of the overall management initiatives.

15. It would be nice to have the information contained in some of the materials boiled down with reference below to additional information/resources should one need to review further. Also will be nice to identify all acronyms the first time they are used in a product. i.e. Marine Recreational Information Program (MRIP) instead of just using MRIP throughout
16. I can't think of any - the materials created are already great

Q20 What issue(s) should the Commission focus more attention/time on?

1. We still lack a rational process for allocation, this should be worked on outside of the heat of a pending action (potentially follow a similar trajectory to the Risk and Uncertainty process).
2. Continue to focus on progressive management strategies in recreational fisheries (party and charter mode split, processes that allow for uncertainty in recreational harvest estimates, etc.)."
3. give more emphasis on environmental conditions that are out of our control
4. Improving how we deal with allocation issues. Filling data gaps/needs & advocating for the necessary additional resources for state and federal agencies.
5. Figure out ways to accelerate the management of jointly managed stocks ,make changes in response to climate change, and improve enforcement at federal level. There is little or no enforcement in federal waters
6. Commission/Council interactions on joint plans. Councils increasing involvement is having negative impacts.
7. The influence of changing estuarine and ocean environmental conditions on the temporal and spatial distribution of commission-managed species.
8. Technical training for TC and Board members
9. We need more flexibility for MSA managed species. The recent GARFO mandate that recreational Black Sea Bass harvest must be reduced by 28% is going to needlessly cause pain to these fisheries. The bureaucratic inflexibility we are forced into for some of these management measures make us look less like knowledgeable fisheries managers and more like chuckleheads that couldn't find their own asses with both hands.
10. Species range and distribution shifts, and defining what "fairness" and "equity" related to this.
11. socio economics
12. Keeping recommendations, addenda, and amendments concise and easy to understand without an advanced degree in fisheries science or quantitative assessment.
13. Stock assessments for species not assessed as often as others (weakfish, cobia), ways to increase state level MRIP intercepts (to improve overall precision of estimates and to better document new species expanding their ranges)
14. Improving efficiency of meetings. Following Roberts Rules. Time limits in comments.
15. Find a way (perhaps over time) to eliminate the reduction industry (Omega Protein) from any harvesting menhaden in the Chesapeake Bay.
16. real time science on fish conditions/populations and timely recommendations which are specifically designed to alleviate issues/conditions to the extent possible
17. The right whale issue has already been a focus of the lobster fishery but I suspect that the discussions will start to impact a greater number of fisheries so this topic may require more Commission staff focus in 2022

Q21 Additional comments.

1. Some of my more negative scores were based on the continuing struggle the Commission faces when dealing with allocation and accounting for climate change in that process and more generally. A more objective process should be developed, and new management strategies for climate change effects on fisheries should continue to be investigated.

2. Thanks for all the hard work you all do!!
3. Thank you for your continued efforts!
4. Keep up the great work.
5. The Black Sea Bass commercial allocation addendum was a good compromise in that no one was happy afterward, but approving the NY appeal was a mistake that increased mistrust between regions.
6. Complements on your great work and leadership on the CARES Act and your support during COVID. You acted swiftly to meet the needs and concerns of states and constituents and displayed mastery in execution. We appreciate Bob's continued excellent leadership.
7. The ASMFC leadership and staff does a tremendous job educating members and the public. Thanks
8. I have raised this issue for a number of years, but the number and complexity of joint meetings between the Councils and the Commissions continue to grow. The Councils pay their attendees while the Commission does not. This leads to excessively long meetings, thousands of pages to read, and excessive time for the volunteers that serve on the Commission without pay.
9. None
10. Overall I think the Commission is doing a good job. We just need to start looking at the forest a bit more instead of dissecting the single trees
11. I'll just note that one challenge I see for the Commission in 2022 is how we deal with in-person meetings. We are undoubtedly living in uncertain times with Covid. We also have some large actions upcoming (menhaden, striped bass, lobster) and I think it is becoming more apparent on recent webinars the impact of no face-to-face interaction, particularly on these bigger issues. I don't have a solution but just reflecting on my recent webinar experiences

DRAFT

Policy on Information Requests

Atlantic States Marine Fisheries Commission

November 23, 2021

ASMFC member states have committed to transparent and open ASMFC decision-making, record-keeping, and public meeting processes. ASMFC policies and guidelines concerning public participation are set out in detail in the Compact, Rules and Regulations and the Interstate Fisheries Management Program (ISFMP) Charter. Of particular note, Section 6(c) of the ISFMP Charter sets out detailed provisions for public participation in ASMFC's fishery management process, including requirements for public disclosure of fishery management plan documents, and the preparation of administrative records concerning particular planning decisions. Thus, while the Atlantic States Marine Fisheries Commission (ASMFC or Commission) is not subject to state or federal freedom of information laws, the Commission is dedicated to transparency and to broad public access to information.

Much of the publicly available information relating to the Commission's work can readily be accessed at the ASMFC's website, www.asmfc.org. The Commission's website is maintained to provide extensive information on fishery management proceedings, scientific and technical information, ASMFC procedures, and many other topics. For example, links to guiding documents may be found at Compact and Rules and Regulations, ISFMP Charter, Technical Guidance and Stock Assessment Process. Not all documents relevant to fishery management planning are posted on the website. For example, public correspondence or data submissions/requests, made to ASMFC staff are not typically available on the website.

