

PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
SHAD AND RIVER HERRING MANAGEMENT BOARD

Webinar
February 4, 2021
Approved May 5, 2021

Proceedings of the Shad and River Herring Management Board Meeting Webinar
February 2021

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1. **Approval of Agenda** by Consent (Page 1).
2. **Approval of Proceedings of August 2020** by Consent (Page 1).
3. **Move to task the Technical Committee with developing methods to evaluate bycatch removals in directed mixed-stock fisheries in state waters in order to understand and reduce impacts to stocks outside the area where directed catch occurs** (Page 14). Motion by Joe Cimino; second by Justin Davis. Motion carried (Page 15).
4. **Move to task the Technical Committee with developing a technical guidance document to guide SFMP/AMP development and evaluation based on the recommendations presented today.** (Page 24). Motion by Justin. Davis; second by Doug Haymans. Motion carried (Page 27).
5. **Move to approve the updated shad habitat plans submitted by ME, NH, MD, NC, SC, and GA** (Page 29). Motion by Cheri Patterson; second by Doug Haymans. Motion carried (Page 29).
6. **Move to approve the FMP Review for the 2019 fishing year, state compliance reports, and *de minimis* requests from ME, NH, MA, and FL** (Page 31). Motion by John Clark; second by Cheri Patterson. Motion carried (Page 31).
7. **Move to approve nominations to the Shad and River Herring Advisory Panel for Dr. Ed Hale from Delaware, and Eric Roach from New Hampshire** (Page 31). Motion by Justin Davis; second by Roy Miller. Motion carried (Page 32).
8. **Move to adjourn** (Page 32). Motion by Tom Fote; second by Allison Colden. Motion carried (Page 32).

ATTENDANCE

Board Members

Megan Ware, ME, proxy for P. Keliher (AA)
Cheri Patterson, NH (AA)
Ritchie White, NH (GA)
Mike Armstrong, MA (Chair)
Raymond Kane, MA (GA)
Rep. Sarah Peake, MA (LA)
Phil Edwards, RI, proxy for J. McNamee (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Rep. Sosnowski (LA)
Justin Davis, CT (AA)
Robert LaFrance, CT, proxy for B. Hyatt (GA)
Maureen Davidson, NY, proxy for J. Gilmore (AA)
John McMurray, NY, proxy for Sen. Kaminsky (LA)
Joe Cimino, NJ (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, Legislative proxy (Chair)
Kris Kuhn, PA, proxy for T. Schaeffer (AA)
Loren Lustig, PA (GA)

G. Warren Elliott, PA (LA)
John Clark, DE, proxy for D. Saveikis (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Lynn Fegley, MD, proxy for B. Anderson (AA)
Russell Dize, MD (GA)
David Sikorski, MD, proxy for Del. Stein (LA)
Pat Geer, VA, proxy for S. Bowman (AA)
Chris Batsavage, NC, proxy for J. Batherson (AA)
Ross Self, SC, proxy for P. Maier
Malcolm Rhodes, SC (GA)
Chris McDonough, SC, proxy for Sen. Cromer (LA)
Doug Haymans, GA (AA)
Spud Woodward, GA (GA)
Erika Burgess, FL, proxy for J. McCawley (AA)
Marty Gary, PRFC
Max Appelman, NOAA
Mike Millard, US FWS

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

Ex-Officio Members

Brian Neilan, Technical Committee Chair
Larry Furlong, Law Enforcement Representative

Pam Lyons Gromen, Advisory Panel Chair

Staff

Bob Beal
Toni Kerns
Maya Drzewicki
Kristen Anstead
Pat Campfield
Emilie Franke
Lisa Havel
Chris Jacobs

Jeff Kipp
Laura Leach
Sarah Murray
Mike Rinaldi
Julie Simpson
Caitlin Starks
Deke Tompkins
Geoff White

Guests

Karen Abrams, NOAA
Fred Akers
Katie Almeida
Bill Anderson, MD (AA)
Pat Augustine, Coram, NY
Michael Auriemma, NJ DEP

Jason Bartlett, ME DMR
John Bartolo
Mike Bednarski, VA DGIF
Dave Behringer, NC DENR
Mel Bell, SC DNR
Alan Bianchi, NC DNR

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Rob Bourdon, MD DNR
Michael Brown, ME DMR

Guests (continued)

Delayne Brown, NH F&G
Jeff Brust, NJ DFW
Benson Chiles, Chiles Consulting
Richard Cody, NOAA
Allison Colden, CBF
Heather Corbett, NJ DEP
Rip Cunningham, TRCP
Jessica Daher, NJ DEP
Randy Dean
John DePersenaire, RFA
Greg DiDomenico
Chris Dollar, Queenstown, MD
Frazier Dougherty
Wes Eakin, NYS DEC
Julie Evans
Sheila Eyler, US FWS
Cynthia Ferrio, NOAA
James Fletcher, Wanchese Fish Co
Dawn Franco, GA DNR
Toni Friedrich, SGA
Alexa Galvan, VMRC
Matt Gates, CT DEEP
Lewis Gillingham, VMRC
Jim Gilmore, NYS DEC
Angela Giuliano, MD DNR
Zoe Goozner, Pew Trusts
Emily Hall, Seatuck
Helen Takade-Heumacher, FL FWS
Greg Hinks, NJ DEP
Carrie Hoover, MD DNR
Asm. Eric Houghtaling, NJ (LA)
Rachel Howland, NC DENR
Stephen Jackson, FL FWS
Jeff Kaelin, Lund's Fisheries
Desmond Kahn
Greg Kenney, NYS DEC
Adam Kenyon, VMRC
Craig King, ME DMR
Wilson Laney
Edward Leonard, GA DNR
Tom Little, NJ LEG

Chip Lynch, NOAA
John Maniscalco, NYS DEC
Genine McClair, MD DNR
Margaret McGinty, MD DNR
Dan McKiernan, MA (AA)
Nichola Meserve, MA DMF
Steve Meyers
Chris Moore, CBF
Patrick Moran, MA Env. Police
Jerry Morgan
Clinton Morgeson, VA DWR
Brandon Muffley, MAFMC
Kennedy Neill, Yorktown, VA
Gerry O'Neill, CapeSeafoods
Derek Orner, NOAA
Ian Park DE DFW
Alexis Park, MD DNR
Thomas Paulson, NC DENR
Rich Pendleton, NYS DEC
Nicholas Popoff, US FWS
Bill Post, SC DNR
Harry Rickabaugh, MD DNR
Andrew Sinchuk, NYS DEC
Brandi Salmon, NC DENR
Erik Schneider, RI DEM
McLean Seward, NC DENR
Thomas Sminkey, NOAA
Somers Smott, DMRC
Renee St. Amand, CT DEEP
John Sweka, FL FWS
Jim Uphoff, MD DNR
Chris Uранеck, ME DMR
Mike Waine, ASA
Holly White, NC DENR
Kerry Whittaker, MMA
Kate Wilke, TNC
Josh Winger, NC DENR
Chris Wright, NOAA
Sarah York, NOAA
Renee Zobel, NH F&G

The Shad and River Herring Management Board of the Atlantic States Marine Fisheries Commission convened via webinar; Thursday, February 4, 2021, and was called to order at 8:30 a.m. by Chair Michael Armstrong.

CALL TO ORDER

CHAIR MICHAEL ARMSTRONG: Good morning everyone, this is Mike Armstrong from Massachusetts, your Board Chair for today for the Shad and River Herring Board. We have three hours today, which is a good amount of time, but we do have a lot of items. It may go fast, but may generate a lot of discussion also.

APPROVAL OF AGENDA

CHAIR ARMSTRONG: First task is we have an Agenda, does anybody have amendments, additions?

MS. TONI KERNS: I don't see any hands for any changes or additions.

CHAIR ARMSTRONG: No hands, then we will consider the agenda approved by consensus.

APPROVAL OF PROCEEDINGS

CHAIR ARMSTRONG: You all have a copy of the proceedings from last meeting, any edits?

MS. KERNS: I do not see any hands for edits.

CHAIR ARMSTRONG: All right, thank you. We will consider the minutes from August 2020 accepted by consensus.

PUBLIC COMMENT

CHAIR ARMSTRONG: The next is Public Comment. Again, we solicit comments at the beginning of the meeting on items that will not be considered during the agenda. Are there any members of the public that would like to speak, and it needs to be brief, maybe a minute or so?

MS. KERNS: As a reminder for members of the public, in order to raise your hand, you click on the hand icon. When the red arrow is pointing

down your hand is up, and I see no members of the public with their hands raised, Mr. Chairman.

CONSIDER MANAGEMENT RESPONSE TO THE 2020 SHAD BENCHMARK ASSESSMENT AND PEER REVIEW

CHAIR ARMSTRONG: All right, thank you, Toni. Moving to Item 4. Consider a Management Response to the 2020 Shad Benchmark Assessment and Peer Review.

TECHNICAL COMMITTEE RECOMMENDATIONS

CHAIR ARMSTRONG: First, we'll have a review of the Technical Committee advice by Brian Neilan, Brian, take it away.

MR. BRIAN NEILAN: Thank you, Mr. Chair, and good morning to the Board. You'll be hearing a couple presentations from me today. First will be Technical Committee recommendations on improving shad stocks. Just a quick outline of this presentation for today. First, we'll go over the background on the Board task, and both the specific and coastwide TC recommendations, and finally, the next steps for going forward.

Some background on the Board task. The American shad benchmark stock assessment and peer review was accepted by the Board back in August of 2020. The assessment found that American shad remained depleted on a coastwide basis, and found unfavorable stock status for several system-specific stocks. Given these findings, the Board tasked the TC with identifying potential paths forward to improve shad stocks along the coast, considering the results of the assessment. This is from the assessment results.

The TC decided to focus on systems with either unsustainable or depleted stock status, or systems that had fisheries, and had an unknown stock status. This table shows those systems, their stock statuses, and what type of fisheries are currently executed within them. There is an asterisk there for South Carolina.

South Carolina has several systems within it that were assessed, including the Winyah Bay, Santee Cooper, and eight basin systems. You all can see the coastwide finding as well, which is depleted. First,

we'll go over the TC system-specific recommendations, focusing on systems with unsustainable or depleted findings.

For each system we'll have a slide with the TCs recommendations, and then one slide with the rationale behind those recommendations. Starting with the Connecticut River, which was found to have an unsustainable adult mortality. The TC has recommended that agencies involved continue to monitor the Connecticut River's SFMP metrics, and implement appropriate management responses if any of the benchmarks are triggered.

Additionally, collaborative work with the Connecticut River Atlantic Salmon Commission partners should be undertaken, to realize continued passage and habitat improvements. The final recommendation for the Connecticut River would be to explore alternative survey methods, in order to provide the recreational effort and harvest estimates, which we currently don't have for the Connecticut River.

Here is their rationale for the Connecticut River recommendations. There is an increasing trend in adult shad counts at the fish lift over the past 12 to 15 years. The metrics from the Connecticut River's SFMP have continued to remain above target levels. Collecting accurate recreational effort and harvest data will help quantify the recreational fisheries effect on adult mortality.

Finally, given the relatively low harvest rates, it's believed that any changes to the fishery will have minimal effects on stock recovery. There were only about 5,500 pounds of shad landed in 2019, which I believe was the time series low, and it's been part of a continued declining trend in the recent past.

High downstream mortality at hydropower facilities and other associated factors is thought to be more likely the primary sources of mortality, rather than the fishery. That is the Connecticut River. For the Delaware River, which was also found to have an unsustainable

adult mortality. The TC recommends no monitoring or management changes for the 2021 fishing season.

The Delaware River SFMP should be revised to include updated data methods, and results from the 2020 stock assessment. Finally, the Delaware SFMP should incorporate a management response to be triggered by an unsustainable adult mortality determination from the stock assessment, though mostly incorporating stock assessment work into their upcoming SFMP update. The rationale here is that the Delaware River SFMP is due to be updated by the end of 2021, as it's nearing the end of its five-year tenure. It didn't really make sense to change things this year, with possible changes coming up at the end of the year anyway.

This process will allow TC input and evaluation of potential management measures in the updated plan. That is the rationale for the Delaware River. We can go to the Potomac next. For the Potomac River, which had an unsustainable adult mortality finding. The TC recommends the continued prioritization of conservation of natural land cover throughout the lower Potomac watershed, as well as an expansion of commercial and recreational fisheries on non-native predators, such as blue catfish and flathead catfish.

These species are thought to be a significant source of mortality for both shad and river herring. Additionally, it's recommended that steps be taken to identify the contribution of Potomac River origin shad, and mixed-stock fisheries as well as in the ocean bycatch. This is in order to reduce or eliminate harvest of Potomac River origin shad in these fisheries.

