Mid-Atlantic Fishery Management Council
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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman
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M E M O R A N D U M

Date: March 28, 2021

To: Michael P. Luisi, Chairman, MAMFC

From: Paul J. Rago, Ph.D., Chair, MAFMC Scientific and Statistical Committee

Subject: Report of the March 2021 SSC Meeting

The SSC met via webinar on the 9th and 10th of March, 2021 to address the following topics: (1) review results of Index-Based Methods and Harvest Control Rules Research Track Assessment; (2) review relevant data on Blueline Tilefish and recommend specifications for 2022-2024 ABCs; (3) review results of 2020 Golden Tilefish fishery-independent longline survey and draft results of Management Strategy Evaluation; (4) review Northeast Fisheries Science Center's (NEFSC) State of the Ecosystem (SOE) for 2021 and its responses to previous suggestions, and provide further review comments; (5) review and discuss ongoing activities of the Economic Work Group case study on redevelopment of the Research Set-Aside Program; and under Other Business, (6) revisit SSC leads on species and special topics, review 2020-2024 stock assessment schedule, long term research priorities of Council, and update planning for the National SSC meeting (Attachment 1).

All 20 SSC members participated in the meeting on both days (Attachment 2). Other participants included Council members, Council staff, NEFSC and GARFO staff, NMFS Headquarters staff, industry, and the general public. Council staff provided outstanding technical support before, during and after the meeting.

All documents referenced in this report can be accessed via the SSC's meeting website https://www.mafmc.org/ssc-meetings/2021/march-9-10

Index Based Methods and Harvest Control Rules Research Track Assessment Results

Dr. Chris Legault from the Northeast Fisheries Science Center (NEFSC) presented the results of the December 2020 peer review of the Index Based Methods (IBM) and Harvest Control Rules Research Track Assessment (RTA). This is the first RTA that focused on a theme or process topic rather than a single species stock assessment. The SSC received a comprehensive overview of the scope and findings of this RTA and its potential implications for setting ABCs for Mid-Atlantic stocks.

The IBM concept was motivated by the need to consider alternative methods for generating catch advice for assessments that were judged unacceptable for catch advice owing to extreme retrospective patterns or other measures of lack of fit. In these cases, a variety of so-called "Plan B" methods have been used. However, there has not been a systematic review of the performance of these alternative methods. The IBM review addressed the performance of a suite of candidate methods and harvest control rules. Through an extensive set of simulation experiments, a team of scientists from the Center, academia, and Councils evaluated the short and long-term performance of various IBMs. The simulations were based on an underlying groundfish-like "operating model" in which the true state of nature is known. Performance of the alternative models was then evaluated with respect to their ability to recover the known state of nature and more importantly, to avoid both overfishing and creation of an overfished condition. In addition, a broad range of performance metrics was evaluated. These metrics included consideration of biological reference points as well as catch trajectories and their variability, topics with important economic implications.

Dr. Legault provided a detailed overview of the process of conducting the working group virtually. Challenges included the need for regular meetings (41 total), formulation of the operating model, consideration of the factors creating the underlying retrospective pattern, selection of candidate index-based models, identifying relevant performance metrics, designing the simulation experiments, distributing the workload, and interpreting the simulation results. The SSC applauded the extraordinary efforts of the assessment team and the leadership of Dr. Legault.

Over a quarter million simulations were conducted as part of 252 different experiments that compared performance of 14 different models under 18 different simulation scenarios. Results for each of these experiments were saved in a database and can be analyzed further by future investigators. Results suggested that certain classes of models worked better than others, depending upon the true underlying cause of the retrospective pattern. Attempts to discern the reasons for these differences were not successful but further investigations may be insightful. Moreover, an ensemble approach of multiple models did not perform better than individual models. The Working Group was not able to address the topic of alternative biological reference points because none of the candidate index-based models allow for alternative definitions of both F_{msy} and B_{msy} proxies.

Perhaps the most important conclusion of the IBM review was that none of the Index Based Methods outperformed the original age-based model when it was adjusted for the retrospective pattern. This suggests that retention of the original model, even when severe retrospective patterns are evident, may be preferable to replacing the model with an IBM.