For access to such information, members of the public can email the Commission at info@asmfc.org. Within 5 days, ASMFC will acknowledge receipt of the request and provide a timeline for fully responding to the request. For information requests that will take more than two hours of staff time, the Commission will charge to reimburse for staff time, copying, mailing, etc. The requestor will receive an estimate of reimbursement costs and will have the choice to proceed with the request, adjust the scope, or terminate the request.

Please be advised that ASMFC will not create new records to respond to an information request. Eligible documents will be provided in existing form. If requested documents do not exist, the requestor will be notified accordingly.

For ASMFC, as with any governmental entity, there are limitations regarding the types of information that can be made public. For example, fisheries data may be confidential under state or federal law. If ASMFC receives a request related to confidential data, the request will be forwarded to the state or federal agency that originally collected the data. The state or

federal agency will determine what data can be made available to the public based on their laws and policies.

In addition to confidential fisheries data, ASMFC may restrict access to information of a kind that is regularly withheld from public disclosure by governmental entities. Such information includes deliberative and pre-decisional technical or policy documents, attorney-client privileged documents, as well as personal and personnel information. The Executive Director, in consultation with the ASMFC legal counsel where appropriate, will determine whether any requested documents or information cannot be made public.

Finally, in light of the policies and practices explained above, the public should be aware that letters, public comments, emails, faxes and other correspondence submitted to ASMFC may be made public by posting on the Commission's website or in response to an information request.

Atlantic States Marine Fisheries Commission

Update to ASMFC Habitat Management Series #15: Submerged Aquatic Vegetation Policy: A Review of Past Accomplishments & Emerging Research and Management Issues

Date

Atlantic States Marine Fisheries Commission
Submerged Aquatic Vegetation Policy

Executive Summary

Submerged aquatic vegetation (SAV) comprise some of the most productive ecosystems in the world. SAV is significantly important to many Atlantic States Marine Fisheries Commission (Commission) managed fish species and provides a variety of ecosystem services, especially important given climate change. SAV is afforded different degrees of protection and different management measures up and down the coast. In 1997, the Commission's Habitat Committee developed a policy to communicate the need for conservation of coastal SAV resources, and highlight state and Commission-based activities for implementation of a coastal SAV conservation and enhancement program. The Commission encouraged implementation of this policy by state, federal, local, and cooperative programs which influence and regulate fish habitat and activities impacting fish habitat; specifically, SAV.

In 2017, 20 years after the original policy was released, the Habitat Committee re-evaluated its recommendations and importance. Upon review, it was determined that the policy is still relevant, and arguably more important now than ever.

Another update was made in 2022 to further refine the definition of SAV, and to introduce the Commission's position on living shorelines and nature-based features. Other minor clarifying edits were also included.

The Habitat Committee has left the goals largely unchanged from the 1997 version. The primary goal is to preserve, conserve, and restore SAV where possible, in order to achieve a net gain in distribution and abundance along the Atlantic coast and tidal tributaries, and to prevent any further losses of SAV in individual states by encouraging the following:

1. Protect existing SAV beds from further losses due to degradation of water quality, physical destruction to the plants, or disruption to the local benthic environment, such as from coastal construction;
2. Continue to promote state or regional water and habitat quality objectives that will result in restoration of SAV through natural re-vegetation;
3. Continue to promote, develop, attain, and update as needed, state SAV restoration goals in terms of acreage, abundance, and species diversity, considering historical distribution records and estimates of potential habitat.
4. Continue to promote SAV protection at local, state and federal levels and when unavoidable impacts to SAV occur from permitted coastal alterations or other unintended actions, agencies should implement compensatory mitigation for the functional and temporal impacts.
5. Encourage monitoring and research to address management-oriented information gaps.
6. Provide funding for pilot projects and other demonstration restoration areas.

There are six key components to achieving the goal of this policy: 1) Assessment of historical, current and potential distribution and abundance of SAV; 2) Protection of existing SAV and associated habitat; 3) SAV Restoration and Enhancement; 4) Public Education and Involvement; 5) Research; 6) Implementation through pilot demonstration areas; and 7) Potential Changes to policies.

Atlantic States Marine Fisheries Commission

Update to Habitat Management Series #15: Submerged Aquatic Vegetation Policy

Date

Prepared by Lisa N. Havel and the ASMFC Habitat Committee

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Acknowledgements

The Habitat Committee would like to acknowledge all of the partners and staff who took the ASMFC 1997 SAV Policy to heart and implemented it. In particular, we thank the early pioneers in North Carolina and Virginia – Bob Noffsinger, Wilson Laney, John Stanton, and John Gallegos of the U.S. Fish and Wildlife Service; Dean Carpenter of the Albemarle Pamlico National Estuary Program (APNEP); Anne Deaton of the North Carolina Division of Marine Fisheries (NC DMF); and Don Field of the National Ocean Service, NOAA for their organization and regular mapping efforts. Also thanks to Rob Allen and Keith Johnston of the North Carolina Department of Transportation's Photogrammetry section. Their team's collaboration with APNEP and NC DMF during the project's second cycle (2012-2014) translated into great gains in efficiency during aerial image acquisition.

