Mid-Atlantic Fishery Management Council
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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: March 24, 2020

To: Michael P. Luisi, Chairman, MAMFC

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

Subject: Report of the March 2020 SSC Meeting

The SSC met in Baltimore on the 9th and 10th of March, 2020 to address the following topics: (1) review relevant data for golden tilefish, specifications for 2021 fishing year and interim recommendations for 2022; (2) review relevant data on blueline tilefish and previously recommended 2021 ABC; (3) review Northeast Fisheries Science Center's (NEFSC) State of the Ecosystem (SOE) for 2019 and its responses to previous suggestions, and provide further review comments; (4) review 2020-2024 stock assessment schedule, initial topics for 2025, and implementation details of new assessment plan; (5) review Marine Recreational Information Program (MRIP) summary of design changes and calibration methods with a focus on Bluefish; (6) review implications of Council decisions to revise risk policy; and under Other Business, (7) address internal details for SSC leads on species, election of a vice-Chair, review progress of the Illex Working Group, and discuss participation in the National SSC meeting (Attachment 1).

A total of 17 SSC members participated in the meeting on March 9th and 15 members on March 10th (Attachment 2); a quorum of members was present both days. Concerns about the spread of the novel corona virus, and guidance from universities and agencies to curtail non-essential travel led a large fraction of the SSC to participate remotely via webinar. With ample support of Council staff the technical issues of off-site participation were minimal, although some sessions ran longer than anticipated.

The meeting opened with a recognition of the leadership of John Boreman who served as Chair of the SSC for over a decade and who did much to create the positive culture of scientific rigor and collegiality that characterizes the SSC. Tom Miller, who has served as vice Chair over this same period, was also recognized for his leadership and unique ability to arbitrate difficult discussions on setting ABCs. Newly appointed SSC members were also recognized: Alexei Sharov, MD DNR; Geret DePiper, NEFSC; Jorge Holzer, University of Maryland; and Gavin Fay, University of Massachusetts-Dartmouth. A large number of participants from the Council, Council staff, NEFSC and GARFO staff, NMFS Headquarters staff, industry, and the general public attended the meeting either in person or remotely. Documents referenced in this report can be accessed via the SSC's meeting website (http://www.mafmc.org/ssc-meetings/2020/march-10-11).

Golden Tilefish

Jose Montañez (Council Staff) provided an overview of the current status of the stock, the fishery, and management for Golden Tilefish. A data update was provided by Paul Nitschke (NEFSC). Additional relevant information about fishery performance and past management measures was presented in the 2020 Golden Tilefish Fishery Information Document prepared by Council staff and the 2020 Fishery Performance Report developed by the Council Tilefish Advisory Panel.

Owing to the implementation of the new stock assessment review process approved by the Northeast Regional Coordinating Council (NRCC), a management track stock assessment will not be available until June 2021, at the earliest. The previous stock assessment update, conducted in 2017, provided the basis for ABCs through October 31, 2020. As a result, the SSC was asked to recommend an ABC for 2021 and an interim ABC for 2022. The interim 2022 ABC is expected to be replaced with recommended Overfishing Limits (OFL) and resultant ABCs following the June 2021 assessment update. The 2021 management track assessment would then be used to revise the interim 2022 specifications and set specifications for the 2023 and 2024 fishing seasons. The interim 2022 measures also provide a placeholder in the event that there is insufficient administrative time for Council approval and Regional Office rulemaking for the start of the 2022 fishing year (i.e., Nov. 1, 2021).

The SSC noted the difficulties of this process from the perspective of scientific uncertainty, wherein ABCs in 2022 are being set by model results from 2017. However, the expected joint availability of results from a 2021 assessment update and the 2020 cooperative fishery independent golden tilefish longline survey was reassuring to the SSC.

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 noted that this is a textbook example of an equilibrium fishery, with stable catches, high constant prices, stable seasonal supply, and low levels of discards. Past assessments have revealed that the fishery depends on the periodic recruitment of year classes. As a result, the CPUE is characterized by cycles of increasing and decreasing stanzas. Currently much of the fishery is dependent on the 2013 year class and, based on historical patterns, further increases in CPUE are expected.