Since this is kind of outside the Potomac's jurisdiction, it will require coordination between the states, ASMFC, and regional councils. For the rationale for the recommendations for the Potomac. It has been shown that there is an increase in trends in the Potomac Pound Net TPU Index. There is flying stock survey, as well as their juvenile survey, so you have increasing trends there, which is nice to see.

The ASMFC American Shad Restoration Target for the Potomac River was exceeded again in 2019, which is the ninth year in a row their restoration numbers have

been above the target. Officially, the TC is concerned with further restricting the limited bycatch fishery they have, and any brood stock removals for hatcheries.

That could result in reduced data availability for future assessment. That is where we get a lot of our biological aging data, and this would likely not have a significant impact on the stock. That is the rationale for the Potomac, move on to the Hudson. Here we had the recommendations for the Hudson River, which had a stock status finding of depleted.

The first recommendations, similar to the Potomac, is to identify stock composition and ocean bycatch in the mixed-stock fleet fisheries, and to seek to reduce or eliminate these sources of Hudson-specific mortality. Again, this will require coordination between the states, ASMFC, and the regional councils.

Also, New York should implement habitat restoration actions identified in the Hudson River Estuary Habitat Restoration Plan. The idea here is that will restore high quality spawning, nursery and refuge habitats. The final recommendation for the Hudson is to continue the fishery closure until the stock recovers to a level that could support sustainable harvest.

The rationale for the Hudson recommendations is that there is currently no fishery, so continue that closure. If there is no fishery there is obviously not a source of mortality there. That is why we have the emphasis on addressing habitat issues and out of basin harvest, and sources of mortality. The previous slides were systems with unsustainable or depleted status findings. The following systems have recreational harvest, commercial harvest, or both. During this assessment they had an unknown mortality or stock status determination. Starting with Maine, which allows the recreational harvest of 2 shads a day.

The recommendation is to work towards removing barriers to upstream passage, either

through dam removal, fishway installation, or improving current fishways, in order to improve passage efficiency. The goal being to increase abundance, and provide opportunity at these fishways to collect biological data for aging and mortality estimates.

Their rationale for Maine, the rationale being there were insufficient data to make a stock status determination, given the data vetting criteria of the stock assessment. They just didn't have biological data to come up with a status, and there is currently limited potential to improve biological data using small run sizes. We need to work towards improving their data collection.

We have the Merrimac River. For the Merrimac River, where recreational harvest of three shad per day is allowed. The recommendations include addressing concerns with data time series and age sample sizes, in order to produce mortality estimates. The time series or sample sizes just didn't meet the minimums for this assessment to develop a mortality estimate.

Also, improving repeat spawning ratio data time series through ongoing shad scale collection and aging. Continue annual reviews of hydro-power dams, to identify passage impacts, and recommend improvements, possibly as part of FERC relicensing agreements and requirements. Lastly, it's recommended that a juvenile abundance index be developed to complement the adult indices.

The rationale for the Merrimac recommendations is that there was insufficient data to determine abundance status, due to low age samples in some years, preventing the calculation of mortality estimates. Just for a reference, the spawning runs sustainability benchmark has been achieved as of late, and is having an increasing trend on the Merrimac.

In North Carolina, with the Tar-Pamlico and Cape Fear Rivers, there were no recommended actions at this time. In the Tar-Pamlico system female relative F has remained well below the threshold since 2013. This is consistent with the decline in commercial landings. Female abundance index was below the threshold in the last two years.

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In the Cape Fear there is an increasing trend in adult abundance, likely a sign of improved passage, and their SFMP. SFMP metrics for female relative abundance, and F has not exceeded thresholds since 2011 and 2012. Additionally, juvenile abundance sampling for striped bass was initiated in 2017, so that could possibly be a use for a juvenile shad abundance index in the future, in upcoming SFMPs and assessments.

For the rivers in South Carolina, where recreational and commercial harvest is permitted, there are no recommended changes to the monitoring or management requirements at this time, beyond continuing programs and sampling efforts currently underway in these systems. This is to expand timeseries to a length consistent with the stock assessment research recommendations. Additionally, it was recommended that paired otolith and scale samples should be collected. The rationale here for these recommendations in South Carolina, is that their conflicting trend in the Winyah Bay and Santee Coper systems and no trends in the eight-basin system in their adult abundance indices.

All data time series for their young of year electrofishing surveys will meet assessment thresholds for the next assessment. They were just too short to be used for this one. For the Savannah River, which allows recreational and commercial harvest. The recommendations are the same as the other South Carolina systems, including continuing the timeseries of the current surveys to meet minimum assessment requirements, collecting biological samples for aging.

Again, the same rationale for the Savannah River as the other South Carolina rivers, including conflicting trends in abundance indices, and that had shorter than required time series for the purposes of this assessment. For the Altamaha in Georgia, which allows commercial and recreational harvest, you see the same recommendations here, including continuing the timeseries to meet assessment

minimums, and collecting biological samples for aging.

Similar rationales as well, with no detectable trends in adult abundance indices, and data time series that didn't quite meet the minimum as required for this assessment. In Florida, with the St. Johns River, where recreational harvest of shad is allowed, there are no recommended changes to the management and monitoring requirements, beyond improving monitoring data, by accounting for environmental variability effects.

I believe the catchability in their survey is heavily influenced by flooding, if it's a flood year, looking into accounting for flow rates in developing their indices, as well as using age data to identify year class and maturity schedule. Some of the rationale for the St. Johns, the young of year and spawning stock indices showed no trend, and an increasing trend respectively at a mean fork length of males and females, both showed increasing sizes over time.

Additional data otoliths for age composition and size at age will reach the timeseries threshold of ten years, and be available for the next assessment. Recreational harvest is the only known source of American shad removal within the St. Johns. Those were the system-specific recommendations. Now we're going to move on to the coastwide recommendations.

The first recommendation from the TC is further action is needed to improve fish passage and passage mortality poses a substantial threat to shad stocks, and limits recovery potential as evidenced through the stock assessment. The TC is currently preparing a memo with recommendations for the Board related to shad passage, it just wasn't quite ready for this meeting.

Going forward, paired otoliths and scale samples should be collected in all systems where it is possible. Otoliths are currently the preferred structure, but not necessarily everyone is collecting otoliths, due to a variety of reasons. States should aim to improve surveys to increase survey power to detect trends. Many datasets with sufficient time series were included from the final assessment, due to a lack of power to detect a 50 percent trend, changing trend up

or down over a ten-year period, which was the minimum criteria for this assessment. The TC also recommended that system-specific restoration targets should be developed where appropriate, and where we have the data to do so, or be revisited where they already exist, to provide measurable goals for evaluating recovery efforts. Additionally, the TC recommends the Board task them with developing alternative methods to evaluate bycatch rules, and removals in directed mixed-stock fisheries in state waters.

This is in order to understand and reduce impact to external stocks of directed mixed-stock fisheries, such as Hudson River shad caught in the Delaware Bay. The TC also identified two priority research recommendations, which they felt were related to this Board task. First, is conducting annual stock composition sampling through existing or new observer programs from all mixed stocks and bycatch fisheries.

Second, otoliths should be collected as the preferred age structure. Collection of otoliths presents a perceived impact due to the conservation of the stock, since it's a source of mortality that sort of sampling, or it's just generally not feasible. An annual subsample of paired otoliths and scales should be collected. They are looking at 100 plus samples to quantify error between structures.

Those are the priority research recommendations. Next steps, we have a Board action for consideration, mainly tasking the TC with developing alternative methods to evaluate bycatch removals in directed mixed stock fisheries in state waters. That is what we have for this presentation.

CHAIR ARMSTRONG: Thank you, Brian. I think what we're going to do, we'll move right into the Advisory Panel Report, and we can address questions to both Pam and Brian at the same time. But I would like to thank the Technical Committee, their task is always huge, because they have to go through so many systems

separately. It's a whole different way of operating, and a lot more work, so thank you to the Technical Committee.

ADVISORY PANEL REPORT

CHAIR ARMSTRONG: We'll get the Advisory Report now from Pam Lyons Gromen. Pam.

MS. PAM LYONS GROMEN: Thank you, Mr. Chairman, and good morning everyone. I will be providing the Advisory Panel comments in response to the Technical Committee recommendations. The AP actually had a chance to meet twice since the Board last convened in August. We met in October, and we reviewed an initial draft of the TC recommendations.

Then we met again in January, to look at a near final draft, and that draft included more coastwide recommendations. The attendees that came to our AP meeting included representatives from New Hampshire, New York, New Jersey, Delaware, North Carolina, and our non-traditional stakeholders.

I'll just say that it was nice to have Dr. Ed Hale and Mr. Eric Roach, who are candidates for the AP, just jump right in and join us for these discussions. I'll start with the system-specific discussions and recommendations that we had. We talked about the Hudson River, which as you know the status is depleted. There was general support for the TC recommendation, although the high priority recommendation of reducing and eliminating ocean bycatch may be challenging, and it is unclear how this will be done. For the Delaware River Basin, and that status is on sustainable adult mortality. Concerns were raised about the surveys that were used to estimate the Delaware Bay mortality in the assessment. These were the Smithfield Beach Gillnet Survey, the Lewis Haul Seine Fishery Survey, and the Lehigh River Electrofishing Survey. Our representative from Delaware felt like none of these surveys really are adequately designed and executed for assessing mortality or stock status.

The recommendation was that the Delaware River Coop explore other existing monitoring surveys for assessing stock status, such as the DNRAC trawl survey, and to consider reprioritization addition or deletion of the currently used indices, to assess stock status in the Delaware Basin FMP.

For the Tar-Pamlico and Cape Fear, the status there again was unknown, but there are active fisheries. The TC recommendation for no changes to management was deemed acceptable by the AP, as long as no additional fishing pressure is added. But concerns were expressed that additional information for the Tar-Pamlico and the Cape Fear system could have been included in the assessment.

Otolith sampling, we had a good discussion about this, recognizing the importance in the research recommendation, that the sampling target should be better defined for the various data sources, that it's going to be specific stock, fishery independent versus dependent surveys, how they are going to be collected, in order to ensure that these otolith sampling can be completed to meet the assessment needs.

There was also concern raised about the recommendation to collect 100 otolith samples. It was unclear to us whether this was for a coastwide collection or for each system, or for each state, but may be challenging if this is 100 samples from each state. We had a pretty good discussion about the coastwide recommendations, and so this addresses the mixed-stock fisheries, and also the ocean bycatch.

The AP discussed the importance of the genetic data, to characterize stock composition in the Delaware Bay mixed-stock fishery, and in ocean bycatch. Genetic information is a major data gap in the assessment. All AP members agree that the Board should support, however possible, the USGS project to develop a genetic repository for alosine species. The AP also felt that the Commission should reach out to the Northeast Fishery Observer Program, to ask that they prioritize sampling of shad in federal fisheries bycatch.

Finally, the data from the shore-side monitoring program, which is performed by the Massachusetts Department of Marine Fisheries, should be incorporated in the next assessment to improve information on ocean bycatch. We

talked about data gaps in the assessment, and the AP flagged the following issues as notable data gaps that are in need of the Board's attention.

That would be juvenile mortality estimates, information to quantify recreational effort, harvest, and incidental mortality on a coastwide spatial scale, noting that MRIP does not sample those upper stretches of tributaries that are important. Reporting of incidental catch in recreational and commercial fisheries from all systems, including the coastal waters. Bycatch should be documented and reported, even if the current stock status in a system is deemed sustainable. Finally, environmental information like climate, streamflow, and water quality. We spent a bit of time talking about climate change, because American shad have been classified as highly vulnerable to climate change, and this is an issue that needs to be prioritized and addressed in future work in assessments.

Communication between the Commission and federal partners about climate impacts could be improved to better define how information is shared between partners, and taken into account by fishery managers. An example that was raised was the American shad distribution shifts, which are currently mapped on the Mid-Atlantic Ocean Data Portal. They could be used traps for better understanding and mitigating the impacts caused by bycatch on mixed stocks and in the ocean. I believe that is my last slide. Yes, questions. That's the end, thank you, Mr. Chairman.

CHAIR ARMSTRONG: Thank you, Pam, and again thank the Advisory Panel for a really thorough review of this. At this time, does anyone have any questions for either Brian or Pam?

MS. KERNS: You have Lynn Fegley and Justin Davis, and then Joe Cimino.

CHAIR ARMSTRONG: Okay, Lynn Fegley.

MS. LYNN FEGLEY: Good morning everyone, and thank you, Pam, thank you both for the excellent presentations. It really is a lot of work to get through those. I just had two quick questions, Pam, about your presentation. The first was this confusion about

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the 100 otolith samples, whether that's for each state or coastwide.