For their assistance with providing, reviewing, and/or updating information in this document (in some cases multiple times), we thank Soren Dahl, Kathryn Ford, Kate Frew, and others that we might have forgotten to mention.

Additionally, we would like to extend our gratitude to Bob Orth of the Virginia Institute of Marine Science for his May 2, 2017 presentation to the Habitat Committee on SAV in the Chesapeake Bay. The presentation and subsequent discussion helped guide the direction of this update to the SAV Policy.

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Preface

The Atlantic States Marine Fisheries Commission (Commission) was formed in 1942 as a means to conserve and enhance interjurisdictional fisheries of the Atlantic coast. The Commission and its 15 member states and associated jurisdictions which also serve on the Commission's Interstate Fisheries Management Policy Board (District of Columbia, NOAA Fisheries, Potomac River Fisheries Commission, and U.S. Fish and Wildlife Service) recognize that marine fisheries cannot be adequately managed without due consideration for marine fish habitat; however, the Commission does not have the capability to regulate marine fish habitat or activities other than fishing that may cause adverse impacts. Under these circumstances, the Commission recognizes that it is imperative to collaborate with the state and federal agencies that hold such authority, and equip them with the recommendations and guidance necessary to help provide for the conservation of healthy marine fish habitat.

Submerged aquatic vegetation (SAV) comprise some of the most productive ecosystems in the world (Orth et al. 2006a). SAV is significantly important to many Commission managed fish species, and afforded different degrees of protection up and down the coast. In 1997, the Commission's Habitat Committee developed a policy (ASMFC 1997) to communicate the need for conservation of coastal SAV resources, and highlight state and Commission-based activities for implementation of a coastal SAV conservation and enhancement program. This policy was modeled after a similar policy prepared by the Chesapeake Bay Program (Chesapeake Executive Council 1989), and background information relied heavily on the Commission's publication *Atlantic Coastal Submerged Aquatic Vegetation: A Review of its Ecological Role, Anthropogenic Impacts, State Regulation, and Value to Atlantic Coastal Fisheries* (Stephan and Bigford 1997). The intent of the original policy was not to hold marine fisheries agencies accountable for the suggested state activities, but rather to efficiently communicate the goals of the policy to the agencies or organizations that can best carry out the prescribed activities, and encourage the participation of these agencies in achieving policy goals.

In 2017, 20 years after the original policy was released, the Habitat Committee re-evaluated its recommendations and importance. Upon review, it was determined that the policy is still relevant, and arguably more important now than ever due to new or intensifying threats that could reduce water quality or damage SAV habitat, such as aquaculture and coastal development (Short et al. 2011, Lefcheck et al. 2017). Our objective was to provide updates to the scientific research and management issues, including emerging issues over the past 20 years.

In 2022, the Habitat Committee made another update to further refine the definition of SAV and SAV habitat, and to update the language in *Policy II. Protection of Existing SAV* to clarify the Commission's position on the installation of living shorelines and nature-based features. Minor changes were also made for clarity and to better incorporate the current status of SAV and current or emerging threats to these important habitats and nursery grounds.

Introduction

Background

Submerged aquatic vegetation or SAV systems, which include both true seagrasses in saline regions and freshwater angiosperms that have colonized lower salinity regions of estuaries, are among the most productive ecosystems in the world (Orth et al. 2006a). They perform a number of irreplaceable ecological functions, which range from chemical cycling and physical modification of the water column and sediments, to providing food and shelter for commercial, recreational, as well as ecologically important organisms, and are especially critical for juvenile development of many fish and invertebrate species (Thayer et al. 1997, Heck et al. 2003, Ralph et al. 2013). Due in part to their status as a nursery habitat, SAV is also a key linkage among not only other marine ecosystems, but terrestrial ones as well (Heck et al. 2008). The majority of ASMFC-managed species utilize SAV for refuge, attachment, spawning, food, or prey location for at least part of their life cycle (data from Kritzer et al. 2016, ACFHP Species-Habitat Matrix). Conservation of these vital habitats is critical not only for successfully managing our Atlantic fisheries, but for all who depend on healthy aquatic ecosystems.

The Commission established a policy on SAV in 1997 because of the important role SAV plays in the habitat of Commission-managed species. Both marine and freshwater SAV is covered by the policy because some managed species utilize both during their ontogenetic development. Both natural events and human activities can threaten local and regional SAV health and abundance, and result in impacts to fisheries. SAV loss has been reported worldwide (Orth et al. 2006a, Waycott et al. 2009) and in most Atlantic coastal states (see 'SAV Efforts by Atlantic Coast States and Federal Partners since the Policy was Released' below). Some reasons for the decline are pervasive threats along the coast. Water quality issues, caused by sedimentation and eutrophication, especially from algal blooms, reduce water column transparency and prevent SAV from photosynthesizing. Climate change-induced heat waves and storm events have big impacts on temperature and salinity in the shallow water environments where SAV grow. These threats and others have led to massive die-offs. Certain regions, like Long Island, New York bays and the Indian River Lagoon, Florida now have only a fraction of historic SAV coverage. Coastal construction, including dredging and filling, is also a major threat to SAV. The Chesapeake Bay saw declines in all species in all areas of the bay in the early 1970s (Orth and Moore 1983, Orth et al. 2002a). In 1993, researchers identified the main influencers on SAV abundance and distribution: water clarity, suspended sediments, nitrogen, phosphorus, and chlorophyll *a* (Dennison et al. 1993). Since then, managers have been using these indicators for specific water quality targets. The current restoration target is 130,000 acres by 2025 (Submerged Aquatic Vegetation (SAV) - Chesapeake Progress). Conservation measures have also slowed, and in some cases reversed, SAV decline in other locations, including parts of Florida (SAFMC 2014).