Members questioned whether the observed progression of modal landings size was consistent with expected growth rates. Paul Nitschke suggested that the progression of landings by market class were in fact consistent with predicted growth rates. The AP noted the increasing presence of smaller fish in the landings, particularly during the last quarter of 2019, but their importance as evidence of improved recruitment will await the stock assessment update. Recruiting year classes take up to 4-5 years to enter the fishery so it is difficult to establish their strength before then. Model projections can be sensitive to this fact since the population is “pre-loaded” with a string of “average” year classes. To clarify, there are no routinely-collected fishery-independent measures of tilefish of any size. Fishery LPUE is used to calibrate the model, but it applies best to those size ranges that are fully available to the fishery. Smaller fish are not fully recruited and the process of recruiting into the fishery may vary by year and location. To allow for projections of future population size and landings based on the terminal year, the modeled population uses a

function of the estimated historical recruitments as a surrogate until they can be validated by the LPUE data.

Recreational landings are a small but imprecisely measured component of total removals. Intercepts of recreationally-caught Golden Tilefish are rare and PSEs often exceed 80%. Recreational fishermen landing Golden Tilefish will be required to begin reporting landings in mid-2020, so the quality of such landings is expected to improve. Staff noted that recreational landings are strongly influenced by weather conditions since the fishing takes place offshore. Moreover, fishing activity is often inversely proportional to success rates on tuna and swordfish trips; Golden Tilefish serve as an alternative target.

Questions were asked about the low level of discards. Hook size, as a means of excluding undersized fish, was suggested, but there was limited evidence of this from analyses conducted as part of the fishery independent tilefish longline survey in 2017. Moreover, all size classes of Golden Tilefish are marketable and there is also no minimum size. Full retention of landings is the norm within the fishery. High grading is not allowed.

The SSC commented on the utility of the Advisory Panel Report as a way of summarizing industry perspective and incorporating potential ecosystem effects into catch consideration. The AP noted that abundance of both Spiny and Smooth Dogfish often interfere with catches of Golden Tilefish. Poor weather was also noted as a factor influencing catch rates. Finally, it was noted that high prices of *Illex* squid as bait was leading to other cost saving measures, such as fishing closer to home ports. Collectively, these observations help integrate management of Golden Tilefish with other species managed by the Council and with state of the ecosystem observations.

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

For Golden Tilefish, the SSC will provide a written statement that identifies the following for the 2021 fishing year (November 1, 2020 – October 31, 2021) and interim 2022 fishing year:

1) *The appropriateness of the staff recommendation to implement status quo ABC specifications for the 2021 fishing season and interim status quo 2022 specifications until revised specifications can be implemented based on the results of a management track stock assessment to be completed in early/mid 2021. If status quo is inappropriate, specify an alternative ABC for 2021 and interim ABC for 2022 and provide any supporting information used to make this determination;*

The SSC reviewed the documentation prepared by MAFMC Staff, the AP, and the NEFSC.

The SSC agrees with the MAFMC Staff recommendation for *status quo* ABC in 2021 and 2022 at a level of **742 mt (1.636 million lb)**.

The SSC expressed concerns about the interim measures for 2022 with respect to their uncertainty. These positive and negative factors include:

- No major evidence commercial and recreational fisheries that stock conditions have changed substantially.
- Absence of direct evidence of new recruitment.
- An observed a decline in recreational harvest but explained by decline in effort due to weather. Overall, the Committee expressed concerns about precision of recreational catch but noted that a new recreational fishing permitting and reporting initiative may improve quality of estimates.
- CPUE in the commercial fishery has been increasing over the past 4-5 years.