That seems like a pretty easy question for the TC to answer, so if we could get an answer to that, I think that would be helpful. My second question was, with the Advisory Panel's suggestion to within the Northeast Fishery Observer Program to prioritize the sampling of shad by catch. Does that mean prioritize for genetic sampling, or does that mean just prioritize the quantification and size structure and such? Thanks.

MS. LYONS GROMEN: Thank you for those questions. Yes, I believe that the discussion was about how when the Observer Program collects samples that they really do have to prioritize. They can't really take samples of everything. Shad may not be a priority for them at the moment, but if it was communicated to them, then they could collect shad for a variety of purposes. I believe it could be for otoliths.

It certainly could be looking at its size and age structure. But certainly, the genetics, the value of genetics and providing samples to the USGS for their catalogue they are putting together. That was all a big part of our discussion. I think the genetic material as we try to understand how ocean fisheries are impacting individual stock is very important. Thank you.

MS. CAITLIN STARKS: Brian, I don't know if you want to jump in and answer the second part of that question about the otolith sampling, or I can.

MR. NEILAN: Sure. I'm under the impression from the TC that it's going to be system-specific that 100 samples.

MS. STARKS: I can verify that as well.

CHAIR ARMSTRONG: All right, thank you, Brian. Toni, I missed the second person in line.

MS. KERNS: We have more people on the list.

CHAIR ARMSTRONG: Okay, so Justin was next?

MS. KERNS: I think so, and then Joe Cimino, Marty Gary, John McMurray, and Malcolm Rhodes.

CHAIR ARMSTRONG: Justin, go ahead.

DR. JUSTIN DAVIS: Thank you Brian and Pam for these presentations this morning. I've a question directed towards Brian, having to do with the recommendation by the TC to focus on further passage improvements along the coast, and the idea that passage mortality poses a substantial threat to shad stocks right now.

I guess I just wanted to clarify. Is the focus there on improving existing passage facilities at barriers along the coast, because the thought is that mortality occurring at those passage facilities is a problem, or is it more focusing on establishing new fish passage, or the combination of the two? The reason I'm asking is because it has been my experience here in Connecticut that establishing upstream passage at a dam, without providing for adequate downstream passage, or even establishing upstream passage.

It doesn't work well for shad, can actually be sort of a net negative. You would be better off just not having the passage in place, and subjecting the fish to the poorly constructed upstream passage, or putting them upstream where the juveniles can't get back downstream. I guess I just wanted to clarify what the TCs focus is there, thanks.

MR. NEILAN: Thanks for that question. Yes, I think the TC, it's going to be a combination of the two. Obviously putting in fish passage or removing dams, putting in fish passage generally where it's not already, is obviously going to be a good thing. But I know, like you said, a lot of fish passage structures, some are not efficient. I know in New Jersey some don't work at all. It's working towards setting possible, you know efficiency targets for moving shad both up, adults up, and reducing mortality of adults and juveniles going down.

CHAIR ARMSTRONG: Joe Cimino.

MR. JOE CIMINO: I kind of lost my question in the process. It was the same as the Aps and Lynn's

question regarding the otolith collection. If you will humor me, I may move it to a bit of a comment in that, perhaps the TC could review effective sample sizes for some of these systems. Maybe that 100 otolith number, which might be very difficult to get. You may find that another number is at least sufficient, so just kind of a recommendation for the future for that. Then when you're ready, I will have a motion. Thank you.

CHAIR ARMSTRONG: We'll come back to that motion. Marty Gary.

MR. MARTIN GARY: Thank you Brian and Pam for your presentations this morning. My question is also for Brian. I noticed on the slide that you put up, Brian, that it mentions the elimination and reduction of our bycatch fishery, but you didn't mention it, and I think I know why, because the TC had the discussion back in August of last year.

I had asked Dr. Limburg, who presented the Peer Review report what the value would be of that dataset, it's over two decades long. She indicated at that time that you wouldn't want to compromise that dataset. Those discussions, I was aware were engaged at the TC level, and it was decided that we would continue the bycatch.

But the Board was listed in the presentation, still, and I just wanted to be sure that was the case. We view the elimination and reduction of that as antithetical to increasing our knowledge base for this species in the Potomac. I just want to be sure, Brian, that was the conversation you all had at the TC. Thank you.

MR. NEILAN: Yes, that is what we're working towards. I guess the rationale here is, it's generally accepted that out of basin harvest is undesirable, but we don't have a grasp on what degree mixed-stock harvest is affecting out of basin fisheries, especially considering from the assessment that there is no responsive shad, or little to no responsive shad to the closing of the intercept fisheries. This is probably a number

one topic right now in discussion among the TC. It's getting an understanding of these mixed-stock fisheries, and how to move forward with them in the future. I'm not sure if I answered your question there.

MR. GARY: Yes, I think so, Brian, thanks, and quick follow, Mr. Chairman. Just so everybody knows, Brian also mentioned that we have been plotting our CPUEs from that bycatch fishery against a target restoration rate. That target is based on catch per unit effort from my Walburg and Sykes Survey by the U.S. Fish and Wildlife Service. It may have been the predecessor of the U.S. Fish and Wildlife Service. This goes back into the 1940s.

It was deemed to be a good timeseries, a good survey to match up against. We've been exceeding that value for many years. The discussion was pretty perplexing to us, you know when the benchmark came out. But we understand all this uncertainty that is swirling around the species, especially in the adult phase and what may or may not be going on the coast, what may or may not be happening in terms of predation in the early life stages.

We have a prodigious blue catfish and base of blue catfish problem in the Potomac, as is in a lot of parts of the Chesapeake Bay. There are a number of factors that could be contributing, but we just saw the value of continuity of the bycatch fishery. My understanding of it is that the TC was in agreement that that would continue, so thank you.

CHAIR ARMSTRONG: I have John McMurray.

MR. JOHN G. McMURRAY: On the Hudson River system slide, the TC identified reducing or eliminating bycatch in mixed-use fisheries, as well as identifying stock composition of bycatch occurring in federal waters, and quantifying that in fact. The AP seemed to focus on this also. My question is how do you address bycatch in mixed-stock fisheries? How do you address ocean bycatch in federal waters, which seems to be the goal here? As you know, the Council attempted to do that, I think six, or maybe seven years ago with a bycatch cap. But are there other methods being discussed that I'm not aware of?

MR. NEILAN: I think yes, it is going to be certainly difficult, especially in the ocean bycatch fishery. I think right now we're at the kind of exploration of methods point, especially nailing down the genetics or teasing out the genetic composition on a stock-by-stock basis of each stock's representation. It is certainly easier to do within state waters.

Like in Delaware Bay there is currently a benchmark, a management trigger associated with the mixed-stock fishery that's taking place down there in the lower Bay through a genetic work and tagging work. It has been determined that 40 percent of the mixed-stock fishery in the lower Bay is Delaware Basin fish. A certain target has been made with a certain percentage of the total harvest exceeds the 60 percent of everything else.

There would be some management action in the lower Bay; closure of the fishery, gear restrictions, area restrictions. That's just kind of an example of what is currently being done, at least in a mixed-stock fishery. As far as the ocean bycatch, you mentioned catch caps. I'm not sure how effective they are, given how many stocks we're working with here. It's a difficult question, for sure.

MS. STARKS: If I could just follow up, Mr. Chair, this is Caitlin.

CHAIR ARMSTRONG: Please.

MS. STARKS: I just wanted to note also that the Technical Committee is recommending that they work on developing methods to evaluate bycatch, because they are currently recognizing that right now it's difficult, and they would like to try to be able to better understand what impact the Delaware Bay fishery, for example, is having on stocks outside of that system. But right now, they don't have a way of doing that. That is what that task is being recommended for.

MR. McMURRAY: Thanks for the answer. What about federal waters? How do you identify

stock composition? Is there sampling going on or are you planning on doing that, or is that aspirational?

MR. NEILAN: I don't believe there is genetic sampling going on right now. That would be something that the Board here would have to work with the Council, in order to make that a priority going forward. I know the U.S. Fish and Geological Survey is working on creating a database for stock-specific genetic alosine sampling, and having that as a repository to compare against. But I don't believe there is any current genetic sampling on the ocean bycatch right now for shad.

CHAIR ARMSTRONG: Malcolm Rhodes next.

DR. MALCOLM RHODES: Pam and Brian, thank you and your Committees for the presentations, they were very insightful. Pam, I have a possibly quick question. At the end of your report, you stated that shad are highly vulnerable to climate change, and I was just wanting a little elucidation.

Given their history, is the concern that return to the natal rivers it's too warm, or it's too much stress on the passage through warmer waters, or is this an effect up in Nova Scotia, Bay of Fundy area? Just interesting trying to tease out where the highly vulnerable to climate change comes from. Thanks.

MS. LYONS-GROMEN: Sure, thank you for the question. The Northeast Fisheries Science Center led work to do a climate vulnerability assessment for stocks in the greater Atlantic, and river herring and shad species were part of that assessment. I believe it's mentioned in the shad benchmark assessment as a reference, but certainly it's available online.

Their conclusions were that American shad, alewife, and blueback herring were all highly vulnerable. They ranked species to their vulnerability of climate change, and these species rose to the top. That's where that comment came from. In terms of the Mid-Atlantic Ocean data portal, they took a lot of information about distribution of American shad, as well as the river herring species, and plotted it historically, and this is ocean distribution.

Then they projected out into the future, based on some work with Rutgers and the National Marine Fisheries Service, and I believe also Canada was part of that work as well. You can see some pretty startling changes over time, looking at the effects of climate and ocean warming, and how these species have changed their distribution in the ocean. That's where that comment came from.

Certainly, are some smaller bodies of work out there looking at individual systems, and how climate has impacted their migration into its system to spawn, and also shortens their time in the spawning runs, and they don't have as much time any longer. I believe that work is available. Anyway, there is a lot of work there, and I think the APs point was that this really needs to be looked at a big more, and considered when we decide on management strategies to help conserve and bring back our American shad. Thank you.

CHAIR ARMSTRONG: Toni, are there any other Board members with questions?

MS. KERNS: Yes, you have Roy Miller, David Borden, Lynn Fegley, and Justin Davis. Then you do have a couple members from the public that have had their hand up.

CHAIR ARMSTRONG: Roy Miller, go ahead.

MR. ROY W. MILLER: Thank you Brian and Pam for your reports. Pam, I was particularly impressed with the Aps recommendations for improving surveys in the Delaware River. Having said that, I would like to probe a little bit about confidence of the Technical Committee in the genetic origin data for the mixed-stock fishery in lower Delaware Bay. It is unclear to me whether we have enough data in hand to take any management action, or whether it's a call for additional samples and on our need for greater reliability on that data than what we have at present. Brian, you may be the wrong one to direct this to. I might need to direct it to members of the Delaware River Fish and Wildlife Cooperative. But I'm wondering if you

have any information on that particular mixed-stock fishery to share with us, in terms of how confident you are in the conclusions regarding the mixed-stock fishery in lower Delaware Bay.

MR. NEILAN: I would be happy to answer any question. I'm on the Coop, so I have a little more knowledge there. There has been a small study for genetic sampling that the Coop started around 2017. At this point we have three years of data, genetic sampling data. We're collecting genetic samples basically from the mouth of the Bay all the way up to Smithfield Beach, which is way up almost to New York.

We currently are sampling. I don't think we have enough data quite yet to base any management decisions on. U.S. Fish and Wildlife Service and Northeast Fisheries Science Center is doing our genetic analysis. Just to kind of give you an idea of the preliminary years of data, genetic composition of the lower Bay seems to match up with the different tagging studies. New Jersey conducts a tagging study of striped bass in the lower Bay, and we tag shad incidentally, and I believe Wogman did a study as well.

At least preliminary wise the genetic sampling seems to match up with what has been found in the tagging surveys. But I don't think we have the timeseries, or just the quantity and quality of data yet to decide management decisions off this. That's certainly a major impetus behind the TC requesting the Board task the TC with developing methods to evaluate genetic sampling and evaluating bycatch removals, not just in Delaware Bay, but in other mixed fisheries and the ocean fishery as well.

MR. MILLER: Thank you, Brian.

CHAIR ARMSTRONG: David Borden.

MR. DAVID V. BORDEN: Good morning. There are a number of references to hydropower impacts on the shad population. For instance, in the Connecticut River. My question is, to what extent do the hydropower companies have to provide funding to state agencies to assist with the monitoring and remediation program?

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I recognize that there is a whole FERC process that gets superimposed over this. But it seems to me that the state agencies that are represented on this call are being asked to share a disproportionate burden, in terms of monitoring and management. Maybe if that is the case, maybe we could consider at some point including suggestions or recommendations in a letter to appropriate parties to remedy that situation. We've got a new administration in Washington, and they might be receptive to that concept.