The Commission encouraged implementation of the original policy by state, federal, local, and cooperative programs which influence and regulate fish habitat and activities impacting fish habitat; specifically, SAV. The development of the original policy was overseen by the Commission's Habitat Committee, with scientific guidance from experts in the field of SAV ecology. The 2018 version the SAV policy was updated by distributing the 1997 policy to SAV and habitat experts and incorporating their changes. The final draft was approved by the Habitat Committee January 16, 2018 and by the Policy Board February 8, 2018. This 2021 version contains minor changes to the 2018 version by noting emerging issues associated with implementing some shoreline protection measures and associated SAV losses.

Definition of Submerged Aquatic Vegetation and SAV Habitat

In general, SAV normally refers to all macrophytes, including macroalgae, found in aquatic systems ranging from freshwater to marine. For the purposes of this document, ASMFC's definition of SAV refers to rooted, vascular, flowering plants that, except for some flowering structures, live and grow below the estuarine and marine water surface. Because of their requirements for sufficient sunlight, seagrasses, the estuarine and marine constituent species of SAV, are found in shallow coastal areas of all Atlantic coastal states, with the exception of Georgia and South Carolina. In those states, freshwater inflow, high turbidity, and tidal amplitude combine to inhibit their growth. SAV growth is seasonal, and during winter months, leaf blades may not be present.

ASMFC's definition of SAV habitat includes SAV beds and standing populations of various species and densities, including bare areas of sediment within a bed. This definition also accounts for the average physical requirements of depth and light availability for SAV community persistence. SAV habitat is characterized by the current or historical presence of rhizomes, roots, shoots, or reproductive structures associated with one or more SAV species. Mapping and surveying during the active growing season enhances the ability to identify SAV habitat.

There are at least 13 species of seagrasses common in US waters to which this definition of SAV and these policies may apply. In the New England and northern Mid-Atlantic regions, eelgrass (*Zostera marina*) dominates coastal shallow waters, with two other species also occurring – widgeon grass (*Ruppia maritima*) and, from North Carolina southward, Cuban shoalgrass (*Halodule wrightii*). South towards Florida, turtlegrass (*Thalassia testudinum*) and manatee grass (*Syringodium filiforme*) become dominant along with Cuban shoalgrass and several species of *Halophila*. One species of *Halophila*, Johnson's seagrass (*H. johnsonnii*), was listed as threatened in 1998. Its critical habitat was designated in 2000, and in 2002 the National Oceanic and Atmospheric Administration (NOAA) published a recovery plan for the species[1]. In light of recent genetic studies, which indicate that Johnson's seagrass shares a predominance of its genome with paddle weed (*Halophila ovalis*), NOAA is evaluating the threatened status of this species for delisting (Waycott et al. 2021). Widgeon grass (*Ruppia maritima*) which can tolerate both fresh and saltwater, has the broadest range of all species (Orth 1997).

In addition to the seagrass species that fall under ASMFC's definition of SAV, approximately 20 – 30 species of freshwater macrophytes may be found in the tidal freshwater and low salinity areas of the estuaries of the eastern United States. These lower salinity communities can be quite diverse, with as many as 10 species co-occurring at a single location. Wild celery (*Vallisneria americana*), redhead grass (*Potamogeton perfoliatus*), sago pondweed (*P. pectinatus*), horned pondweed (*Zannichellia palustris*), common elodea (*Elodea canidensis*), coontail (*Ceratophyllum demersum*), and southern naiad (*Najas quadalupensis*) are a few of the native species that will dominate these areas while two non-native (invasive) species, Eurasian watermilfoil (*Myriophyllum spicatum*) and hydrilla (*Hydrilla verticillata*), will also be found in many areas.

Finally, the updates and the original policy acknowledge that there will be situations where it may be appropriate to undertake control measures for invasive species of SAV. However, where native SAV species have been eliminated and invasive species are of functional value it may be more appropriate to protect the invasive species from development activities (e.g. see Ramus et al. 2017). These situations should be evaluated on a case-by-case basis.

[1] http://www.fisheries.noaa.gov/pr/species/plants/johnsons-seagrass.html

SAV Efforts by Atlantic Coast States and Federal Partners since the Policy was Released

In 2017, the Habitat Program Coordinator sent out a survey asking each partner a series of questions based on the goals and components of the original policy statement (results in Figure 1).

Of the eleven states that have marine seagrass within their borders and responded to the survey, seven of the eleven have implemented a resource assessment and monitoring strategy to quantitatively evaluate SAV distribution and abundance. One state is currently in the process of developing an assessment. Ten states have put measures in place to limit permanent and irreversible direct and indirect impacts to SAV and their habitats. Whether or not a state has been active in evaluating the effectiveness of these measures has been mixed across states. Three states have carried out an evaluation and five have not. Two states have evaluations in development, and one state has conducted an evaluation in the past, but is not currently doing so. Fifty-five percent of states have set restoration goals, whereas 45% have not. Most (81%), however, have identified the key reasons for SAV loss in their state. Seven states have identified suitable areas for protection and restoration, and two are in the process of doing so. One state has not, and one identifies areas as needed. All states either incorporate SAV education in their outreach or citizen science programs, either directly or via other entities (such as National Estuarine Research Reserves). Most states have also supported SAV research and follow specific Best Management Practices (10 and 8 states, respectively).