2) *Provide any relevant data and/or assessment considerations for the 2021 management track assessment.*

   The SSC recommends the following factors for consideration in the 2021 management track assessment:

   - New survey results will be incorporated into assessment.
   - Use of an aggregate age length key should be reconsidered. Perhaps consider an age and length-based model. (It was noted that this often requires a full benchmark assessment.)
   - In the meantime, continue use of contemporary age length keys and enhance use, if possible.
   - Review new data on recreational data derived from mandatory permitting and reports.
   - Consider adding MRIP and recreational VTR data to assessment. Comprehensive review of all sources of estimated removals (e.g., discards, too).

Information Sources considered by the SSC (all found on the March 2020 SSC meeting page at http://www.mafmc.org/ssc-meetings/2020/march-10-11):

1. Staff Memo--Golden Tilefish Management Measures (2021 and 2022 interim)
2. Golden Tilefish, *Lopholatilus chamaeleonticeps,* data update through 2019 in the Middle Atlantic-Southern New England Region.
3. Golden Tilefish Fishery Information Document
4. Golden Tilefish Fishery Performance Report
5. Presentation by Staff

Blueline Tilefish

Matt Seeley (Council staff) summarized the current status of management and the most recent AP Fishery Performance Report for Blueline Tilefish.

The SSC expressed concern about the precision of recreational harvest estimates for blueline tilefish. Like Golden Tilefish, Blueline Tilefish are infrequently observed in intercept angler interviews and have even higher PSEs. Estimates of average weight per landed fish (3.65 lb) are based on such interviews and extensive field work by a Ph.D. student at Old Dominion

University, but concerns were expressed that this may be an underestimate given that these are often catches from vessels that were initially targeting larger tuna and billfish species. Using a Delphi Process (i.e., expert judgement) recreational landings for private angler landings are estimated as 105.16% of charter vessel landings. Large discrepancies in the 2016 estimates derived from MRIP were observed. It is expected this method will be supplanted as better MRIP information becomes available. In addition, as noted with golden tilefish, beginning in mid-2020 all private recreational vessels targeting blueline tilefish will need a permit and report all tilefish catch. This new recreational program will provide for comprehensive recreational tilefish information.

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. It was noted that the SEFSC is initiating a comprehensive longline survey in 2020 that should provide additional information on the relative abundance in both management areas.

The 2021 Acceptable Biological Catch (ABC) recommended in 2018 by the SSC for the Mid-Atlantic management area was **100,520 pounds (45.60 mt)**. Based on recent fishery performance, Council staff recommend *status quo* specifications for Blueline Tilefish for 2021. The SSC found no compelling evidence for a change. The SSC made the following recommendations:

- The SSC noted that continuation of the existing policy is appropriate given availability of data and reports of the AP.
- The SSC expressed concern about the average size used in recreational catch, noting that fishermen look for larger fish when going offshore. Uncertainty from MRIP numbers, as well as average weight observed in the longline survey, should be considered in future analyses.

Information Sources considered by the SSC: (all found on the March 2020 SSC meeting page at http://www.mafmc.org/ssc-meetings/2020/march-10-11):

1. Staff memo – Review of 2021 Blueline Tilefish measures
2. 2020 Blueline Tilefish Advisory Panel Fishery Performance Report
3. 2020 Blueline Tilefish Fishery Information Document
4. Staff presentation

2020 State of the Ecosystem Report

Sarah Gaichas presented the 2020 State of the Ecosystem Report, Mid-Atlantic edition, and a summary report of the responses by the Ecosystem Dynamics and Assessment Branch (EDAB, NEFSC) to questions and comments raised from both the New England and Mid-Atlantic Councils. Both Councils had comments and requests regarding the 2019 SOE Report. EDAB staff binned the comments into 29 different categories and Dr. Gaichas focused her presentation on these items. The SSC greatly appreciated the thorough response to earlier concerns and followed up with a detailed discussion period. Details of the presentation and discussion follow.

Dr. Gaichas began with a general overview of the SOE report and provided some background on its evolution. The report now features a pithy one-page summary of nine key ecosystem attributes and a stylized graphic featuring a research spotlight.