CHAIR ARMSTRONG: Brian, can you answer that?

MR. NEILAN: Sure, that has definitely been in something that the TC has talked about, either at the state permitting level, at the FERC licensing level, requesting mitigation monies as part of the licensing requirements or permitting process. It's going to be on a state-by-state basis. But I think there is certainly support for requesting that during the licensing process. Any kind of mitigating monies to increase passage, or increase sampling, whether it be biological or sampling surveys. Having these hydroelectric companies contribute monies as a continuance of their permitting.

MR. BORDEN: I think that would be useful. Thank you.

MS. STARKS: If I could follow up, this is Caitlin.

CHAIR ARMSTRONG: Yes, go ahead, Caitlin.

MS. STARKS: I just wanted to note that the Technical Committee is actually working on developing a memo with some recommendations related to passage for the Board to consider in the future, and will hopefully include some recommendations as to specific things that could be addressed in a letter, such as what you suggested.

CHAIR ARMSTRONG: Lynn Fegley.

MS. FEGLEY: While we're on the topic of letters. I wanted to just circle back around to John McMurray's point, and where I started with the Northeast Fisheries Observer Program, and wondering if we as a body should be sending a letter to the Council, asking for prioritization of shad in these ocean fisheries.

CHAIR ARMSTRONG: Justin Davis.

DR. DAVIS: I appreciate you giving me a second opportunity. My question is for Pam. I was interested to see in the AP recommendations a recommendation to focus on recreational harvest and incidental catch. I'm wondering, was that motivated by discussions amongst the AP that there is a thought that recreational harvest or incidental catch might be substantial enough in some systems.

That having a better handle on it would change our perception of what is or isn't contributing to declines of this species in various systems, or was it more just that is another data gap. It's one to consider taking a look at, but there is not a thought that it's really a substantial contributing factor?

MS. LYONS GROMEN: Yes, I think it was the latter. It was recognized more as a significant data gap. In some systems we wouldn't know if recreational catch was impacting the stock, because there isn't great information. I think it was also looking at more of a coastwide, you know looking at coastwide at trying to get a better handle on recreational catch, because MRIP does a poor job of sampling for these species because of its reach. Yes, your words, a data gap.

CHAIR ARMSTRONG: I think that's all I have on the list of Board members. Toni, anymore Board members?

MS. KERNS: You do have a couple more Board members that raised their hand, and still some members of the public. You have Cheri Patterson and John Clark.

CHAIR ARMSTRONG: Okay, go ahead, Cheri Patterson.

MS. CHERI PATTERSON: I also wanted to kind of follow on with Lynn's recommendation to get ahold of the Council. But we should also put this in front of the ACCSP Bycatch and Bio Committees, to have them

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review that to move shad up the line for sampling, as a more critical species for the bycatch.

CHAIR ARMSTRONG: Thank you, Cheri, that's a good suggestion. John Clark.

MR. JOHN CLARK: Thank you Brian and Pam for the presentations. I want to follow up on the question that Roy Miller asked about the Delaware stock, Brian. It seems like we are putting in a lot of effort to quantifying what is going on with the mixed stock in the lower Bay there. Yet, you know just looking at Delaware and New Jersey's harvest in 2019, Delaware had about 2,400 pounds, New Jersey about 1,800 pounds, or 18,000 pounds rather.

This is a pretty minor fishery right now, and based on the comments from the Advisory Panel about that adequacy of the data we're getting on adult shad in the Delaware River. Does the TC feel that the efforts to evaluate and assess these stocks in the Delaware should be more focused on improving the surveys on the adults that are returning to spawn?

MR. NEILAN: Thanks, John, I think the focus right now is on better understanding the mixed-stock fishery. As you said, in 2019 New Jersey harvested, I think 18,000 pounds. That was our total harvest. In the mixed-stock fishery it was probably about half that. We think we need to move forward at looking to see if the juice is worth the squeeze.

If getting the correct data to figure out if reducing the fishery will have any impact at all on improving outlooks for other fisheries. But certainly, improving the power of our surveys is another priority. I think two of our main surveys just didn't quite meet it for the juveniles. As a result, weren't included in the assessment. At least within the Delaware Basin, those are the two priorities.

CHAIR ARMSTRONG: Okay, we're doing okay on time, so I would like to take a couple of public

comments, if you could keep it brief and to the point, please? Toni, could you call out who.

MS. KERNS: Yes, we can do that. Jeff Kaelin and Jim Fletcher, and then after we do the public comment, Geoff White from ACCSP has a comment as well.

CHAIR ARMSTRONG: Jeff Kaelin, go ahead.

MR. JEFF KAELIN: Thank you, Mr. Chairman, members of the Board. I'm Jeff Kaelin; with Lunds Fisheries in Cape May, New Jersey, and I've been in the herring fishery since the early '80s, and we continue to operate in that fishery. Although, as everybody knows the quotas are a fraction of what they've been historically, due to recruitment problems. Likely coming from a warming ocean. One of the things that frustrated me, and looking at the information that we had before us at the AP, is there is really very, very little data that we could use to compare mortality effects, and specifically still haven't really seen any data from the bycatch avoidance network that have been in place for several years.

That data exists. I think the shad hatches and the herring midwater trawl fishery, and mackerel midwater trawl fishery are fairly low. I think the thing that is frustrating in these, we're not seeing any numbers that you can compare one against the other. In my experience for many, many years, working with the Science Center.

It was my recommendation that the Commission think about reaching out to the Observer Program at the Science Center to prioritize shad data collection going forward. There is going to be or already is an industry funded monitoring program established for the herring fishery. Of course, that quota has been reduced by 80 or 85 percent over the last couple of years.

The mackerel quota is a fraction of what it has been historically, so there is not a lot of effort in that fishery. But it's going to continue to be monitored through the IFM program that will include some kind of shoreside monitoring program that the Agency is supposed to establish, that would be used in combination with cameras on our boats.

For example, through an experimental fisheries program. There is data on shad catch in this offshore fishery that is available. But again, it's a frustration of mine, having been an AP member for many, many years that a lot of times we'll get some recommendations. But we don't have data to kind of compare the mortality effects of the various fisheries that may be affecting the shad stocks.

I just wanted to make that comment, and hopefully we can dig a little deeper for the next assessment, and look at some real numbers rather than perhaps just using the shorthand that, well, the offshore intercept fishery could be the smoking gun. I really don't think the data supports that, so I just encourage an evaluation of that existing information. We certainly would support any additional data collection that the Commission would want to see here. But again, a frustration that we're not seeing the data we already have. Thank you.

CHAIR ARMSTRONG: Thank you, Jeff, that is a good suggestion. There are data that do exist that could be summarized. It's hard, but it can be done. Toni, help me out. I can't read my own writing, to see who was the second number up there.

MS. KERNS: It was Jim Fletcher.

CHAIR ARMSTRONG: Jim Fletcher, okay go ahead, Jim.

MR. JIM FLETCHER: My question is on the otoliths to the 2 percent. Are we studying the otoliths with scanning electron microscopes? Because some countries, they are studying the otoliths of the fish with scanning electron microscopes, to get better age, but they are also discovering that they can show chemical contamination or where the fish pass through chemicals. My question is, are we using scanning electron microscopes to study the otoliths of shad, and then is it possible that we could get some report on the success of the Indian Tribes in Virginia that are using

enhancement that may be able to be used in other areas? Thank you.

CHAIR ARMSTRONG: Thank you, Jim. Brian, would you like to take a crack at that?

MR. NEILAN: I'll give it a shot. As far as the microscopes that are being used. These otoliths are just being aged under low powered standard optical microscopes, just for aging purposes. Nobody is looking at scanning electron and trace elements for looking at origin. As far as the question about the Native Tribe, I don't really have any info on that.

CHAIR ARMSTRONG: All right, thank you. Back to the Board. Toni, any more hands?

MS. KERNS: Yes, you have Geoff White.

CHAIR ARMSTRONG: Oh yes, Geoff White, go ahead.

MR. GEOFF WHITE: Thank you, Toni, and thank you, Mike and the Board for indulging me. I just wanted to note, I appreciate Cheri's point about the ACCSP Biological and Bycatch meetings coming up. Those are February 17 and 18, and so for your staff members participating in that and updating those matrices on priorities, we look forward to your feedback during those meetings. That's it.

CHAIR ARMSTRONG: Thank you. All right, I think we'll move to discussion. We don't necessarily need a motion, but I've heard some things that maybe we want to do a motion to reinforce some things. If I can summarize what I heard is, shad continue to be depleted, but some of the problems are the data are very poor in many of the systems.

The systems that have been judged depleted or unsustainable, in most of the cases there is not much of a fishery left. In the one that is a concern unsustainable from Delaware, they are redoing their sustainable fishery management plan, so that the TC will get a crack at evaluating that. A lot of the concerns are about the data and data inadequacies, and about habitat problems, including passage.

I'll remind everyone that every state sent in a response to three questions that have risen about the

assessment, identifying areas of concern of the assessment. Identifying additional information that could provide more context to the assessment, and suggesting management or monitoring changes or restoration that would improve shad stocks, and every state provided a response to those. I'll open the floor to discussion or possibly motions.

I do, not to be heavy handed, but what I heard, and I don't know if we need a motion or not. We may want a letter to FERC or U.S. Fish and Wildlife regarding passage. We may want a letter to NMFS or the Councils, prioritizing bycatch. Let's see, we may want to charge the ASMFC Bycatch Committee to raise the prioritization of shad on their list. We may just do a general one, saying we recommend that all states address the TCs concern to the practicable. Then Brian, there was one, the TC asked us to do, which was charge them to develop methods to evaluate bycatch, and jump in, Brian. I think that was the tone of what was being asked. Anyway, that is what I heard, so I'll open the floor. Any discussion?

MS. KERNS: You have Joe Cimino from the Board and then one member of the public.

CHAIR ARMSTRONG: Go ahead, Joe.

MR. CIMINO: I was remiss in my first time at the microphone, not to thank the AP and the TC for the thorough work and review that they did there, and the great presentation by Brian and Pam, it is much appreciated. You did lay out a lot for us, and I would be interested in a discussion on something that Jeff Kaelin brought up too.

Not just to prioritize bycatch sampling and observer sampling, but to also prioritize collecting and analyzing the data that already exists. As a Council member, I tend to take that up with the Council as well. I would like to put a motion out there, because I think it's pretty simple. The TC has done a lot of work, but they are asking to do a little more.

I believe staff has the motion already written on that. **I would move to task the Technical Committee with developing methods to evaluate bycatch removals in directed mixed-stock fisheries in state waters in order to understand and reduce impacts to stocks outside the area where directed catch occurs.**

CHAIR ARMSTRONG: Okay, do we have a second of that motion?

MS. KERNS: Justin Davis.

CHAIR ARMSTRONG: Seconded by Dr. Davis. Go ahead, Joe.

MR. CIMINO: I don't need to spend a lot of time on this, since it was a TC "ask," and I think as I said, Brian did a great job presenting this, and Caitlin also, who has gone back to this several times.

CHAIR ARMSTRONG: Okay, any discussion, Board members?

MS. KERNS: I don't have any Board members with their hand up.

CHAIR ARMSTRONG: You had one member of the public?

MS. KERNS: Correct.

CHAIR ARMSTRONG: I'll take that.

MS. KERNS: Des Kahn.

MR. DESMOND KAHN: Thank you, Mr. Chairman. I would like to point out, and I have not had a chance to fully read the assessment yet. I apologize for that. I worked on the 2011 sustainability evaluation for the shad stock in the Delaware River, and during the course of that I had been aware from work on the Connecticut River that there was peer reviewed published research that clearly showed that the large build up in striped bass since say the early '90s, was associated with a steep decline in both the American shad and the blueback herring runs up the Connecticut River.

That research was supplemented by work conducted by actually Justin Davis on, I believe his PHD research, where a large-scale diet study was conducted on striped bass in the Connecticut River, and in the spring, I think they looked at, or they estimated roughly 100,000 bass in the Connecticut River in the spring, and they are not spawning.

What they are doing is eating, or what they were doing at that time is eating shad and herring, as the diet study made clear. I decided to take a look at the Delaware, and see if there was any evidence of something like that going on. I plotted the index of abundance of striped bass in the waters of the state of Delaware with the index of abundance of the shad run, well up in the Delaware River.

My jaw hit the floor! It was like a mirror image. There was a very significant negative correlation. When bass were in very low abundance in the '80s, the shad run in the Delaware River was booming. When bass started to increase in the '90s, the shad run in the Delaware declined. When bass were at their peak in 2000, the shad run was at a very low level in the Delaware.