The presentation was followed by an extensive discussion by the SSC. Several members inquired about the bases for inducing retrospective patterns. These were changes in natural mortality (M) and missing catch. Notably absent was consideration of changing catchability in the surveys, perhaps due to shifting spatial patterns of abundance. Spiny dogfish for example, experienced a large shift in distribution beginning about 2006. Dr. Legault responded that this was indeed considered but the committee was not able to consistently induce retrospective patterns with this mechanism. Dr. Legault also noted that earlier work had identified differing spatial patterns of exploitation were important causal factors for retrospective patterns.

Other members commented that changes in growth rates could affect the overall force of mortality on age groups and the possible influence of an alternative stock-recruitment relationship. Such changes might also complicate the interpretation of age-length key and cause aging errors. Potential density-dependent IBMs were not considered since many of these approaches require external knowledge or explicit assumptions about the current degree of depletion of the resource. Members also noted that the absence of tuning of IBM approaches, as one would do in a real-world application, limited the generality of the conclusions. Similar concerns were raised about the lack of consideration of multiple simultaneous causal factors (e.g., changing M, changing catch veracity, changing catchability) would also limit the generality of conclusions. Dr. Legault noted that these factors could indeed alter the perceived utility of the IBMs, but lack of time and difficulties of designing and interpreting simulation results were problematic. As a first approximation, failures to perform adequately when a single known factor was inducing the retrospective pattern does not bode well for enhanced performance when multiple causal factors were present.

The SSC further inquired about the utility of the IBM simulation environment to address the problem of missing survey and other data in 2020. Missing surveys and incomplete catch data will severely affect the scientific bases for determination of OFLs by stock assessors and the derivation of ABCs by the SSC. Members noted that the SSC has occasionally rejected the results of peer reviews and might do so in the future. A question was raised about the potential implications of the IBM results for the upcoming Black Sea Bass assessment. Specifically, it was noted that the current spatial model for Black Sea Bass has differing reciprocal retrospective patterns for the North and South components. However, the implications of these patterns for an overall OFL estimate would require further work at the time of the assessment.

Overall, the comments were constructive and positive. The SSC again noted the valuable advances of the IBM Working Group and encouraged further work on this assessment topic and others amenable to extensive simulation testing.

Blueline Tilefish

Matt Seeley (Council staff) summarized the current status of management and the most recent AP Fishery Performance Report for Blueline Tilefish. Matt also reported on the initial catch results from the mandatory electronic reporting by anglers. This reporting system was designed to improve the quality of recreational landings data. However, reported landings to date are extremely low, and overall compliance or knowledge of the program is unknown. Advisors noted that Blueline Tilefish is often an alternative species for vessels fishing offshore for tuna. During "good" tuna years, Blueline Tilefish landings are expected to decline. The 2021 Acceptable Biological Catch (ABC) recommended in 2018 by the SSC for the Mid-Atlantic management area (north of the Virginia/North Carolina border) was **100,520 pounds (45.60 mt)**. Based on recent fishery performance, Council staff recommend *status quo* specifications for Blueline Tilefish for 2022-24. No compelling evidence from either the data update or the reports from the Advisory Panel (AP) suggested the need to change the current ABC.

The SSC expressed concern about the precision of recreational harvest estimates for Blueline Tilefish. Blueline Tilefish are infrequently observed in intercept angler interviews and have high PSEs. It was noted that it may take several years before these data can be interpreted. To

compensate for the low frequency of observations, a Delphi Process (i.e., expert judgement) conducted in 2015 has been used to impute recreational landings for private angler landings as 105.16% of charter vessel landings. The SSC expressed concerns about this methodology. The portion of the stock north of Cape Hatteras, NC is jointly managed with the South Atlantic Fishery Management Council. The MAFMC is allocated 56% of the overall ABC determined jointly by the MAFMC and SAFMC. This conclusion was based on the application of the DLMTool and the 2017 pilot tilefish survey and has not been changed since 2018.