Requests for a "report card" and improved graphics had been addressed throughout the report. Report cards represent a synthesis of multiple indicators over space and/or time. Each indicator has an associated measure of precision that directly relates to the detection of trends and apparent interventions. SSC members noted that some changes, such as inconsistencies in timing of survey monitoring, are not easily encapsulated by design-based estimators. Model-based estimators of survey quantities (e.g., VAST model) may prove useful, but work is ongoing. Changes in underlying environmental conditions could conflate detection of trends in abundance with phenological changes.

The EDAB is beginning to include time series from NEAMAP surveys as part of its species time series. It was noted that NEAMAP (inshore) and the NEFSC bottom trawl surveys have been mostly non-overlapping since the introduction of the FSV Bigelow, but that the Albatross time series could be post stratified to reveal trends comparable current NEAMAP inshore estimates. To the extent practical, error bars are shown on indicators; however, these bars can become visually complicated. Comments about the uncertainty of commercial landings were raised, recognizing that such landings are ostensibly a census. Estimating landings uncertainty by EDAB is beyond current capabilities (e.g., this is often an enforcement issue), but inclusion of uncertainty in discards (catch = landings + discards) may be useful. It was noted that the implied uncertainty of catch in stock assessment models is given by "effective sample size." Such measures may be useful for SOE. The Population Dynamics Branch (NEFSC) has used data from at-sea observers to estimate total landings, and such an approach may ultimately provide a cross check on the census estimates. Autoregressive models are currently employed for some analyses but it was noted that more generalized ARIMA models may provide additional insights on uncertainty. In the longer term, implementation of a probability-based sampling design for port sampling may better characterize uncertainty of derived quantities like numbers landed by age group.

The SOE has attempted to link changes in fish condition factor to underlying zooplankton abundance. A Gaussian network model, used for Blue Crab in Chesapeake Bay may be useful. It was also noted that many stock assessments have highlighted decreasing weights-at-age and changes in age specific maturation rates; such changes can provide additional context for the fish condition analyses. Dr. Gaichas noted that an index of energy density of herring was currently being developed and may be available next year.

With respect to changes in primary productivity, the source of the underlying data was clarified and methods for quantifying cumulative changes were discussed. A recent paper co-authored by our newest SSC member was also noted. [Hardison, S., Perretti, C. T., DePiper, G. S., and Beet, A. 2019. A simulation study of trend detection methods for integrated ecosystem assessment. ICES Journal of Marine Science, 76: 2060–2069.]

Questions about warm core rings and cold pool phenology were addressed in separate, but related discussions. Both metrics are changing annually and the number of warm core rings on

the shelf appears to be increasing. Timing of cold pool should be carefully examined with respect to stratification and its breakdown in the fall.

Estuarine water quality monitoring is being enhanced via a partnership with the National Estuarine Research Reserve. Concerns were expressed about the difficulties of distilling metrics in areas which, by definition, change on a diel time scale. In Chesapeake Bay the extent of the hypoxic zone and TDML have been monitored successfully. Partnerships with other monitoring groups in Delaware Bay, Long Island Sound, and the NC sounds will be helpful.

A metric of primary production to support landings was developed based on general properties of trophic dynamic conversion efficiencies. Species are grouped at different trophic levels. Dr. Gaichas noted that this measure relies heavily on broad measures of trophic energy conversion efficiencies, but that the metric may have value as the fraction of primary production required by various species groups changes over time.

Both Councils have devoted considerable analyses to understand the implications of wind energy development. A habitat model used in the SOE to estimate overlap of proposed developments with fish habitats was questions by an SSC member because it relies primarily on results of bottom trawl data. Other data sources, such as VTR data, may be useful; see http://portal.midatlanticocean.org/ as an example. The SSC recommended that BOEM require collection of requisite data in the vicinity of proposed lease areas.

Along similar lines of identifying additional data streams, it was noted by the SSC that the VIMS longline shark survey might further augment the estimates from the NEFSC shark survey.