Since then, when we've seen some small decline in the bass stock, you know the shad run has responded. It's very clear to me that there is a predation impact, and when you built up the stock of a predator like striped bass, which is as Dr. Victor Crecco pointed out years ago, striped bass is the only marine predator that can follow fish like river herring into fresh water, and shad also.

I just would like to point out that you know looking at bycatch, which we've just heard from Mr. Kaelin the midwater trawl fishery for Atlantic herring and mackerel have declined significantly. I think you're looking up the wrong tree there. If the Commission would come to grips, and do a serious study of the impact of striped bass on alosines, I think you would be really looking at what really seems to

be controlling their abundance. Thank you very much.

CHAIR ARMSTRONG: Thank you, Des, interesting topic to ponder. We look forward to your publication on it. Back to the Board, any further discussion? Any hands, Toni?

MS. KERNS: I don't have any other hands raised.

CHAIR ARMSTRONG: All right, I'll call the question. I will go out on a limb and say, I think we can do this without a roll call. Are there any objections to this motion?

MS. KERNS: I see no hands raised in objection.

CHAIR ARMSTRONG: Okay, well, do we have to.

MS. KERNS: I think I just need you to say motion carries without objection.

CHAIR ARMSTRONG: The motion carries unanimously. All right, further discussion, considering a management response to the benchmark assessment, or motions.

MS. KERNS: Lynn Fegley.

CHAIR ARMSTRONG: Go ahead, Lynn.

MS. FEGLEY: With all respect to Des's comment, which is pretty interesting. I'll just put it out there, we do need a motion to communicate with the Council about prioritization of bycatch, and also to let the ACCSP move the shad up in its priority matrices. If we need a motion, I would make one. But if we can just do that by consent, so be it.

CHAIR ARMSTRONG: Caitlin, what do you think?

MS. STARKS: Well, I'm actually going to defer to Toni on whether we need a motion on this one or not.

CHAIR ARMSTRONG: Okay.

MS. KERNS: I guess, Lynn, I just have a question to you. The NEFOP is clear to me letter to Northeast Fisheries Science Center and GARFO. But for the ACCSP, are you looking for a letter, or are you all just

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agreeing as a Board that you will ask the staff that are attending that meeting to increase the prioritization level for shad at the meeting?

MS. FEGLEY: Yes, I think that is probably right. I think the latter, the ACCSP part we can probably handle internally with our staff. But it's the Council part that I think is more important.

MS. KERNS: Just so I'm clear, you're looking for a letter to go, who do you want the letter to go to outside of GARFO and the Science Center? Do you want it to go to the Councils as well?

MS. FEGLEY: Well, I guess I'm not entirely sure. I would imagine it would be to the Mid-Atlantic and the New England Council. I'm sure there is somebody better than I on that.

MS. KERNS: You have Megan Ware with her hand up.

CHAIR ARMSTRONG: Megan, go ahead.

MS. MEGAN WARE: I'm thinking that the Science Center and GARFO might be the most appropriate recipients to that letter. I'm just speaking up for the New England Council. There is not a shad fishery management plan for the New England Council. That recipient feels a little off to me. But if others disagree, please let me know.

MS. KERNS: You have a couple hands that have gone up since then, Mr. Chairman. I will read them slowly. We have Cheri Patterson, Max Appelman, and then you do have a member of the public, Jeff Kaelin who put his hand up.

CHAIR ARMSTRONG: Go ahead, Cheri Patterson.

MS. PATTERSON: I agree with Megan. I'm not quite sure the benefit of including the New England Fishery Management Council in the letter, but definitely NOAA Fisheries. I would make sure that they understand that we're concerned about mixed-stock fisheries, and appropriate sampling for shad.

As for ACCSP, I would recommend everybody on this Board to know who their Bycatch and Bio personnel are that go to ACCSP meetings, or it might be one now, I'm not sure. Just recommend that they have this conversation, in regards to shad sampling, because this would also elicit some new proposals for funding through the ACCSP program, to help with this concern.

CHAIR ARMSTRONG: Max Appelman.

MR. MAX APPELMAN: Hi Mr. Chair, thank you. Yes, so not opposed to sending a letter, but given the, I recognize that there is no formal motion up on the table right now. But recognizing the conversation here, and the content of what that letter would be, and who it would be written to. I would just want to make it clear that I would be abstaining if there was a motion to this effect. But again, not opposed to the letter. We certainly welcome any input, and would look forward to working with the Commission on these issues.

CHAIR ARMSTRONG: Thanks, Max. I'm going to hold off on public comment right now, we're dropping a little behind schedule. What I hear is we don't need a motion to charge ACCSP with prioritization, but we probably do, to do a letter. Toni, is that right, to do a letter to NMFS? Do you think it would be cleaner to have a motion?

MS. KERNS: Mr. Chair, I'm hoping you can hear me, because my computer is telling me I'm experiencing network connection problems.

CHAIR ARMSTRONG: I do hear you.

MS. KERNS: Okay, perfect. I just wanted to know who Lynn wanted to send the letter to. If there is unanimous consent amongst the Board, noting that NOAA Fisheries is abstaining, we can bring that recommendation to the Policy Board, and you don't have to write. We don't have to have a specific motion; we'll get something for you to bring to the Policy Board this afternoon. But Justin Davis does have his hand up, and I notice that now, we would send that letter to the Science Center and GARFO.

CHAIR ARMSTRONG: Justin Davis.

DR. DAVIS: I just wanted to make a general comment, if that's okay. It's not related to the letter, if that is all right at this point. I wanted to acknowledge the comments that Des Kahn made, I think making some really good points. My impression is that the issue of predation, and then what role it might be playing in shad and river herring, both the declines we experienced over the last 20 years, and then continued low production.

It's a difficult thing, I think for this Board to address, because it really gets to that ecosystem management problem. I think there might be a sense of sort of well, what can the Shad or the River Herring Board do to try to address an issue, where other animals out there in the ecosystem are potentially exerting this predatory pressure on these species.

What I think it just points to is that when we have deliberations on the Striped Bass Board, for instance, coming up over the next couple years on Amendment 7. We had some discussion at the Striped Bass Board this week about whether or not it was appropriate to sort of indicate to the public that the reference points that are currently in place might be unattainable, that they might be unreasonable.

I think we also need to sort of make it clear to the public that there are inherent tradeoffs there. That if we want to have a really abundance striped bass stock, that the tradeoff there is we may not then also be able to have abundant shad and river herring runs in some areas, because those fish are going to exert a lot of predatory pressure.

I think it just means we need to keep that in mind when we're talking about striped bass management, and management of some of these other predatory fish, that there is a tradeoff there that can negatively impact these fish. I just wanted to acknowledge Des' comments. I think they are good, and they are something that we need to keep in mind.

CHAIR ARMSTRONG: Thank you, Justin. I guess I'll just ask, and we'll try to do this by consensus. Are there any objections to asking staff to ask ACCSP to increase the priority of shad, and to write a letter to the appropriate people at NMFS, to ask for more bycatch sampling? Are there any objections to that?

MS. KERNS: No hands.

CHAIR ARMSTRONG: No hands, thank you, any null, and I believe we probably have one abstained, is that right, Max?

MS. KERNS: That's correct, Mr. Chair.

MR. APPELMAN: That's correct.

CHAIR ARMSTRONG: Okay, motion passes very unanimously with one abstained, however you want to say that. All right, is there more discussion or more motions to be made? I do believe there is one. Brian, I believe the TC asked us to charge them with developing some bycatch methods.

MR. NEILAN: Yes, I think Joe's motion captured that.

CHAIR ARMSTRONG: Yes, you're right. It's staring me right in the face. Thank you. Any further discussion on Item 4?

MS. KERNS: No additional hands are raised.

**REVIEW TECHNICAL COMMITTEE
RECOMMENDATIONS ON IMPROVEMENTS TO
AMENDMENTS 2 AND 3**

CHAIR ARMSTRONG: All right, then I think we'll move on to Item 5, which is to Review the Technical Committee Recommendations on Improvements to Amendments 2 and 3. Brian, you have a presentation on this.

MR. NEILAN: Yes. Again, my name is Brian Neilan from New Jersey, I'm the TC Chair on the TC. This presentation here will be Technical Committee recommendations on a recent Board task, specifically improvements to Amendments 2 and 3. Here is a quick run through of what this presentation will be touching on.

First, a little background on what the Board task was, and the TCs recommendations based on this task. Finally, the actions that the Board will need to consider. A little background. This task goes back to 2017, when the TC identified some inconsistencies between state management programs and the shad and river herring FMP.

Just for reference, Amendment 2 is River Herring Management, and Amendment 3 is Shad. In the fall of 2019, the TC presented a report on state inconsistencies, and recommendations for resolving each issue. This past summer the Board approved the state proposals to resolve any of these inconsistencies between the state plans and the coastwide FMP.

This is the current TC task we'll be working through today. After the states resolved the inconsistencies in their plans, the Board tasked the TC with developing improvements to Amendments 2 and 3, with regards to the following items. First, management and monitoring of rivers with low abundance and harvest of shad and river herring.

A standardization of sustainable fishery management plan requirements, in regards to contents of the plans. Metrics used for benchmarks, and management responses to the benchmark is triggered. Incorporation of stock assessment information into SFMPs, and their discussion on the timeline for renewing these plans.

Some clarification on de minimis requirements as they retain the SFMPs, and review at a number of years of data that are required before developing a metric for an SFMP. That is the task. Looking at Number 1, Management and Monitoring. Rivers with low abundance in harvest of shad and river herring.

The TC does not recommend any changes to the FMP to address commercial fisheries. Commercial fisheries will still require a standard SFMP, with commercial reporting, biological sampling, et cetera. The TC does recommend

that the SFMP should clarify the management of recreational fisheries, that they should be dependent on the availability of harvest and monitoring information. Under Amendments 2 and 3 to the FMP, states may implement with Board approval, alternative management plans. We are referring to them as AMPs, for river herring and shad that differ from those required under the FMP. They must demonstrate that the proposed management program will not contribute to overfishing of the resource, or inhibit restoration of the resource.

The TC recommends that the above chart be used to determine when each type of management plan is appropriate, whether it be a standard SFMP, an alternative management plan, or if the states should be required to implement catch and release only regulations. This chart would be applied on a state by state or a system-by-system basis.

Just to reiterate, this would be applied to your recreational fisheries only. Looking at this chart that Caitlin developed. On the left there are the categories of recreational harvest, including known or suspected harvest, unknown recreational harvest, but concerned species presence, and no recreational harvest, and it's generally accepted that the species is absent from the system, or the systems outside the species generally accepted range.

Then on top there we have the categories of data to support a management plan, whether it would be sufficient fishery dependent or independent data, or insufficient data. Just to run through this chart here. If you have known or suspected recreational harvest of shad or river herring, using this chart you would be required to develop and improve SFMP, with appropriate sustainability metrics, monitoring and management responses.

Otherwise, you would implement catch and release only recommendations, if you didn't come up with an SFMP. For these purposes, known harvest is that which is recorded in official surveys or reports, where suspected harvest is identified through anecdotal information from fishermen, or historical information in systems that don't have an official monitoring of recreational harvest.

The TC would be responsible for determining whether monitoring data are sufficient, or insufficient for proposed uses. For systems with known populations of river herring and shad, but no known suspected recreational harvest, the state or jurisdiction using this chart would have the ability to either close or implement catch and release only regulations, allow recreational harvest under a Board approved SFMP, with the appropriate sustainability metrics.

Responses or 3, allow recreational harvest under Board approved alternative management plan. Any recreational harvest is confirmed through official avenues, at which point the state would be required to develop a standard SFMP. Using an alternative management plan would not require sustainability metrics. For systems with known small populations of river herring, shad, and no suspected harvest, but without system-specific monitoring.

The state would either close or implement catch and release only regulations, allow harvest under a Board approved SFMP with appropriate sustainability metrics, or again, allow recreational harvest under an AMP, until recreational harvest is confirmed. Finally, for systems with no known populations of river herring, and consequently no suspected harvest, and no fishery independent data. The state or jurisdiction would either close or implement catch and release only regulations, or allow recreational harvest under a Board approved AMP. If river herring or shad were to become present, the state must resubmit a proposal to the TC for an SFMP. If you have insufficient data and unknown harvest, or known harvest, and the species is known to be present. You would have to default to catch and release only under the use of this chart. This is how this chart would be applied for considering SFMPs, alternative management plan, or catch and release only regulations.

Standardization of SFMP requirements, in regards to metrics and management responses to triggers. The TC did not recommend

additional requirements for the type of sustainability metrics that can be used in the SFMPs. The TC does recommend additional language be added to the FMP, to strengthen or clarify whether system-specific or state-specific plans in the following areas.