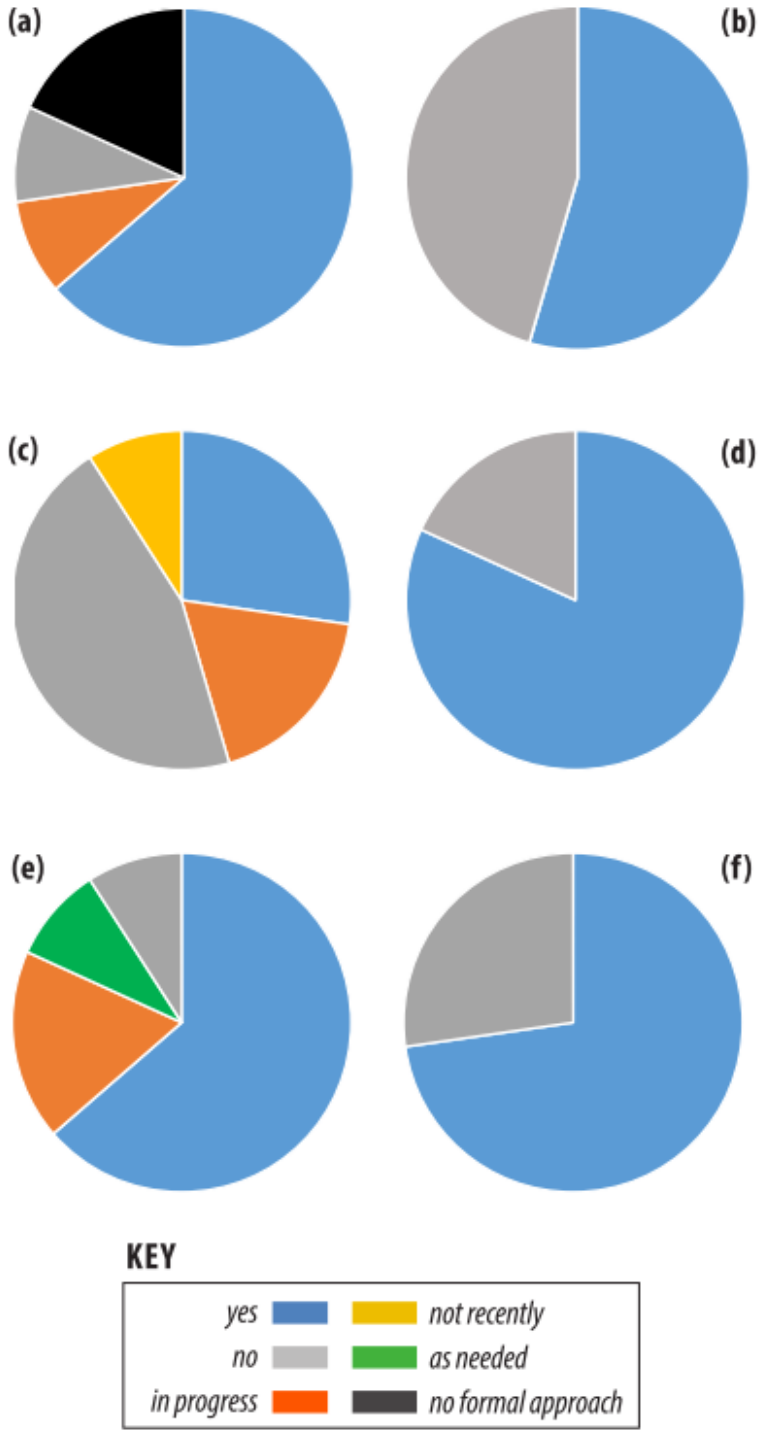

Figure 1. State responses to the following questions: (a) Has your state implemented an SAV resource management assessment and monitoring strategy? (b) Has your state set restoration goals? (c) Has your state reviewed the effectiveness of their assessment and monitoring programs? (d) Has your state identified reasons for loss and/or addressed the need for SAV improvement? (e) Has your state identified areas for protection or restoration? (f) Does your state follow specific Best Management Practices?

Most of the federal partners do not have regulatory authority pertaining to SAV, but do serve in an advisory role and can designate specific SAV areas as protected. Most have developed technical guidance or SAV standards, and promote Best Management Practices. While they have not implemented the Commission's SAV Policy, most have implemented other, similar policies to protect SAV.

Policy Statement

Goal

The Habitat Committee found that the original goals are still relevant today, and have left them largely unchanged from the 1997 version. The primary goal is to preserve, conserve, and restore SAV where possible, in order to achieve a net gain in distribution and abundance along the Atlantic coast and tidal tributaries, and to prevent any further losses of SAV in individual states by encouraging the following:

1. Protect existing SAV beds from further losses due to degradation of water quality, physical destruction to the plants, or disruption to the local benthic environment such as from coastal construction;

2. Continue to promote state or regional water and habitat quality objectives that will result in restoration of SAV through natural re-vegetation;

3. Continue to promote, develop, attain, and update as needed, state SAV restoration goals in terms of acreage, abundance, and species diversity, considering historical distribution records and estimates of potential habitat.