Measurement of small pelagic abundance and small fish in general (i.e., young-of-year (YOY)) were discussed next. Measures of forage fish density should also recognize species that are abundant but often poorly captured in bottom trawl surveys (especially sand lance). For YOY a wide range of state surveys have been monitoring near shore and estuarine habitats for decades.

The SSC expressed concerns about proposed measures of trawl species diversity noting that the Bigelow and Albatross nets have different selectivities for small fish and fish higher in the water column. Separate indices should be computed for each vessel-based series.

Following the specific concerns about various metrics, the SSC addressed the broader questions of how to use these data in setting ABCs within the Council's risk policy. The SSC noted that, ideally, the linkage of SOE with the appropriate level of OFL CV could become a regular part of future analyses. It was noted that understanding potential causal links (first principles) and dependencies among metrics would be an important step prior to developed aggregate measures. Stock assessments already incorporate some of these metrics, including trends in overall catch, biological factors (e.g., growth, maturation), and trends in recruitment. Determining the degree of overlap between risks incorporated into stock assessment models, with risks defined by measures apart from the model, could be a worthy topic of investigation. A suggestion was made to include such a discussion on the agenda for a future SSC meeting.

Numerous SSC members commended Dr. Gaichas's presentation and the open and transparent manner in which the SOE has evolved in response to inputs from various partners. Ultimately,

the link of SOE to management rests with linking indices to the general objectives of fishery management under MSA. Additional policy considerations, such as unmanaged forage fish, deep sea corals, and wind energy development will ultimately be added to the list of general objectives.

2020 – 2025 Stock Assessment Schedule

The SSC reviewed the proposed schedule for management and research track assessments. It was noted by MAFMC staff that the research track assessments for the next three years are fixed and unlikely to change. The SSC noted that the proposed methodological/topical reviews have a different audience than the single stock assessments. Furthermore, the SSC noted that the management track assessments are still evolving in terms of their scope and the potential consequences of status change in these types of assessments.

The SSC expressed some concerns about the scope of potential topics for the 2025 Research Track assessments. In particular, some of these topics are clearly in the realm of management strategy evaluations. Such topics have been addressed extensively in the literature. Their utility for managers and the SSC might be best served in an actual MSE evaluation rather than addressed at a theoretical level and through a research track assessment process. The SSC suggested that a focused effort on collection of information for data poor species now might be more beneficial than waiting five years to determine what the time series might be.

Marine Recreational Information Program (MRIP) Q&A

John Foster and Rob Andrews from the NOAA Fisheries Office of Science and Technology (S&T) gave a detailed four-part presentation on the: (1) statistical basis of the revised MRIP survey of fishing effort: (2) overall survey design and estimation methods: and (3) methods used to calibrate the historical data to current estimates. The latter task is essential for stock assessments, wherein an accurate and consistent estimate of removals is a prerequisite. Finally, (4) Dr. Foster presented an in-depth analysis of how the revisions affected the catch estimates for Bluefish. The presentation was requested by the SSC and motivated by apparent contrasts in the updated assessments for Summer Flounder, Black Sea Bass, and Bluefish in 2019. Specifically, the trend comparisons between old and recalibrated values appeared to be less dramatic than those observed for the other species. The presentations were well attended on the webinar.

Due to the complex technical nature of the presentations, questions from the onsite participants and SSC members on the webinar were allowed after each section. The number and extent of the questions led to the meeting running longer than expected.

Part 1

Rob Andrews began with a detailed overview of the differences between the Coastal Household Telephone Survey (CHTS) and the new Fishery Effort Survey (FES). These measures of effort are used to scale results angler intercept surveys to total catch. The CHTS was known to be a biased estimator of fishing effort for a variety of reasons, most notably due to the increasing use of cell phones rather than land lines. Contemporary FES estimates of fishing effort were three to five times higher than CHTS estimates for private-boat and shore-based fishing modes.

However, these ratios were likely much smaller prior to introduction of cell phones and caller ID. Comparisons also revealed a more persistent source of bias known as the "gatekeeper" effect, where the person most likely to answer the phone may not have been the most knowledgeable about the household's actual fishing activity. Finally, comparisons revealed that households with landlines were significantly older and had fewer children than households with cell phones only. Collectively these trends and large differences mandated change to the CHTS.