First, the level of detail required in the plans or management response to the stock falling below defined sustainability target or threshold. When a state may relax restrictions implemented in response to falling below the sustainability target or threshold, and management of interjurisdictional water bodies.

In regards to management responses, Amendment 2 states that if stock is below optimum level, the management plan must detail restrictions that will be enacted to allow for increase in spawning stock abundance and juvenile recruitment. In regards to Amendment 3 in shad, it includes wording that said "discussion of management measures to be taken if sustainable target is not achieved within an indicated timeframe."

The TC recommends adding the following language to the FMP to clarify the language that details the type of restrictions that can be considered, allowing a plan to provide multiple options for restrictions. Basically, one option is a tiered approach to severity of response based on how far below a threshold is triggered.

The TC also recommends adding language requiring that a state must notify the Board in the next Annual Compliance Report if the stock falls below an SFMP threshold, and pursue implementation of the management response for the following calendar year. In regards to relaxing management restrictions, Amendments 2 and 3 say proposals to reopen closed fisheries may be submitted in the annual compliance report, and will be reviewed by the PDT, the TC, as well as the management board.

This one, the TC recommends adding specific language to clarify when a relaxing of the restrictions may be considered for approval. Specifically, if a state has implemented a management restriction in response to the stock falling below sustainability targets, the management restrictions must stay in place until the sustainability targets have been met for at least five consecutive years.

For 2C, in regards to interjurisdictional management guidance. Amendment 2 encourages cooperative development of SFMP targets. Amendment 3 seems to say both agencies should have plans, unless there is a cooperative involved. The TC recommends the following, cooperative development of one shared SFMP for the entire system. This would include consistent targets and metrics, and when possible, consistent management measures for fisheries permitted by jurisdictions in shared water bodies, similar to regional management approaches that are done in other ASMFC managed fisheries. For Item Number 3 for this Board task, incorporation of stock assessment information into SFMPs, and discussion of timeline for revealing plans.

There is concern among TC members that for many systems there is inconsistency between the information used to assess stock status through the stock assessment, and those used to develop sustainability metrics for the SFMPs. For example, some data sources are being used for benchmark development in SFMPs, but didn't meet the time series or power requirements used in the stock assessment or the benchmarks, and used in SFMPs are saying on thing about stock health. Then the assessment had a conflicting finding.

For these issues, the TC recommends compiling information on current monitoring programs by species and systems, and developing recommendations for improvements for use in SFMPs and assessments. Additionally, the TC recommends no change to the five-year timeline for renewing SFMPs and AMPs.

Issue 4 is in regards to clarification of de minimis requirements as they pertain to SFMPs. The current definition under Amendment 2 and 3 states, that states that report commercial landings of river herring or shad that are less than 1 percent of the coastwide commercial total, are exempted from subsampling informational and recreational catch for biological data.

This does not exempt states from the requirement to prohibit recreational harvest and possession, unless they have a Board approved management plan. This is a quick one that the TC does not recommend any changes to the current de minimis requirement, and an exemption for states with de minimis status.

The last issue, Issue Number 5 is in regards to the number of years of data required before developing a metric for an SFMP. As it sits now, Amendments 2 and 3 do not contain explicit requirements for timeseries length. After some discussion the TC recommended the minimum of 10 years of data required to establish a primary sustainability metric, through an SFMP or an AMP, for both shad and river herring.

With one caveat for river herring, river herring's shorter time series in the 7-to-9-year range would be considered by the TC on a case-by-case basis, if the state can provide additional information to justify the shorter time series. You know any sort of examples, exploitation rates, stock size, whatever they think can justify the use of a shorter time series.

One example of a shorter time series being used is in Maine. Last year they only had seven years of run counts of river herring, but the runs were strong, continually increasing, and they had very low proposed exploitation rate, and a high stock size target, so the TC felt given that information that they could go ahead with the shorter timeseries. That is the TCs recommendation for the original Board task.

In hashing out the recommendations for this Board task, the TC developed some additional recommendations beyond what was originally tasked by the Board. The TC felt that there is quite a bit of gray area, in regards to the use of AMPs, and recommends the following requirements if the states intend to develop an alternative management plan. The first recommendation is that the AMP will include a rationale or justification for why a standard SFMP cannot be used. That a justification that the proposed management program will be conservationally equivalent to catch and release only regulations.

An explanation of how the state will determine if and when the AMP is no longer appropriate. The data

source to risk and monitoring, and sort of potential catch or harvest. Any triggers for when you will switch from an AMP to a standard SFMP, and a description of a management response the triggers met.

One example, if a harvest is documented through a creel survey for three consecutive years, catch and release only regulations will be implemented state wide for the first specified systems, unless or until a standard SFMP is developed. Finally, if a management trigger in an AMP is met, the state must notify the Board in the next annual compliance report, and pursue implementation of a management response to that trigger in the following calendar year.

A few more additional recommendations. Another issue the TC discussed was the idea of allowing limited recreational harvest in systems with an SFMP or AMP using a low state wide bag limit. The TC does not recommend allowing any recreational harvest to occur on systems that are not managed through either an approved SFMP or an AMP. Unmonitored systems could experience unchecked recreational fishing pressure if this were the case, which would be detrimental to the small stocks.

Finally, the TC does recommend AMPs allowing statewide recreational bag limits or no recreational regulations must include a trigger to implement catch and release only regulations, or propose an SFMP. That was everything the TCs recommended on the Board task for the Board to consider. I think Caitlin is going to take over from here. Staff will be able to better describe the steps going forward for Board consideration.

MS. STARKS: These are a couple of different routes that the Board could consider, in response to these Technical Committee recommendations that Brian has gone over. The first is to consider initiating a management action, which I think would be an addendum to modify the FMP, according to the

recommendations that the Technical Committee has made, where they have recommended adding language or clarifying certain portions of the FMP.

Then just as a note, I kind of put some tradeoffs with these two different options. The second option that I see as a path forward is to task the Technical Committee with developing a Technical Guidance Document that includes all these recommendations, and that would guide their development and evaluation of sustainable fishery management plans, or alternative management plans going forward.

The first route is, you know possibly more time and resources to do an addendum. It does possibly give the Board more enforceability of the requirements that are being recommended, since they would be written into the FMP. The second route may take a little less time. It would only involve the Technical Committee developing this guidance document. But it goes with less enforceability of those recommendations, it wouldn't actually be requirements written into the FMP. I just wanted to lay those out as some potential next steps for the Board, and I think that is all we have for this presentation.

CHAIR ARMSTRONG: All right, thank you, Caitlin. That is a lot of material to digest, and it's clear that Amendment 2 and 3 had some problems that need to be addressed. The question is, which route do we want to go? Do we want to do an addendum, or do we want to task the TC with developing a guidance document when evaluating sustainable fishery plans or alternative plans? Discussion, anybody have an opinion which way to go?

MS. KERNS: Mr. Chairman, you have Justin Davis, and David Borden.

CHAIR ARMSTRONG: Go ahead, Justin Davis.

DR. DAVIS: I guess I'll start off by thanking the TC for this tremendous amount of work. It always impresses me with this Board, and the technical work that goes on, TC tasks and stock assessments, just how much information there is to deal with and handle, because rather than sort of just having one coastal stock, we've essentially got this patchwork of stocks, multiple

stocks within each state up and down the coast, all with their own little ins and outs, and differing levels of available data and considerations.

This is a tremendous amount of work, and I really appreciate it. You know I guess my feeling, after looking at this, is that I would sort of prefer Option Number 2 here. I think it's great that we've made some effort to, and given some attention to potential inconsistencies between the two amendments, how we're managing the two species groups.

My impression of how the management program, prescribed by these amendments have been working since they've been put in place, is that there has been a nice balance between striving towards meeting all the requirements laid out by the FMP, and providing good data sources to help improve management.

While at the same time allowing some flexibility for states, because of those unique considerations and little ins and outs that I mentioned. I guess I prefer Option 2 here, to sort of maintain that kind of status quo or paradigm, you know with the idea that if we have a technical guidance document, that can certainly help the TC in guiding states in developing these plans and improving them, without potentially going through the time and effort of doing an addendum to the FMP, and working through all this in detail.

It seems to me like the TC has a good handle on the improvements that can be made, and by just developing a technical guidance document and letting them use that to guide them in evaluating these plans, that would be the best way forward. I would be willing to make a motion to that effect, if you're ready for that at this point, Mr. Chairman. But I'll also defer if you would like there to be an opportunity for more discussion.

CHAIR ARMSTRONG: Yes, Justin, let's hold off just a little bit, and I can get a couple more

comments, and see if we're all heading in the same direction, if it's all right with you. David Borden. We can't hear you, David.

MS. KERNS: David, you are unmuted. We just can't hear you. Mr. Chairman, I don't know if while David is working out his sound problems, Doug Haymans also has his hand up.

CHAIR ARMSTRONG: Go ahead, Doug.

MR. DOUG HAYMANS: Thank you, Mr. Chairman, it's rare that I hear Toni call my name two times in a row like that. I would agree with Justin's comments, and would prefer that we look at Number 2 there. As a state with limited to no fisheries, especially in the river herring category.

I would prefer to be able to work within the ASFMC process, our Technical Committee representatives, and pleased with the direction the Technical Committee is working in right now. I would like to keep it that way, so my preference would be in agreeing with Justin, and I would support with a second his motion, when the time is appropriate.

CHAIR ARMSTRONG: Thank you, Doug, anymore comments? Toni.

MS. KERNS: I don't have anybody else's hand up. Cheri Patterson. Hold on, okay. I have Cheri Patterson, Chris Batsavage, and Roy Miller.

CHAIR ARMSTRONG: Okay, go ahead, Cheri.

MS. PATTERSON: I'm a little torn here. I understand that the technical guidance document would definitely require less time, but here is the problem I have, is it provides less enforceability of requirements. I think that it is important to note that we have these FMPs in place, in order to make sure that states are monitoring appropriately and consistently.

I'm not sure that that is occurring on a consistent basis. Just doing a technical guidance may not help with that sort of concern. I'm torn. I have a tendency to lean towards moving forward with an addendum, in order to correct anything in the current FMPs, as recommended by the TC, so that there is no question

within the TC when they do these marvelous reviews, as to what is required for them to review and management actions.

CHAIR ARMSTRONG: Thank you, Cheri, Chris Batsavage.

MR. CHRIS BATSAVAGE: I share many of the thoughts and comments that Cheri just made about which way to go. I'm also torn. I'm leaning more towards the addendum route. A question I have is, the recommendations given by the Technical Committee for clarifying these issues in Amendments 2 and 3. Would those invalidate any of the AMPs that are currently in place? Based on that I may have a follow up.

MS. STARKS: I think I can answer that, Mr. Chair. Chris, I don't believe that any of the current AMPs would go against the recommendations of the Technical Committee, and I think the Technical Committee had those in mind as they were developing these, as those alternative plans were being developed this past year, figuring out the best way to put those together. I think those are part of what the recommendations include. I don't think it would invalidate them.

MR. BATSAVAGE: Thank you for that, Caitlin. That is helpful, as far as helping me decide which side of the fence to lean on. I'm leaning more towards the addendum side at this point.

CHAIR ARMSTRONG: Roy Miller.

MR. MILLER: I think I'm leaning more with Chris and Cheri on this. If I could make a suggestion. If we decide to task the TC with developing a technical guidance document, then I would urge that this document be reviewed at regular intervals. Certainly, at every stock assessment update.

But if that is five years, then maybe we should review the performance in meeting and recommendations of the technical guidance document at three-year intervals, or something like that. I'm concerned about producing a

report and then just having it sit on the shelf and gather dust.

CHAIR ARMSTRONG: We have Allison Colden.

DR. ALLISON COLDEN: Not to simply pile on here, but I'm sort of on the same line of thinking as the last few speakers, with regard to the greater enforceability of an addendum over a technical guidance document. The one thing that struck me from today's presentation was, you know the timeline of this discussion. These issues are first inconsistencies, the first identified in 2017.

You know we took action to address those inconsistencies in 2019, and this seems to me like the next logical step to sort of codify the changes that the states have already made, as well as the guidance that we've gotten today from the Technical Committee moving forward. I'm comforted by the answer to the previous question, as to whether or not this would immediately impact any of the existing SFMPs. I am also leaning in support of an addendum.

CHAIR ARMSTRONG: Any further discussion?

MS. KERNS: Lynn Fegley had her hand up before, but maybe Allison covered what she wanted to talk about, and then Megan Ware has her hand up.

CHAIR ARMSTRONG: I'll assume Lynn's okay, Megan, go ahead.

MS. WARE: I think this is a question for Caitlin, and just looking through the memo. It seems like some of the changes recommended are specific language changes in the FMP. Then some of them are more TC recommendations, or TC tasks. For example, Number 3 about the stock assessment information. I'm just trying to get a better sense of how something like Number 3 would be in an addendum, or maybe it wouldn't be.