4. Continue to promote SAV protection at local, state and federal levels and when unavoidable impacts to SAV occur from permitted coastal alterations or other unintended actions, agencies should implement compensatory mitigation for the functional and temporal impacts.

5. Encourage monitoring and research to address management-oriented information gaps.

6. Provide funding for pilot projects and other demonstration restoration areas.

   There are six key components to achieving the goal of this policy: 1) Assessment of historical, current and potential distribution and abundance of SAV; 2) Protection of existing SAV and associated habitat; 3) SAV restoration and enhancement; 4) Public education and involvement; 5) Research; 6) Implementation through pilot demonstration areas; and 7) Potential changes to policies.

I. Assessing the Resource

Determining current status and identifying trends in health and abundance are key factors in management of SAV resources. In an effort to develop consistent monitoring techniques among regions, SAV mapping protocols have been identified by NOAA's Coastal Change Analysis Program (C- CAP, Dobson et al. 1995), and updated in 2001 (NOAA 2001).

Policy:

At a minimum, each member state should ensure the implementation of an SAV resource assessment and monitoring program which will provide a continuing quantitative evaluation of SAV distribution and

abundance and the supporting environmental parameters. The optimal coast-wide situation would be a monitoring system which would establish consistent monitoring techniques among regions so that the data are comparable. For example, SeagrassNet is used at several locations along the Atlantic coast and other areas worldwide to assess trends in health of discrete SAV beds using comparable techniques. In addition to evaluating distribution and abundance, monitoring should also evaluate trends in the overall health of existing SAV beds.

Action:
ASMFC: Support (financially, politically, or through the sharing of resources and information) and promote states to adopt an SAV mapping and monitoring plan. Assessment and data collection should have relevant metrics and scales to inform specific management questions and goals (Bernstein et al. 2011, Neckles et al. 2012, Roca et al. 2016). When possible, promote universal metrics for monitoring along the coast to allow for inter-state comparisons.

States: ASMFC members should encourage their appropriate state agencies or departments to implement regular statewide or regional SAV monitoring programs which will identify changes in SAV health and abundance cumulatively on a coast-wide basis if they are not already doing so (see "SAV Efforts by Atlantic Coast States and Federal Partners since the Policy was Released" above for more information). Surveys should minimally be on a five-year basis, and preferably annually, for areas considered to be especially at risk of severe declines from anthropogenic activities, disease, or other factors. Aerial images captured from a plane allow for standard comparability across regions, if resources allow. A good map provides spatial extent and rough approximations of density. However, aerial-based assessment results can vary considerably based on image quality, SAV bed plant densities, visual signature interpretation and extent of surface level verification. Above ground biomass (e.g., shoot density and canopy height) from sentinel beds can allow for a closer look at plant health and bed dynamics.

II. Protection of Existing Submerged Aquatic Vegetation and Associated Habitat

A concerted effort should be made to protect those areas where SAV currently exists and habitat where SAV could potentially occur, since it can be problematic to successfully restore or mitigate SAV losses. Habitat where SAV habitat could potentially occur, a buffer, allows room for SAV seed dispersal, normal seasonal expansion, and would resolve the difficulty of accurately mapping belowground plant structure. Impacts which result in losses of SAV and SAV habitat, such as direct alterations to a vegetated area or indirect actions within a watershed, should be minimized. Primary causes of existing SAV and SAV habitat loss include coastal construction, reduced water clarity due to increased nutrient (and subsequent algal blooms), and sediment delivery to ambient waters from development and agriculture. Climate change is expected to have an effect on SAV distribution and abundance as water temperature, salinity, and water depth change. Shading from docks, propeller dredging from boating, and bottom disturbing fishing gear also contribute to SAV loss (e.g., Orth et al. 2002b).

Since the original policy was released, SAV has been facing emerging issues including coastal construction (e.g., boom in the installation of new boat mooring areas, port expansions), and significant increases in aquaculture in shallow coastal waters, both of which can conflict with the conservation of SAV. This is especially true for shellfish aquaculture. Aquaculture has the potential for conflicts that requires careful ocean planning, and siting should not occur within or adjacent to areas of existing SAV or SAV habitat until further research can be completed that examines whether specific aquaculture practices, such as shellfish aquaculture, can co-exist with SAV.

Additionally, there has been increasing interest in the use of living shorelines or nature-based features[2] to provide shoreline stabilization, wave attenuation, and erosion control instead of using bulkheads and other shoreline hardening measures. The term "living shoreline" has itself progressed to take on a more general meaning, encompassing a wide variety of projects that integrate ecological principles into the engineering design. When designed correctly, living shorelines can provide a benefit to adjacent SAV beds by stabilizing highly erodible sediment that may be negatively impacting SAV, while continuing to support the necessary sediment supply to maintain the beds. Some living shorelines efforts have the purpose of restoring SAV. In contrast, poorly designed living shorelines or hardened shorelines can significantly and negatively impact adjacent SAV beds by altering nearshore hydraulics and reducing the necessary sediment supply. Permitting processes have been developed on the federal level and in some states to encourage the use of living shorelines. While correctly designed living shorelines and nature-based features can provide benefit to adjacent SAV beds, there have been examples of poor living shoreline and nature-based feature design and implementation that reduced the acreage of SAV beds or damaged the beds during construction.