As in 2020 when the 2021 ABC was affirmed, concerns about the stock assessment were raised. The SSC had previously applied a 150% CV to the OFL to derive the ABC. Ensuing discussions noted that the data poor condition of this stock was unlikely to change soon. Current knowledge, even in the Southeast US is inadequate to manage this stock on the quantitative basis desired. Ongoing efforts to acquire new data are commendable but at present there are no compelling arguments to change the *status quo* recommendations. The recommendations of the SSC, captured below, reflect the dilemma. Some members of the SSC expressed the concern that specifying the ABC for the 2022-2024 period effectively guarantees no additional work will be focused on this species, because the data analyses and assessment evaluation is tied directly with the need to conduct an assessment to set an ABC. But we note that essentially, very little is known about this stock and the fishery it supports, and that restricting the fishery removes the principal source of information we have on this stock. The SSC recommends review of existing data annually during the 2022-2024 specification period.

Following this general discussion, the SSC addressed the Terms of Reference for Blueline Tilefish. Responses by the SSC to the Terms of Reference (in *italics*) provided by the MAFMC are as follows:

For Blueline Tilefish, the SSC will provide a written report that identifies the following for the 2022-2024 fishing years:

1) The level of catch (in weight) associated with the ABC for each requested fishing year. If appropriate, specify interim metrics that can be examined to determine if multi-year specifications need reconsideration prior to their expiration;

The SSC recommends an ABC of 100,520 lbs (45.6 mt) for the 2022-2024 fishing years. This recommendation is the same as for 2019-2021, because there is no updated information on stock size, productivity, or stock structure to update the OFL. The SSC applied an OFL CV of 150% to arrive at this ABC in 2018, based on a data-limited assessment method using data through 2015.

The SSC notes that a new stock assessment is not scheduled until 2024, so the lack of information for establishing ABC is likely to continue into the 2025 fishing year.

There is considerable uncertainty in the assumptions underlying recreational catch estimates, and further uncertainty in 2020 data arising from pandemic impacts. In addition, commercial catch and value have increased since 2014, with an overage in 2020.

Interim metrics: The SSC will review the following information in 2022 and 2023 to determine whether the ABC specifications should change: (1) any regulatory changes and how they may have

altered fishery performance; (2) total catch by fishery sector; (3) size distribution in the catch; (4) spatially explicit catch, including recreational; and (5) CPUE and size distributions from fishery independent surveys.

2) The most significant sources of scientific uncertainty associated with determination of the ABC;

- *The ABC is based on OFL from a data-limited assessment method using data through 2015.*
- *There is no dedicated survey and little fishery data collection in the Mid-Atlantic to evaluate "rumble strip" metrics such as changing size composition over time.*
- *The private/rental mode estimates of recreational catch are based on a Delphi method that relies on a rescaling of the charter mode landings. Decisions about which portion of the time series to use in modeling affects the CV input substantially.*
- *Scientific review of the uncertainty associated with the Delphi method in general, and how its application should be modified for changes in recreational fishing (ratio of charter to private), is lacking.*
- *The model used by the SSC to set the ABC assumes that the Blueline Tilefish stock is a single stock, but the stock in the subarea north of Cape Hatteras could not be assessed with the portion of the stock to the south due to data limitations.*
- *The DLMTool implies a great deal of uncertainty with input data and the underlying population model. For example, growth parameters used in modeling were derived from samples taken in the recreational fishery that may be from the MAFMC or SAFMC stock areas. The DLMTool may have limited accuracy even if the assumptions are met.*
- *The steepness parameter for the stock recruitment relationship was based on estimates from the SEDAR 32 assessment and the Shertzer and Conn (2012) paper, but it remains highly uncertain.*
- *The DLMTool assumes that the carrying capacity and productivity of Blueline Tilefish in waters north of Cape Hatteras is constant. It is unclear whether the spatial expansion of the fishery since its inception represents increased targeting of the fish by harvesters, increasing spatial range (and hence increasing productivity), or a shift northward in the range of the population as result of climate change.*
- *Increases in recreational catch in the Mid-Atlantic may reflect targeting of Blueline Tilefish when tuna fishing is poor.*