MS. STARKS: I think with Number 3, I think you're referring to incorporating the stock assessment results into the requirements of an SFMP. I think that those could be taken out as options, if that makes sense. It could be an option to require the SFMPs to include the stock assessments metrics versus sustainability in the

SFMP, or an option to incorporate the information, but not make it a requirement that they be used as the sustainability metric set, each system is being evaluated again, if that makes sense.

CHAIR ARMSTRONG: Any further hands, Toni?

MS. KERNS: No other Board members, one member of the public.

CHAIR ARMSTRONG: I'm not going to take public comment until we have a motion to vote on. I'll go back to Justin. After hearing what you've heard, would you like to make a motion?

DR. DAVIS: Sure, I'll make a motion, just to get something up on the board to help focus discussion. I believe staff has that motion. **I move to task the Technical Committee with developing a technical guidance document to guide SFMP/AMP development and evaluation based on the recommendations presented today.**

MS. KERNS: You have a second by Doug Haymans.

CHAIR ARMSTRONG: Yes, we heard Doug. Discussion. I think you know there is clearly some people that are leaning towards addendum. I think, and I turn to Toni to step in if not. I think we just discuss this. We go ahead with a vote, and vote it up or down. If it goes down, we move to a new motion for an addendum. I think that is cleaner than trying to wordsmith this into something we can live with. Anyway, discussion on this motion. Justin, did you want to say anything else?

MS. KERNS: You have Cheri Patterson and Lynn Fegley.

CHAIR ARMSTRONG: Okay, before that Justin or Doug, do you want to say anything further?

DR. DAVIS: I guess I put the cart in front of the horse a little bit, by laying out my rationale for the motion before I actually made it. I won't

add much further, other than to say I think there are arguments on both sides for doing it either way. I guess I'm just kind of thinking of the end result of either path, you know what it's going to mean for the overall management program.

I don't view the current situation as sort of being really deficient, that a lot of states are not doing things they should do. I think in some instance's states, for good reasons, are potentially asking for leeway or exceptions, but also putting effort into producing data that is helping in the management of these species.

I guess I just feel like looking at the slate of issues outlined in the memo that the TC put together, some of them don't seem like they need to be addressed through addendum. Some of them seem like if we initiated an addendum, it might put some states ultimately in a tough spot, where they might feel like they have to make a choice between complying with certain requirements that are not likely to substantially kind of add to the overall data picture for the species, or discontinuing their fisheries, given a lot of us are under resource limitations these days, and don't know how much we can devote to certain things. That is why I'm making this motion. I can see the argument on both sides, and I guess I'll just leave it at that.

CHAIR ARMSTRONG: Doug, anything further from you?

MR. HAYMANS: No sir, thank you. I absolutely agree with Justin's rationale there. We are one of those states that would be put in a hard spot if we had a mandated change for a fishery in some of our smaller rivers that are virtually nonexistent. But I agree with Justin's rationale and I continue my support.

CHAIR ARMSTRONG: Cheri Patterson.

MS. PATTERSON: I will be opposing this motion. I think the TCs recommendation is to go with an addendum. They're the ones that spend an inordinate amount of time to evaluate the FMP, and all of the conditions that they have to assess. I think it's only fair to go to the addendum process, and give them the guidance as to how to perform their work.

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CHAIR ARMSTRONG: Lynn Fegley.

MS. FEGLEY: I pass, Mr. Chair, thank you.

CHAIR ARMSTRONG: All right, thank you. Further comment?

MS. KERNS: Erika Burgess.

CHAIR ARMSTRONG: Erika Burgess, please.

MS. ERIKA BURGESS: I just wanted to speak on behalf of the state of Florida in support of the comments made by Davis and Doug, thank you.

CHAIR ARMSTRONG: I'm going to do something a little unusual, but because I have such respect for science, I'm going to ask Brian if he thinks the TC has an overwhelming opinion on if we should go with this. Brian, not to put you on the spot, but I'll put you on the spot.

MR. NEILAN: No worries, Mr. Chair. I don't believe the TC has a general consensus for one or the other here. If you ask ten TC members, you would get ten different opinions. I think Caitlin did a good job of laying out the pros and cons. Initiating a management action to modify the FMP, with an addendum that will certainly make our job more easier when we're reviewing plans.

The requirements are more explicit, it's just a matter of did they check off their boxes or not. The second option here with tasking the TC with developing the guidance document, is more in line with how shad and river herring have been managed in the past, especially with AMPs. The recommendations from the TC here would kind of help shore up the AMP requirements a little better, make it a little more explicit. Unfortunately, I don't have one or the other for you. I don't know if Caitlin has anything else to add, but that's generally how I perceive the TCs opinion at this point.

CHAIR ARMSTRONG: Thank you, Brian, I think the Board is of the same mind. Further discussion.

MS. KERNS: You do not have any, Lynn Fegley has her hand up, and then you have two members of the public.

CHAIR ARMSTRONG: Okay, go ahead, Lynn.

MS. FEGLEY: I'm really pretty conflicted on this one, as you can probably tell by the fact that I keep putting my hand up and taking it down. What I wonder, we are one of those states where I have concerns about resources that could be demanded, based on requirements written within an addendum. I do have concerns about that. We got updated as the sustainable fishery management plans do at the end of the year.

But in thinking it through, I do think that there is some benefit to initiating an addendum. At that point, I think once it is in writing and we see, we can have a discussion at the Board when the draft comes before us. If there are states that feel as though they are going to get caught in a jam with resources, that maybe we can have a discussion when we see the draft. That is sort of where I'm falling down, I'll agree to support an addendum.

CHAIR ARMSTRONG: I'll take a couple of very brief comments from the public, but they need to be directed to this motion. Do you have some hands up, Toni?

MS. KERNS: We have Wilson Laney and then Des Kahn.

CHAIR ARMSTRONG: Go ahead, Wilson Laney.

DR. WILSON LANEY: As a member of the public, but also a longtime member of the Shad and River Herring Technical Committee, I would certainly, definitely lean towards the development of an addendum, and I think Ms. Fegley's comment about the fact that you all could take a strong look at it once it was drafted, and then have a further discussion about how it would impact the states, would certainly be a good way to go, because that preserves your compliance authority.

But also, it gives you the option of a drop back to a technical guidance document, if you thought that was appropriate. Just a couple of comments. I think,

should the Board pass this motion, the public perception, at least from my perspective, would not be all that great for several reasons. One is the colleagues of mine Hall et al in New England and other folks, who have taken a look at the potential increase in biomass of these species, shad and river herring, with appropriate management measures in place is huge.

Secondly, Dr. Kahn pointed out to you earlier, in a somewhat backwards sort of way, the importance of these species, this whole species complex for predators like striped bass, and not only striped bass, but I think bluefish, weakfish, and other predators in the ocean like bluefin tuna, and many other species that consume shad and river herring. I think from an ecosystem management perspective, you would be better served by an addendum as well, because that preserves your enforcement authority as Ms. Patterson and Ms. Fegley have noted.

I would certainly, as a member of the public, support that approach initially, and then possibly again, as Lynn pointed out. You could have the discussion once the addendum is developed. I really don't think, and I'll defer to staff on this point, and certainly to Brian and Pam. But I don't think it would take a whole lot more effort to develop a draft addendum, as opposed to a draft technical guidance document.

I think most of your concerns are what it might require of the states, in terms of additional sampling. I certainly understand that. I think the ecological importance of these species far outweighs their present importance as recreational or commercial species. But the future potential for both commercial and recreational fisheries is tremendous, if they were restored.

CHAIR ARMSTRONG: Thank you, Wilson. Des Kahn, to the motion, please.

DR. KAHN: Yes, thanks for the chance to speak. Briefly, what I would like to suggest is that the

measures that we have been presented with, recommended measures, to a great extent involve things like restricting recreational landings and so forth. I don't think that is going to get at the problem.

The problem is not caused by fishing, as I understand, and I don't think the assessment came to that conclusion. The problem as I see it is increased stripe bass predation, as I mentioned. But the other thing, I would recommend the Commission, instead of restricting a problem that doesn't really have any effect, which is recreational landings, for example.

The Commission would be better served by working on reducing dams, and obstacles to spawning runs, which would really be able to build up these stocks, if they had restored the spawning areas that they had originally, you know before white people got here. That would be a far more productive use, in my opinion, of the Commission's resources.

CHAIR ARMSTRONG: Back to the Board, any final discussion before we vote?

MS. KERNS: I see no additional hands.

CHAIR ARMSTRONG: All right, I know Massachusetts needs to caucus, so we'll take a minute or two to caucus, please.

MS. KERNS: Roy Miller raised his hand, sorry he got it up right as I was saying no hands. I don't know if he was looking for caucus.

MR. MILLER: Exactly, I was looking for a caucus.

CHAIR ARMSTRONG: Okay, let's do that, take two minutes. Okay, is everyone all set?

MS. KERNS: I can't see hands.

CHAIR ARMSTRONG: No hands, so I think we're all set. How do you want to do this vote, Toni or Caitlin? Just raise hands?

MS. KERNS: Yes. Mr. Chairman, if you can just ask for in favor, against, abstain and nulls, and I'll read out the states, and Caitlin will give you a count.

CHAIR ARMSTRONG: Okay. All those in favor of this motion, please raise your hand.

MS. KERNS: I'm going to let the hands settle for a second before I start calling out states. Okay, we have Georgia, Florida, Connecticut, South Carolina, New Jersey, New York, NOAA Fisheries, Maine, Pennsylvania, and Massachusetts.

CHAIR ARMSTRONG: Hands down, please.

MS. KERNS: I can clear the hands, Mike. We are all set.

CHAIR ARMSTRONG: Those opposed to this motion, please raise your hand.

MS. KERNS: We have Fish and Wildlife Service, Virginia, Delaware, North Carolina, Maryland, New Hampshire, PRFC, and Rhode Island. I'll clear those hands.

CHAIR ARMSTRONG: All right, any null votes?

MS. KERNS: I see no nulls.

CHAIR ARMSTRONG: Any abstentions?

MS. KERNS: I see no abstentions.

CHAIR ARMSTRONG: All right, and what is the count?

MS. STARKS: I believe I have nine in favor and eight opposed, no null, no abstentions, but DC is absent.

CHAIR ARMSTRONG: The motion passes 9 to 8. All right, is there any further discussion of Item 5, Technical Committee review of Amendment 2 and 3?

MS. KERNS: No hands up.

CHAIR ARMSTRONG: All right then we'll move on. We have a scheduled break. I guess, why don't we take five for biological break, so we'll be back at 10:57?

(Whereupon a recess was taken.)

CONSIDER SHAD HABITAT PLAN UPDATES

CHAIR ARMSTRONG: Moving on to Item 7, Consideration of Shad Habitat Plan Updates from the States. This is an action item, and Brian, take it away.

TECHNICAL COMMITTEE RECOMMENDATIONS

MR. NEILAN: Thank you again to the Board for so promptly considering the TCs recommendations so far. This one should be pretty quick. The Shad Habitat Plan Updates that states have submitted so far. A little background under Amendment 3 all states and jurisdictions are required to submit habitat plans for American shad, which are meant to contain a summary of information current and historical spawning and nursery habitat, threats to those habitats, and habitat restoration programs within each state.

In February of this past year the Board agreed that these plans should be updated every five years or so like SFMPs, and asked the states to update existing plans. Originally approved in 2014, and for the states with missing plans to submit their habitat plan. In this case it was the Merrimac and the Hudson.

We got six plan updates that were evaluated by the TC, and submitted in time for this Board meeting. We got plans from Maine, New Hampshire, Maryland, North Carolina, a system-specific plan for the Savannah River, and Georgia. For Maine, this is a quick one. They are currently in the process of coming up soon, or coming up soon for relicensing of hydroelectric dams on a few rivers in their state.

They are exploring looking into incorporating fish passage or monies for mitigation, as part of the FERC relicensing. There are no significant habitat improvements since the last plan, and it was mostly updating tables, graphs, figures, just to get it up to date since the last one. For New Hampshire, they removed references to the Great Dam and its fishways, since in 2016 they were both removed.

Since it had a fishway there, technically no gain in habitat, but I think it's fair to say that a complete removal of the dam is going to be beneficial to fish

migration regardless. Maryland updated their spawning and recalculated their spawning and rearing habitat estimates. They removed the, I might butcher this, Bloede Dam on the Patapsco River.

That removal was completed in 2019, and restored access to approximately 14 kilometers of potential riverine habitat. The Conowingo Dam remains the most significant barrier to the American shad migration in the state. Fish lifts operate there, but passage efficiency is poor. New requirements associated with pending relicensing of the dam should improve passage conditions, though upstream and downstream passage efficiency must be improved, not only at the Conowingo, but there is quite a few on the Susquehanna.