During the presentation it was noted that some fishing effort is difficult to actually observe because it takes place on, or departs from private docks. The SSC followed up on the issue of "hidden" effort requesting clarification of the term. MRIP staff noted that although it is hidden, it is measured in the FES. Another question concerned the potential for a "gatekeeper" effect in the FES. While such potential exists, it was considered to be lower than that in the CHTS because the mail survey is more likely to be read by a larger number of household members and because there are several follow-up letters. Several questions expressed concerns about associated economic trends, and their utility for assessing time varying bias in the CHTS.

Part 2

John Foster led this discussion on the statistical basis of the Access Point Angler Intercept Program (APAIS). This survey provides a spatially-distributed estimate of angler catch rates in six two-month waves and three angler fishing modes (shore, private boat, party charter). The overall survey is a complex stratified clustered multistage design. A primary focus of this survey is estimation of the probability of inclusion of the Primary Stage Unit (PSU). Historically, these inclusion probabilities were either imprecisely estimated or not applied properly in the estimation process. There was some effect on the mean, but a greater influence on the variance of the estimates. From 2004 onward it was possible to revise the estimators to include the new information. Prior to 2004 the information was insufficient to apply the corrections.

Part 3

The improved methodologies in the FES and APAIS unquestionably led to more accurate estimates of recreational landings. However, this begs the question of how to utilize the historical information. Calibration approaches were developed for FES and APAIS by a team of statistical consultants. The methodologies were reviewed by panels from National Research Council and the American Statistical Association, and two independent peer review panels. The FES to CHTS calibration was based on a method of small area estimation known as the Fay-Herriot method. The recalibration or updating of the sampling weights in the APAIS was based on a method known as "raking," which iteratively reweights samples based on known marginal totals for certain domains, such as household status, kind of day (week day vs weekend), and so forth.

The joint effects of these calibrations led to larger differences in the shore mode estimates (~3-4X) for Bluefish, Black Sea Bass, and Summer Flounder. In the private boat mode, increases were between 1.5 and 2X. The largest fraction of these changes was due to the change in estimated fishing effort.

Since the relative proportions of landings by mode varies by species, one would not expect the changes to be uniform across species.

Part 4

John Foster guided the SSC through a stepwise deconstruction of these effects on recreational catch estimates for Bluefish. The purpose was to illustrate procedures that could be used by stock assessment scientists and reviewers to identify potential causes for differences between MRFSS and MRIP estimates. Bluefish recreational catches were summarized three ways: 1) uncalibrated series "BASE;" 2) adjusted for APAIS calibration only "ACAL;" and 3) fully adjusted for APAIS and FES calibration "FCAL." Comparisons revealed relatively close agreement between the BASE and ACAL series with slight differences in relative variability. Catches prior to 1990 exhibited higher levels of variation all series. ACAL series were typically higher than BASE and had higher variation, presumably by the improved weighting in the ACAL series. In contrast, the FCAL series was consistently higher that the ACAL and BASE series. Moreover, the series divergence increased beginning about 2005 when cell phone usage began to increase significantly in US households. To better see the joint and single effects, times series were standardized to their means.

Importantly, the joint effects of the calibration factors can be compared to the base estimates by using the old MRFSS methods. Since most of the changes in scale of changes are induced by the FES calibration, the effects of the APAIS change alone are relatively minor, on an annual basis at the regional level. This does not preclude, however, larger changes within smaller spatial or temporal units. John Foster indicated that the software he developed for the presentation could be modified by users to interrogate the data at finer scales if appropriate for a given stock.

The presentations generated considerable discussion by SSC members and participants. Several questions centered on the use of cell phone usage as the primary covariate for degradation of the CHTS over time. The SSC noted that it might be useful to incorporate the uncertainty in the covariate itself as part of the calibration. MRIP staff noted that many factors were considered as candidate measures, but also noted that cell phone usage had the largest impact and support from studies in other disciplines that had used but discarded random digit dialing telephone surveys.