3) Research or monitoring recommendations that would reduce the scientific uncertainty in the ABC recommendation and/or improve an assessment;

- *Collect more data targeted directly at Blueline Tilefish in the Mid-Atlantic (e. g., similar to the 2017 longline survey). Collection of biological samples from existing research surveys, on board observers and commercial port sampling should be high priorities. Analysis of these data should also be prioritized.*
- *Consider prioritizing a new joint SEDAR and NRCC Research Track assessment prior to 2024*
- *Improve collaboration with SEFSC to ensure that information is coordinated and the full species range is covered*
- *MRIP Rare Events working group research may be able to provide assistance.*

- *Research into uncertainty related to Delphi catch estimation methods and application to recreational fisheries*
- *Improvements in the accuracy of the catch time series with improved spatial resolution would be an important enhancement to estimating ABCs in the future.*
- *Implementation of additional fishery-independent sampling will enhance understanding of the dynamics and biological characteristics of the stock and the range of management procedures that can be applied in estimating ABC.*
- *The most recent information on stock structure of Blueline Tilefish indicates a single population along the Atlantic seaboard. The level of genetic exchange estimated suggests a high degree of connectivity in the population, but it is uncertain whether this occurs through early life stage distribution or movement of adults within the population. Consequently, the potential for localized depletion of fish in specific areas is unknown and worthy of study. There is a potential to leverage work on this species if similar research is conducted on Golden Tilefish.*
- *The selectivity of the commercial fishery in the northern part of the range needs to be determined.*
- *No age data are used in the current assessment because of uncertainty in age determination. Research into the reliability of aging and determination of growth parameters would provide additional approaches to assessing the stock and should be a high research priority well in advance of future assessments.*
- *There are dynamic non-equilibrium methods that are not yet in DLMTool that may be more appropriate and should be investigated.*

4) The materials considered by the SSC in reaching its recommendations. All of these documents are available at https://www.mafmc.org/ssc-meetings/2021/march-9-10;

- *Staff Memo: 2022-2024 Blueline Tilefish Specifications*
- *2021 Blueline Tilefish Advisory Panel Fishery Performance Report*
- *2021 Blueline Tilefish Fishery Information Document*
- *March 21, 2018 SSC Meeting Report*
- *Presentation/report on 2020 golden tilefish survey*
- *SEDAR and NRCC Assessment schedules*

5) A conclusion that the recommendations provided by the SSC are based on scientific information the SSC believes meets the applicable National Standard guidelines for best scientific information available.

The SSC believes that the recommendations provided are based on scientific information that meets the applicable National Standard guidelines for best scientific information available.

Golden Tilefish

José Montañez (Council Staff) provided an overview of upcoming management actions for Golden Tilefish. As part of the Council's efforts to address Executive Order 13921 on Promoting American Seafood, the Council is initiating a framework action to allow for Golden

Tilefish specifications be set for more than three years. This action will also consider changing the fishing year from November 1 – October 31 to January 1 – December 31. The first framework meeting to consider this action is scheduled for the April Council meeting A Management Track Assessment of Golden Tilefish will be conducted in June 2021. Results of this assessment will be reviewed at the July 2021 meeting of the SSC. Catch recommendations for 2022 will be revisited and ABCs for 2023-24 will be set. In addition, a Research Track Assessment is scheduled for June 2024, results of which will be used to set ABCs for 2025 to 2027.

Following José's presentation, Dr. Jill Olin (Michigan Technological University) and Paul Nitschke (NEFSC) summarized the results of a fishery-independent longline survey for Golden Tilefish in 2020. The 2020 survey built upon the success of the 2017 pilot survey but was restricted to stock regions where Golden Tilefish, rather than Blueline Tilefish, predominated.