Because SAV requirements for growth and survival are stringent, controlling the type, extent, intensity, and duration of impacts to SAV will further other efforts to restore and protect coastal fish habitat. Furthermore, protection and conservation of SAV should be prioritized as an assured and cost-effective approach to the preservation of SAV.

Policy:
Member states and federal partners should use existing regulatory, proprietary (submerged lands), and resource management programs, and in addition, develop new programs to limit permanent direct and indirect impacts to SAV and SAV habitat.

Action:
ASMFC, States, and Federal Partners: Review and evaluate the effectiveness of existing administrative procedures, regulatory, proprietary, and resource management programs to protect existing SAV and their habitats. This includes: fishing impacts; aquaculture; erosion control, living shoreline and nature-based shoreline implementation; coastal construction; water quality standards; indirect vessel impacts such as elevated wakes and direct vessel impacts from hulls, propellers, and personal watercraft; runoff from land-based development and agriculture; and compensatory mitigation.

ASMFC:

1. Support and promote the development of water quality standards by the Environmental Protection Agency and member states that can be implemented to protect SAV habitat (i.e., light attenuation, total suspended solids, chlorophyll *a*, dissolved inorganic nitrogen, dissolved inorganic phosphorus, critical life period).

2. Support and promote responsible siting, design, and construction of living shorelines and nature-based features over the use of hardened structures to the maximum extent practical. Avoidance and minimization measures should always be demonstrated before unavoidable impacts to SAV are considered. Generally, avoidance of SAV habitat (i.e., either present or historically present) plus room for a buffer should be a critical constraint that influences the selection and design of a living shoreline or

[2] Nature-based features are created by human design, engineering, and construction for specific services such as coastal hazard risk reduction.

nature-based feature project. Where impacts to SAV habitat are truly unavoidable to accomplish project goals without compromising the integrity of the design, compensatory in-kind mitigation should be used to offset the lost ecological functions.

3. Support and promote the development of technical guidelines and standards as well as expand research where needed to objectively evaluate fishing gear, propeller scarring, dredging, coastal construction, and bottom fishing impact, and develop best management practices to avoid disturbance and standard mitigation strategies when disturbance is unlikely to be avoided.

States:

4. ASMFC members should determine which actions are causing disturbance to SAV habitat, develop objective methods and research to evaluate impacts when the extent and longevity of the disturbance is not well documented, and propose best management practices and when necessary improvements in state regulation and management. This may include, for example, conditions pertaining to harvesting shellfish or finfish in SAV habitat by use of mechanical means and the placement and operations of aquaculture activities to protect existing SAV habitat.

5. States and federal partners should promote the use of living shorelines and nature-based features and develop new programs to provide shoreline stabilization, wave attenuation, and erosion control which limit permanent direct and indirect impacts to SAV, SAV habitat, and the immediate surrounding buffer area.

6. Encourage state and federal regulatory agencies to make improvements as necessary to ensure that living shorelines and other nature-based features adequately address fisheries habitat concerns and consider new approaches to ecosystem management that result in multiple objectives. Specifically, SAV habitat should not be negatively impacted by shoreline construction activities including living shorelines and nature-based features.

III. Restoration of Submerged Aquatic Vegetation

In addition to minimizing impacts to existing SAV resources and SAV habitat, restoration of former SAV habitat should improve the likelihood of achieving an overall net gain. In cases where monitoring assessments show SAV is in decline due to poor environmental quality, sufficient environmental quality standards must be attained before restoration can occur. Planning will induce maximum restoration program effectiveness. Even with adequate environmental quality, SAV restoration is challenging due to herbivores, community ecological imbalances, human impacts, and the risk of newly planted shoots to uproot easily. Good planning and use of scientifically-based restoration protocols will help ensure success where environmental conditions warrant. Examples of tools and protocols include habitat suitability models (Vaudrey et al. 2013), site-specific planning and testing (Leschen et al. 2010), and restoration strategies (Orth et al. 2006b, van Katwijk et al. 2016). To be successful, water quality conditions that historically and currently support SAV should be compiled regionally and used to identify potential SAV restoration sites.

Policy:

Conservation through effective management of existing resources is preferred over restoration. Restoration programs should include confirmation of existing environmental conditions necessary for successful SAV restoration, or re-establishment of environmental conditions necessary for successful SAV restoration, prior

to restoration actions occurring or being considered for compensatory mitigation purposes. Restoration methods should incorporate scientifically based protocols. Restoration goals should consider potential and historical SAV spatial footprint.

Action:
ASMFC, States, and Federal Partners: ASMFC should partner with/promote/support other state and federal agencies, departments, NGOs, universities, and other entities to support SAV restoration activities. ASMFC members should contribute or take the lead on setting state restoration goals for SAV acreage and providing current literature and best management practices to state and federal agencies.

States: ASMFC members should encourage their appropriate state agency or department to set regional or state restoration goals for SAV acreage, abundance, and species diversity considering historical records of abundance and distributions and estimates of potential habitat. Identify reasons for losses, and address any need for habitat improvement prior to restoration. Based on scientific protocols, identify areas currently suitable for SAV restoration, and consider them for protection and future use, or immediate use in restoration projects. Implement science-based transplanting and planting protocols, and support their use by other organizations.