Several times during the presentation the presenters noted that the MRIP was continuously conducting pilot surveys to address perceived needs of constituents. Many of these studies were ultimately used in the calibration and validation of the FES and APAIS. However, it was noted that at some point the utility of such studies diminishes. Moreover, continuous revisions of the MRIP estimates poses difficulties for stock assessments and for regulation. Regulations for future fisheries need to be in the same "currency" and the stock assessments that produced the OFLs.

One SSC member observed that fishery independent surveys not only collect baseline information but also serve as a platform for additional research by universities and other partners. Could such a system also be implemented in the MRIP? S&T staff suggested that this would be difficult owing to the need to adhere to a rigid probability sample design, but it may be possible on a case-by-case basis. It was also noted that, because MRIP deals with human subjects rather than fish, there is much regulatory oversight of the survey methods by OMB.

Other topics addressed by the SSC included consideration of rare events and pulse fisheries and their impacts on estimation. Specialized programs can be instituted for individual species, but one has to be careful not to distort other sampling efforts.

Later discussion focused on how the improved understanding of the calibration process would influence the SSC's choice of the OFL CV. The calibration process typically increases population scale but may also increase uncertainty. This is not universally true, since retrospective patterns in stock assessment models are often induced by a time varying pattern in a quantity thought to be estimated properly (e.g., natural mortality, discards, or landings). As an example, inclusion of the revised MRIP data reduced the retrospective pattern, and therefore the uncertainty in the summer flounder stock assessment.

The SSC thanked John Foster and Rob Andrews for their special efforts to address issues specifically of interest to the MAFMC SSC. The presentations and the webinar record of the presentations and discussion will be valuable for other analysts and SSCs.

Risk Policy Update

Council staff gave an update on changes to the risk policy that were recently recommended by the Council. The Council approved a new risk policy that was a hybrid approach to two of the alternatives considered (Alternatives 2 and 8). The new risk policy seeks to prevent stocks from being overfished by reducing the probability of overfishing as stock size falls below the target biomass, while also allowing for increased risk under higher stock biomass conditions, particularly at very high levels such as those currently found with Scup and Black Sea Bass. The Council also recommended removing the typical/atypical species distinction currently included in the risk policy. If approved by GARFO, it is anticipated the new risk policy will be implemented for the start of 2021. The 2020 management track assessments for Butterfish, Atlantic Mackerel, Surfclam, and Ocean Quahog will use the new risk policy when setting ABC recommendations. The SSC will also revisit previously approved 2021 specifications for Summer Flounder, Scup, Black Sea Bass, Bluefish, and Spiny Dogfish and re-approve 2021 ABCs utilizing the new risk policy. The SSC requested they be provided the final biological and economic management strategy evaluation (MSE) results that analyze the hybrid alternative selected by the Council (the current reports did not include this analysis since the hybrid approach selected by the Council was not specifically analyzed).

Other Business

Assessment Oversight Panel (AOP): The AOP, consisting of the chairs from the New England and Mid Atlantic SSC, a member of the ASMFC Assessment Science Committee, and the Chief of Population Dynamics Branch, met on February 25th to review the assessment plans for Management Track assessments. Specifically, the AOP reviews the scope of the updated assessments and recommends the appropriate level of external peer review. The AOP follows guidelines set by the NRCC which prescribe admissible changes for each level of external peer review. A report on the meeting is being prepared by NEFSC.

National Scientific Coordination Subcommittee (SCS): 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 will host the seventh National meeting of the SCS in Sitka, Alaska, August 4-6, 2020. 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. Travel for two to three non-federal individuals from each SSC will be supported by the CCC. Regional case studies for the various themes have been solicited. A list of representatives from the MAFMC SSC will be developed over the next month.