The survey further refined the allocation of tows within strata, reduced the number of hook sizes (8/0 and 12/0), and monitored the number of baited and unbaited hooks within each set. These changes are important for improving the precision of the survey, quantifying hook selectivity, and measuring the magnitude of competition for gear, respectively. Every form of data collection imposes constraints on the subsequent uses of the data. Fixed gear in particular is strongly influenced by volitional activities of the fish such as swimming into a gill net or pot, or in the case of a longline, electing to consume the bait. To help quantify environmental factors that might affect fish behavior, the investigators included current meters on each set. The target soak time of 50 minutes was often exceeded; nearly 76% of the hooks were retrieved without fish or bait. Ten percent of the hooks were retrieved with bait and 14% of the hooks had fish. The implied competition for hooks has implications for future metrics of trend. Sets with high frequencies of baitless hooks or captures of non-target species will compromise the ability to detect abundance changes in Golden Tilefish unless adjustments are made for hook competition.

Discussions by the SSC noted the importance of estimating a domed selectivity pattern in the stock assessment. This may be driven by the selectivity of the hooks, as well as spatial or behavioral differences of larger fish. Results of the longline survey will provide experimental evidence to isolate the effects of hook selectivity. The SELECT methodology of Millar and Fryar was suggested as a possible analytical method. Collection of bottom current data may allow for estimation of likely bait plumes and help explain differences in catch rates.

The investigators and fishermen were commended by the SSC for the overall quality of the study, the improvements from the 2017 pilot study and especially for their ability to conduct a large-scale survey during the pandemic.

The SSC also received a presentation by Dr. John Wiedenmann on an ongoing MSE study of harvest control rules for Golden Tilefish. The SSC was encouraged by the initial results and suggested a number of scenarios related to recruitment that may prove useful for further modeling as well as specifications of ABCs.

2021 State of the Ecosystem Report

Dr. Sarah Gaichas presented the 2021 State of the Ecosystem Report (SOE), Mid-Atlantic edition, and a summary report of the responses by the Ecosystem Dynamics and Assessment Branch (EDAB, NEFSC) to questions and comments from both the New England and Mid-Atlantic Councils on the 2020 SOE. EDAB staff assigned the comments into 33 different categories and Dr. Gaichas focused her presentation on these items. The Covid pandemic affected all aspects of report preparation and collection of underlying data. Nonetheless NEFSC and the SOE collaborators were was able to address or begin addressing 25 of the 33 categories.

Dr. Gaichas began with a general overview of the SOE report and provided some background on its evolution since 2016. The report now features a three-page summary that includes a report card on performance metrics for management objectives, a summary of risks affecting attainment of management objectives and a graphical summary of a selected ecosystem theme. For 2021 this theme was multiple system drivers and how they can lead to regime shifts in ecosystem organization. An icon-oriented glossary was developed to facilitate communication to a broad audience. Graphs have a common structure of yearly data values, a color-coded measure of trend, and a focus on recent trends. Links for each of the graphic were provided that included the technical methods as well as the data used, allowing readers to interrogate the conclusions at varying levels of detail. The SSC greatly appreciated the thorough response to earlier concerns. Details of the presentation and discussion follow.

Comments by the SSC included consideration of aggregate metrics of overall exploitation rates, the influence of resident species moving north and immigrant species from the south, and a need to consider the entire Northwest Atlantic to address such concerns. SSC members complimented Dr, Gaichas on the quality of the report and followed up with several questions of clarification about indices. However, a common theme was an appreciation of syntheses that can translate into making decisions. In particular, a more focused effort on how broader ecosystem indices might transfer into uncertainty of OFL estimates to derive ABCs could be a valuable advance. Ideally, the linkage of SOE with the appropriate level of OFL CV could become a regular part of future analyses.

The SSC commended the responsiveness of the SOE team, including NEFSC and many partners, to various requests for improvements to the SOE. Further refinements to the SOE may be reaching the point of diminishing returns if there is not a commensurate focus on how to actually use the results of the SOE for decision making. Toward this end, the SSC was broadly supportive of establishing a working group to identify information and trends in the SOE that can be used in the setting of ABCs. The current framework for identifying the appropriate coefficient of variation (CV) of the overfishing limit (OFL) is one option. Others may exist but will need to be identified and evaluated. Ultimately, the link of SOE to management rests with critiquing indices and linking them to the general objectives of fishery management under MSA. An emphasis on the use of the SOE findings for shorter term objectives of fishery management would not detract from the use the report for longer term issues of climate change, regimes shifts, and offshore energy development.