They've also added new information regarding water withdrawals, channelization and dredging, and competition and predation sections have been added to their habitat plan. Maryland feels the most significant threat to American shad in the state is habitat degradation associated with land use modifications in urban and suburban development.

The egg and larval stages of American shad are particularly vulnerable to these stressors. Rivers impacted by development are unlikely to host successful spawning runs, even with sufficient abundance. It's a general update for Maryland. North Carolina had a good number of updates to their plan in the habitat assessment sections they added some wording to be consistent with their SFMPs. They have formally designated all four of their strategic habitat areas in rule. They've added some new information to the threat's assessment section, to incorporate some information from the assessment.

They added new information about climate change issues, land use issues, and toxic and thermal discharge threats. Continuing with North Carolina, in regards to their habitat restoration program updates. The Milburnie

Dam on the Neuse River was removed in 2017. The Corps has authorized a disposition study in 2019.

The fate of three dams is in question, pending the outcome of this study. They've also updated information on their hatchery product supplementation program, and their water quality improvement program. The Savannah River has a system-specific habitat plan. Some updates to this plan include status of the Savannah Harbor deepening, and plans to install fish passage at the New Savannah Bluff Lock and Dam, as some information on the navigation Lock at the Dam, which hasn't moved fish since 2013 has been updated and reiterated.

Additionally, efforts to control invasive predators such as flathead catfish are now linked to this plan, because they are seen as a source of mortality for shad and river herring. Georgia updated their plan as well. Some highlights include their removal of White Dam on the Middle Oconee River in 2018.

They've updated data on passage and removal efforts for invasive predators, again flatheads and blue cats, and they've also incorporated passage concerns from the stock assessment. Those are all the plans we had in time for this meeting. The Technical Committee reviewed all the plans that were submitted, and recommends that they all be approved. That would be Maine, New Hampshire, Maryland, North Carolina, the Savannah River and Georgia.

Next steps will be today, the Board considers approval of these plans, possible recommendations that their remaining states update any habitat plans that already exist, and that the Hudson and Merrimack submit new plans in time for the next Board meeting, which would be spring 2021, and the TC would evaluate those plans and proposed updates in time for that meeting. That is the Habitat Plan update.

CHAIR ARMSTRONG: Thank you, Brian, any questions for Brian?

MS. KERNS: I don't have any hands raised.

CHAIR ARMSTRONG: All right, seeing none, could I have a motion to approve the habitat plans that have been submitted so far.

MS. KERNS: You have Cheri Patterson.

CHAIR ARMSTRONG: Cheri.

MS. PATTERSON: Yes, thank you, Mr. Chair, is there a motion already crafted? **I move to approve the updated shad habitat plan submitted by Maine, New Hampshire, Maryland, North Carolina, South Carolina, and Georgia.**

CHAIR ARMSTRONG: A second please.

MS. KERNS: Doug Haymans.

CHAIR ARMSTRONG: Thank you, Doug. Any need to discuss this, Cheri?

MS. PATTERSON: No, I am following the TCs recommendation of the plans that have been submitted.

CHAIR ARMSTRONG: Further discussion on the motion.

MS. KERNS: No additional hands.

CHAIR ARMSTRONG: Then we'll move to the vote. I think we'll try to do this by consensus. Are there any objections to this motion?

MS. KERNS: I see no hands.

CHAIR ARMSTRONG: Any nulls?

MS. KERNS: No hands.

CHAIR ARMSTRONG: Abstentions?

MS. KERNS: No hands.

CHAIR ARMSTRONG: Motion passes unanimously. All right, any further discussion on this item?

CONSIDER A FISHERY MANAGEMENT PLAN REVIEW AND STATE COMPLIANCE FOR THE 2019 FISHING YEAR

CHAIR ARMSTRONG Seeing none, we'll move to Item 8, Consider a Fishery Management Plan Review and State Compliance for the 2019 Fishing Year. Caitlin.

MS. STARKS: I will quickly go through a review of the FMP Review and Compliance Reports for the 2019 fishing year. First, I'll cover the landings in 2019, then I'll go over passage, stocking efforts, protected species information, and de minimis requests, and then finally wrap up with the PRTs recommendations.

This table shows the state landings and coastwide totals for commercial shad and river herring, and this is directed landings and bycatch landings in 2019. All confidential data is excluded. For river herring the coastwide total was 3.22 million pounds, which is a 31 percent increase from 2018. For shad the total for 2019 directed commercial landings and bycatch is 273,450 pounds, and that is a 4 percent decrease from the landings in 2018.

As part of the requirements in Amendment 2 and 3, for river herring and shad passage counts are required on a few rivers in Maine, New Hampshire or Massachusetts, Rhode Island, Connecticut, Pennsylvania, Maryland and South Carolina. The coastwide total passage in 2019 at these locations was 6.5 million river herring, and 437,853 shad.

These represent a 31 decrease from 2018 for river herring, and a 32 percent decrease from 2018 for shad. During 2019, hatchery reared American shad fry were stocked in the states and rivers that are listed on the slide here. The total is just under 12 million American shad stocks, compared to the shad stock in 2018, which was 22.7 million.

That represents a decrease of 47 percent. There were a few states stocking efforts that did not occur in 2019 as opposed to previous years, and those included in Rhode Island, Virginia, North Carolina, and Georgia. For Virginia, the James River stocking efforts for shad ceased in 2018, however in 2019, they did stock 1.2 almost million river herring larvae in Harrison Lake, which is part of the James River system.

For sturgeon interactions in 2019, there were 139 interactions reported, with zero mortalities occurring in Connecticut, Potomac River, Virginia, North Carolina, South Carolina, and Georgia in the fisheries. Additionally, gill netters in New Jersey coastal waters reported 3,893 pounds of sturgeon discarded in 2019.

But information on the total number of fish and mortality is unknown. Then for Rhode Island their data for sturgeon interaction lags one year behind. We don't have numbers for 2019 at this point, but we do have 2018 numbers, and in 2018 they had 87 interactions reported. De minimis requests were submitted by Maine, New Hampshire, and Massachusetts and Florida for their shad fisheries, and New Hampshire and Florida also request de minimis for river herring.

Based on their commercial landings, they all meet the requirements and they qualify for de minimis status. Now I'll go over the PRTs report. After reviewing the annual compliance reports, the PRT highlighted a few items for the Board to consider. The first is just to remind the Board that in 2019 there were a few states that had allowed recreational fisheries, but hadn't implemented sustainable fishery management plans as required by Amendments 2 and 3.

However, these issues were resolved in August, 2020, when the Board approved new plans for Maine, South Carolina, Georgia, and Florida. Then other issues the PRT noted were that several states didn't report on all monitoring requirements that are listed under Amendments 2 and 3. The FMP review does provide a table of all of these issues by state.

But it's noted that a couple of states have been consistently missing some information for a few years, and the most common emissions are the characterization of other losses, characterization of recreational harvest, length and age frequency, and degree of repeat spawning. The PRT recommends that these states take a look at that table and take note of those required monitoring programs that were

not reported on, and make sure to include those in their future compliance reports.

Additionally, most states did not submit their monitoring data in a separate Excel file along with their compliance report, but rather a lot of states included data in tables within the report. Amendment 3 does require state data to be submitted in an Excel file in a format that is based on the stock assessment needs.

This is relevant to the next item, so I'll just move on to that. The last several years, the PRT and the Technical Committee have continued to express some concerns with the difficulty of preparing and reviewing the compliance reports for these species, because they contain such a large quantity of information.

In an effort to streamline the reports, while making sure that all required information is still reported on an annual basis, the PRT is recommending using this basic outline for the reports, and having the body of the compliance report focus solely on answering the question of whether the state meets all of the requirements of the FMP for that fishing year or not.

There is more detail in the FMP review on the recommended changes that the PRT is asking for. But the main takeaway is that they are recommending moving the bulk of details from the body of the compliance reports, and instead moving things like monitoring results into the Excel spreadsheet, as recommended or required in Amendment 3.

That would accompany the compliance report, and then moving copies of regulations and detailed descriptions of the Fishery and Monitoring Program into appendices. Following this recommendation, the PRT is planning to develop a template, a new template for the compliance reports, which will be sent to the Board with a compliance report reminder this year, and staff will work with the states to make sure that this new template is being followed.

With that information, the action for the Board to consider today is approval of the shad and river herring FMP review for the 2019 fishing year, state compliance reports, and de minimis status requests for Maine, New Hampshire, Massachusetts and

Florida, as recommended by the PRT. That is the end of my presentation.

CHAIR ARMSTRONG: Thank you, Caitlin, any questions for Caitlin?

MS. KERNS: I don't see any hands raised. Mr. Chairman, I'm just going to really quickly, since I'm getting several e-mails about it. The vote count for the last vote was 10 in favor, not 9 in favor; just so it is corrected on the record.

CHAIR ARMSTRONG: Thank you. I'll say it again for the record. **The corrected vote count for the last motion we voted on was 10 to 8, not 9 to 8.** Anyway, let's see where we're at. Would someone have a motion to approve the review of the FMP, the state compliance reports and the de minimis requests?

MS. KERNS: We have John Clark.

CHAIR ARMSTRONG: Motion by John Clark, a second?

MS. KERNS: Cheri Patterson.

CHAIR ARMSTRONG: Cheri Patterson, thank you. Any discussion?

MR. CLARK: Do you need it read into the record, Mr. Chair?

CHAIR ARMSTRONG: Yes, please.

MR. CLARK: Okay, move to approve the fishery management plan review for the 2019 fishing year, state compliance reports and de minimis requests from Maine, New Hampshire, Massachusetts and Florida.

CHAIR ARMSTRONG: Thank you. Any discussion?

MS. KERNS: No. No discussion.

CHAIR ARMSTRONG: Are there any objections to approving this motion?

MS. KERNS: I see no objections.

CHAIR ARMSTRONG: Motion is approved by consensus.

REVIEW AND POPULATE THE ADVISORY PANEL MEMBERSHIP

CHAIR ARMSTRONG: Thank you, next item, last item is to review and populate the AP membership. Tina.

MS. TINA L. BERGER: Good morning everyone! Yes, I have two nominations to the Shad and River Herring Advisory Panel for your consideration and approval. They are Dr. Ed Hale of the University of Delaware Sea Grant, and Eric Roach, a recreational angler from New Hampshire. Thank you.

CHAIR ARMSTRONG: Toni, do we need a motion, or can we approve these appointees by consensus without a motion?

MS. KERNS: Good to have that motion, but you can approve that motion by just a verbal consensus. You have Justin Davis with his hand up.

CHAIR ARMSTRONG: Go ahead, Justin.

DR. DAVIS: I would move to approve nominations to the Shad and River Herring Advisory Panel for Dr. Ed Hale from Delaware, and Eric Roach from New Hampshire.

CHAIR ARMSTRONG: A second.

MS. KERNS: You have Roy Miller.

CHAIR ARMSTRONG: Thank you. Any discussion?

MS. KERNS: No discussion, no hands.

CHAIR ARMSTRONG: Is there any objection to approving this motion?

MS. KERNS: No hands.

CHAIR ARMSTRONG: The motion is approved by consensus. Leads us to the last item. Is there any Other Business to bring before this Board?

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MS. KERNS: You have Doug Haymans with his hand up.

(Whereupon the meeting convened at 11:20 a.m. on February 4, 2021.)

MR. HAYMANS: I don't know, this is simply a clarification for the statements made a moment ago about the vote. Just to clarify the record. You suggested that the 10-8 vote was for the motion previous, when in fact we had a motion and a vote over the Habitat Plan in between that, and the Technical Committee recommendation. I just wanted to make sure that it was clear that the 10-8 vote was regarding the Technical Committee, not the Habitat vote.

CHAIR ARMSTRONG: Thank you, Doug. That was an oversight. Let me state again, the motion was on Item 5, right that wound up being 10-8. Is that right, Caitlin?

MS. STARKS: Yes, Mr. Chair, on the motion to task the Technical Committee with developing a guidance document.

CHAIR ARMSTRONG: Yes, okay. Was that enough discussion for the record?

MS. KERNS: Great.

CHAIR ARMSTRONG: Any other business before the Board?

MS. KERNS: Tom Fote.

CHAIR ARMSTRONG: Go ahead, Tom.

MR. THOMAS P. FOTE: I make a motion to adjourn.

CHAIR ARMSTRONG: Do we have a second?

MS. KERNS: Allison Colden.

ADJOURNMENT

CHAIR ARMSTRONG: I assume there are no objections to adjourning. Seeing none; we are adjourned.