IV. Public Education and Involvement

An informed and involved public will provide a firm foundation of support for SAV protection and restoration efforts. Education and involvement are important facets of increasing public awareness and stewardship (e.g., Figure 2).

Figure 2. Seagrass habitat conservation signage in Jamestown, Rhode Island. Photo and sign courtesy of the Atlantic Coastal Fish Habitat Partnership.

Policy:
ASMFC and member states should promote and support public education and stewardship programs that will increase the public's knowledge of SAV, the impacts and disturbances to SAV beds, its value to mitigate climate change, its importance as fish habitat, and commitment to SAV conservation.

Action:

ASMFC, States, and Federal Partners: ASMFC in coordination with member States, federal agencies, and non-profits will promote and support the improvement of policy maker and public understanding of the value, habitat requirements, status, significant threats, cumulative human impacts, and trends in abundance of SAV. States should include this information in their aquatic education programs.

State: ASMFC members should encourage their appropriate state agency or department to promote the involvement of citizen's groups in activities such as Tier 2 sampling of remotely sensed and mapped SAV locations; water quality monitoring programs; reporting of impacts, especially cumulative impacts such as dock and pier expansions; losses or perturbations; and SAV restoration and protection activities. One way to aid in increasing awareness would be to share area maps online (preferably not requiring GIS software capabilities).

V. Scientific Research

Through scientific research, we will improve our knowledge and understanding of SAV to ensure that efforts to protect and restore the resource will be effective. Further information on growth, physiology, reproduction, genetics, life cycles, disease, transplanting (successes and failures), environmental requirements, and anthropogenic impacts is needed to protect and restore SAV.

Policy:

ASMFC and member states should promote and support those research projects which will improve our knowledge of SAV, the impacts and disturbances to SAV beds, its value to mitigate climate change, and its benefits as fish habitat.

Action:

ASMFC, States, and Federal Partners: On a coast wide basis, support research financially, politically, and through data and results sharing in the following areas:

1. The relationship between SAV and the environmental quality of fish habitat and the relative importance of SAV to other, high quality habitat types. This should include the development of specific habitat functions of SAV (e.g., spawning, feeding, growth, refuge), taking into consideration the benefits to managed fish species across their ranges.

2. Improving methodologies for SAV transplanting and restoration techniques and determine the ecological functioning of transplanted vs. naturally vegetated areas.

3. Improving our understanding of the relationships between SAV and managed fish species, including fishery production patterns associated with different landscape or bed forms and sizes within the context of location within the system, as well as the influence of human disturbance and consequences of altering seagrass landscapes vis-à-vis fragmentation and isolation.

4. The specific physical requirements for SAV survival, on a regional basis, as well as the effects of eutrophication, sediment loading, indirect (pesticides) and direct (herbicides) impacts to epiphyte grazers, disease, physical disturbance, climate change (e.g., respiratory stress from increased temperatures), and natural perturbations on growth and survival of SAV. Efforts should be made to identify the primary threat(s) to SAV health in each locale. This will help identify potential sites for SAV restoration.

5. The effects of reduced genetic diversity and difference in physiology (e.g., annual vs. perennial, below-ground biomass) on the ability of seagrass populations to survive habitat alterations. Research should also identify regional differences in SAV requirements.

6. The potential effect of climate change on SAV, including range expansion and contraction, temperature tolerance, susceptibility to disease, etc.

VI. Policy Implementation

Habitat Program

This policy was distributed to all Commissioners and other interested persons for use in promoting local and regional protection of SAV habitat. The Commission's federal partners, including the U.S. Fish and Wildlife Service and NOAA Fisheries, were encouraged to adopt and implement this policy. Other federal agencies, such as the U.S. Army Corps of Engineers and the Environmental Protection Agency, were briefed on the policy, and encouraged to adopt it as well.

The Commission will continue to progress in its commitment to facilitate communication among local, state, and federal fishery and habitat managers, as well as assist marine fisheries agencies in transmitting this updated policy to habitat protection agencies (Appendix I).

Fishery Management Planning

Under the Atlantic Coastal Fisheries Cooperative Management Act, the Commission may require that states implement certain facets of fishery management plans, termed "compliance criteria." The following is a list of compliance criteria which the Commission will continue to consider for adoption in fishery management plans (FMP) for species with demonstrated reliance on SAV habitat (Laney 1997):

1. Preparation of an annual status report by each state and federal partner on implementation and results, where applicable, of each aspect of the policy.

2. Transmission of the policy by each state and federal partner to all agencies with habitat regulatory and management authority or organizations which can have a significant positive or negative impact on SAV.

3. Preparation of state plans to identify and objectively demonstrate through research, fishing gear and practices employed by any state regulated fishery which may negatively impact SAV; and development and implementation of best management practices and strategies to significantly reduce, or when possible, eliminate negative impacts identified pursuant to Section II where appropriate to achieve SAV objectives.

In addition, the policy should continue to be incorporated by reference into FMPs for species with demonstrated reliance on SAV habitat. These FMPs should include background information on the importance of SAVs, and recommendations which parallel the prescribed activities of the policy.

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