Update on Economic Work Group Case Study

Dr. Geret DePiper summarized the activities of the Economic Work Group which will be focusing on the economic aspects of redevelopment of the Research Set Aside (RSA) Program for the MAFMC. The Work Group hopes to provide the Council with relevant information and advice on the economic factors that could improve the chances of creating an efficacious and effective RSA program. The Working Group is focusing on informing three primary facets of RSA design: 1) selecting candidate fisheries and research projects to be funded, 2) maximization of funds available for research, and 3) enforcement and monitoring of quotas.

The first task recognizes that research priorities are established by many different groups, and it will be useful for the SSC Work Group to provide the Council with advice and tools to evaluate the economic and other trade-offs for selecting an optimal suite of research projects. Included in the criteria to be evaluated is the relevancy of the intended research results to current management operational or scientific challenges, and the ability of the proposed research methods and results to satisfy scientific peer review standards.

The second task of maximizing revenue for research involves consideration of alternative mechanisms for setting up auctions and a review of past practices implemented by the MAFMC. Various approaches are being investigated including a proposed detailed examination of historic bidding process. A wide variety of considerations specific to the MAFMC will be addressed.

Enforcement and monitoring of landings by successful bidders was insufficient to prevent illegal activities by some bidders. Hence the third task of the Economic Work Group will be to investigate economic incentives around proposed approaches that may reduce the likelihood of future noncompliance.

The Economic Working Group will engage with the Council staff, the Research Steering Committee (RSC), and full Council to ensure that these activities mesh with planned activities. Moreover, it will also coordinate with the NEFSC, GARFO, and OLE to ensure that the research is directed toward critical needs and is consistent with policy and legal requirements. An RSA workshop in Fall 2021 has been proposed as a means of ensuring inclusion of a broad range of perspectives. The format for the workshop is under discussion within the RSC.

The SSC discussion addressed critical issues of how research projects would be prioritized and reviewed, and how projects could be linked to key scientific and management decisions. The SSC was supportive of the overall framework proposed by the Working Group, and encouraged further refinement of the process.

Other Business

Research Priorities. Brandon Muffley (Council Staff) presented a brief overview of a detailed update of Council Research Priorities for 2020-2024. To maintain focus on the longer-term objectives, progress on the plan is summarized annually. A total of 14 total projects were supported during 2019-2020 covering six species and all FMPs. Research priority themes include: stock assessments, discards, social and economic data, allocation, recreational data, ecosystem tools and EAFM, and climate change impacts. One of the long-term goals identified

in the 2020-2024 Research Priorities document was to conduct a more holistic review with greater consideration of research priorities from across the region. No specific decisions were requested of the SSC for 2021 but it was noted that the plan should be consulted when the SSC is developing research recommendations as part of the ABC recommendation process for each stock throughout the year. A copy of the Staff Memo may be found at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/60391e252efe9e671fd5f5be/1614356005840/b_SSC+Memo_Research+Priorities+Update_03_2021.pdf

Species Leads. The SSC assigns members to serve as species leads for each managed stock and for special programs such as ecosystem-based fishery management. Species leads are responsible for maintaining an in-depth knowledge of the stock's fishery and assessment, as well as leading discussions when the SSC sets ABCs for the species. Each stock also has a lead social scientist to address cultural and economic issues associated with the species. And updated list of species and topic responsibilities of SSC members may be found at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/604f83297fe0905ce9a4db04/1615823658515/2021+SSC+Species_Topic+Leads+Table.pdf

National Scientific Coordination Subcommittee (SCS): About every two years the Council Coordination Committee (CCC) organizes a theme-oriented meeting of all the Council's SSCs. The purpose of the meetings is to allow for the exchange of ideas and approaches across council as well as to address themes of national significance. The North Pacific Council was originally scheduled to host the seventh National meeting of the SCS in Sitka, Alaska, in August, 2020. The meeting was postponed until 2021 and will be held virtually. The themes will be application of ecosystem indicators into stock assessments, consideration of interacting species, and the assessment of species exhibiting distributional changes. Sarah Gaichas will be one of the keynote speakers. Additional planning for the meeting is now underway.