Illex Working Group review of progress: The Working Group has been meeting via conference call every two weeks since late November to review progress on a list of nine short-term tasks. These tasks have included detailed analyses of fisheries CPUE data from VTR and real-time weekly monitoring, spatial patterns evinced in VMS data, estimation of *Illex* habitat, potential magnitude of fishing mortality, analyses of size frequency from industry supplied data, and methods for detecting changes in fishing patterns in real time. Working papers will be developed and delivered to the SSC in advance of its May meeting. A full day of this SSC meeting may be devoted to consideration of the Working Group reports and making *Illex* ABC recommendations.

Election of Vice Chair: After more than a decade of faithful service, Tom Miller is stepping down as Vice Chair of the SSC. No amount of fiscal or physical persuasion has been sufficient to reverse his decision. The SSC will be electing a new Vice Chair in May.

Species Leads. The SSC assigns members to serve as species leads for each stock 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. A list of current species leads will be circulated and opportunities for swapping among SSC members will be offered. Each stock also has a lead social scientist to address cultural and economic issues associated with the species.

ATTACHMENT 1

Mid-Atlantic Fishery Management Council

Scientific and Statistical Committee Meeting

March 10 – 11, 2020

Royal Sonesta Harbor Place

550 Light Street, Baltimore, MD, 21202

AGENDA

Tuesday, March 10, 2020

1:00 Welcome/Overview of meeting agenda (P. Rago)

1:10 Golden Tilefish ABC specifications for the 2021 fishing year and interim 2022 specifications (J. Montañez)
- Review of staff memo and 2021 and 2022 ABC recommendations
- SSC 2021 and interim 2022 Golden Tilefish ABC recommendations

2:30 Blueline tilefish data and fishery update; review of previously recommended 2021 ABC (M. Seeley)

3:30 NEFSC 2020 Mid-Atlantic State of the Ecosystem Report (S. Gaichas)
- Update of Council's EAFM Risk Assessment
- Update on EAFM summer flounder conceptual model and management strategy evaluation

5:00 2020-2024 stock assessment schedule and updates (Rago/Muffley)

5:30 Adjourn

Wednesday, March 11, 2020

8:30 Marine Recreational Information Program (MRIP) question and answer session
- Review and discussion on response to SSC questions (MRIP staff)
- Open Q&A

11:00 Update on changes to the Council risk policy (Muffley)

11:45 Other business

- *Illex* workgroup update

12:30 Adjourn

ATTACHMENT 2

MAFMC Scientific and Statistical Committee
March 10 – 11, 2020

Meeting Attendance

Name	Affiliation
SSC Members in Attendance:	
Paul Rago (SSC Chairman)	NOAA Fisheries (retired)
Tom Miller (SSC Vice-Chairman, via webinar)	University of Maryland – CBL
Ed Houde (via webinar)	University of Maryland – CBL (emeritus)
Dave Secor (via webinar, March 10th only)	University of Maryland – CBL
John Boreman (via webinar)	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	VIMS
Brian Rothschild (via webinar, March 10th only)	Univ. of Massachusetts – Dartmouth (emeritus)
Olaf Jensen (via webinar)	Rutgers University
Sarah Gaichas	NOAA Fisheries NEFSC
Mike Wilberg (via webinar)	University of Maryland – CBL
Alexei Sharov	Maryland Dept. of Natural Resources
Mike Frisk (via webinar)	Stony Brook University
Mark Holliday (via webinar)	NOAA Fisheries (retired)
Others in attendance:	
José Montañez	MAFMC staff
Matt Seeley (March 10th only)	MAFMC staff
Brandon Muffley	MAFMC staff
G. Warren Elliott	MAFMC Vice-Chair
Paul Nitschke (via webinar, March 10th only)	NOAA Fisheries NEFSC
Rob Andrews	NOAA Fisheries – MRIP
John Foster	NOAA Fisheries – MRIP
Greg DiDomenico	GSSA
Megan Lapp	SeaFreeze
Dave Bard	NOAA Fisheries – MRIP
Scott Ward	Fifth Estate Communications
Catherine Kriksten	NOAA Fisheries – MRIP
Katherine Popacostas	NOAA Fisheries - MRIP