ATTACHMENT 1

Mid-Atlantic Fishery Management Council

Scientific and Statistical Committee Meeting

March 9 – 10, 2021 via Webinar

Webinar Information
(Note: same information for both days)
Link: http://mafmc.adobeconnect.com/march2021ssc/
Call-in Number: 1-800-832-0736
Access Code: 5939710#

REVISED

AGENDA

**The Recreational Reform update originally scheduled for Wednesday, March 9th has been removed from the agenda. The Economic Work Group case study was moved from Tuesday, March 8th to Wednesday, March 9th. Other agenda start/stop times were also adjusted.

Tuesday, March 9, 2021

10:00 Welcome/Overview of meeting agenda (P. Rago)

10:05 Index Based Methods and Harvest Control Rules Research Track Assessment Results (C. Legault)
- Possible implications and application for addressing missing 2020 data

12:00 Lunch

1:00 Blueline Tilefish data and fishery update; 2022-2024 ABC recommendations (M. Seeley)
- Review of staff memo and 2022-2024 ABC recommendations
- 2022-2024 SSC ABC recommendations (S. Gaichas)

3:00 Golden Tilefish science and management
- Fishery independent longline survey – 2020 results, future approaches, and potential utility for assessments (J. Olin, P. Nitschke)
- Overview of Golden Tilefish management strategy evaluation (J. Wiedenmann)

- Upcoming management actions (J. Montañez)

5:00 Adjourn

Wednesday, March 10, 2021

8:30 NEFSC 2021 Mid-Atlantic State of the Ecosystem Report (S. Gaichas)
- Update of Council's EAFM Risk Assessment

10:00 Update on Economic Work Group case study: Redevelopment of the Research Set-Aside Program (G. DePiper, J. Holzer)

11:00 Miscellaneous SSC topic updates
- Species/topic lead assignments
- Research priorities
- National SSC meeting

11:30 Other Business

12:00 Adjourn

Note: agenda topic times are approximate and subject to change

ATTACHMENT 2

MAFMC Scientific and Statistical Committee
March 10 – 11, 2021

Meeting Attendance via Webinar

Name	Affiliation
SSC Members in Attendance:	
Paul Rago (SSC Chairman)	NOAA Fisheries (retired)
Tom Miller	University of Maryland – CBL
Ed Houde	University of Maryland – CBL (emeritus)
Dave Secor	University of Maryland – CBL
John Boreman	NOAA Fisheries (retired)
Geret DePiper	NOAA Fisheries NEFSC
Lee Anderson	University of Delaware (emeritus)
Jorge Holzer	University of Maryland
Yan Jiao	Virginia Tech University
Rob Latour	Virginia Institute of Marine Science
Brian Rothschild	Univ. of Massachusetts – Dartmouth (emeritus)
Olaf Jensen	Rutgers University
Sarah Gaichas	NOAA Fisheries NEFSC
Wendy Gabriel	NOAA Fisheries NEFSC
Mike Wilberg (Vice-Chairman)	University of Maryland – CBL
Alexei Sharov	Maryland Dept. of Natural Resources
Mike Frisk	Stony Brook University
Mark Holliday	NOAA Fisheries (retired)
Cynthia Jones	Old Dominion University
Gavin Fay	U. Massachusetts—Dartmouth
Others in attendance (only includes presenters and members of public who spoke):	
Chris Legault (March 10th only)	NEFSC
John Wiedenmann (March 10th only)	Rutgers University
Jill Olin (March 10th only)	Michigan Technological University
Paul Nitschke	NEFSC
Brandon Muffley	MAFMC staff
José Montañez	MAFMC staff
Matt Seeley	MAFMC staff
James Fletcher	United National Fisherman's Assoc.
Laurie Nolan (March 10th only)	F/V Sea Capture
Jeff Kaelin	Lunds Fisheries