Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

M E M O R A N D U M

Date: 25 February 2019

To: Michael P. Luisi, Chairman, MAFMC

From: John Boreman, Ph.D., Chair, MAFMC Scientific and Statistical Committee

Subject: Report of the February 2019 SSC Webinar

The SSC met via webinar on the 21st of February 2019 primarily to address two topics: (1) review 2020 interim ABC specifications for Scup, Black Sea Bass, and Bluefish; and (2) develop ABC recommendations for Summer Flounder for the 2019-2021 fishing years (Attachment 1). An agenda topic originally scheduled for the meeting (Update on Northeast Trawl Advisory Panel Activities) was postponed until the March 2019 SSC meeting.

A total of 14 SSC members participated in the webinar (Attachment 2), which constituted a quorum. Also participating, in addition to yourself, were MAFMC members and staff, NEFSC staff, GARFO staff, ASMFC staff, and representatives from the fishing industry. Documents referenced in the report can be accessed via the SSC's meeting website (http://www.mafmc.org/ssc-meetings/2019/february-21).

Scup, Black Sea Bass, and Bluefish

Matt Seeley (MAFMC staff) presented an overview of the need for interim ABCs for Scup, Black Sea Bass, and Bluefish for 2020, as there are currently no catch or landings limits in place; ABCs, commercial quotas, and recreational harvest limits (RHLs) for these species do not roll over from one year to the next. The MAFMC and ASMFC plan to set 2020 specifications in October 2019, based on the results of the July 2019 operational assessment updates and September 2019 Scientific and Statistical Committee (SSC) recommendations; however, there will be insufficient time for rulemaking to ensure that 2020 catch and landings limits are in place by 1 January 2020. MAFMC staff have recommended temporary catch and landings limits to be implemented for the first few months of 2020, which will be replaced as soon as possible with updated measures based on the operational assessment updates, SSC recommendations, and MAFMC/ASMFC decisions.

The SSC was asked by the MAFMC to review the staff recommendations for interim ABCs for the 2020 fishing year. Specifically, the SSC was provided with the following term of reference:

For Scup, Black Sea Bass and Bluefish, the SSC will provide a written statement that identifies the following for the 2020 fishing year:

1) The appropriateness of the staff recommendation to implement interim status quo ABC specifications for early 2020 until revised specifications can be implemented based on the MRIP Operational Assessments to be completed later in 2019. If status quo is inappropriate, specify an alternative interim ABC and provide any supporting information used to make this determination.

> The SSC concurs with the MAFMC staff recommendation to implement *status quo* ABC specifications for early 2020 until revised specifications can be implemented.

Additional comments: The SSC was informed that the *status quo* 2019 ABC specification for Black Sea Bass is not the same one recommended by the SSC at its July 2018 meeting. That recommendation, endorsed by the MAFMC at its August 2018 meeting, was eventually replaced with an ABC specification for the 2019 fishing year that is equivalent to the SSC recommendation for the 2018 fishing year. This decision was made by GARFO, in consultation with NEFSC scientists, based on new analyses that indicated that the 2015 year class of Black Sea Bass has a high probability of being above average. The SSC was not consulted because of the short rulemaking deadline to implement the 2019 specifications. The topic of SSC consultation will be discussed at the March 2019 SSC meeting with the intent of developing a recommendation as to how the SSC can be included in the decision process in a timely and efficient manner should this situation re-occur.

Summer Flounder

Mark Terceiro (NEFSC lead stock assessment scientist for Summer Flounder) presented a detailed summary of the most recent benchmark assessment (SAW-66). He described the data sets used in the assessment, the process for selection of a base model, assumptions used in the model and associated sensitivity analyses, model output, and stock biomass projections based on model runs under different assumptions regarding recruitment and management scenarios. Rob Latour (SSC member) then summarized the findings of the SARC Review Panel, which he chaired. The Panel concluded that the Working Group that prepared the SAW-66 assessment had reasonably and satisfactorily completed its tasks. Estimates of recreational catch came from newly calibrated MRIP time-series that reflected a revision of both the intercept and effort surveys. R/V Bigelow indices take account of trawl efficiency estimates at length from 'sweep-study' experiments. No factor ("driver") was identified as strongly influencing the spatial shift in spawner biomass or the level of recruitment.

The SAW-66 assessment shows that current mortality from all sources is greater than recent recruitment inputs to the stock, which has resulted in a declining stock trend in recent years. Both the Working Group and SARC Review Panel concluded that the stock is currently not overfished and overfishing was not occurring in 2017 relative to the new biological reference points from the assessment. The fishing mortality rate (F) was 0.334 in 2017, 75% of the F_{MSY} proxy = $F_{35\%}$ = 0.448. Spawning stock biomass (SSB) in 2017 was estimated to be 44,552 mt,

78% of the SSB_{MSY} target proxy = $SSB_{35\%}$ = 57,159 mt, and 56% above the 2018 SSB_{MSY} threshold proxy = ½ $SSB_{35\%}$ = 28,580 mt.

The SSC concurs with the findings of the SAW-66 Working Group and SARC Review Panel. The SSC expressed its appreciation for the amount of work that went into the SAW-66 assessment, and the thoroughness of the analyses performed. Use of multiple data sets for key biological parameters such as recruitment, analyses of alternative models and model configurations, and sensitivity analyses of key assumptions all contributed to the quality of the assessment.

The SSC was asked by the MAFMC to recommend two alternative ABCs based on the SAW-66 assessment: ABCs for 2019-2021 fishing years derived by the "typical" approach resulting in ABCs varying each year, and a constant ABC for all three fishing years derived by averaging the three ABCs resulting from the "typical" approach. Neither the NEFSC nor the SSC had an algorithm available for calculating the 2019-2021 P* values for the latter alternative, but concluded that the values should remain less than 0.50 in each year, and less than 0.40 across all three years, which is consistent with the MAFMC's risk policy. MAFMC staff will work with SSC members and NEFSC staff to develop an algorithm for estimating P* under the constant ABC scenario in order to have P* values ready for upcoming ABC determinations, since a constant ABC alternative will likely become a regular request from the MAFMC in the future.

Responses by the SSC to the MAFMC terms of reference (*in italics*) are as follows.

For Summer Flounder, the SSC will provide a written report that identifies the following for the 2019-2021 fishing years:

1. The level of uncertainty that the SSC deems most appropriate for the information content of the most recent stock assessment, based on criteria listed in the Omnibus Amendment.

> The approach to estimating uncertainty in the OFL has not changed since the previous benchmark (SAW/SARC 57). Accordingly, the SSC maintains its determination that the assessment should be considered an "SSC-modified OFL" status.

2. For the approaches identified in TOR 3 below, if possible, the level of catch (in weight) associated with the overfishing limits (OFL) based on the maximum fishing mortality rate threshold or, if appropriate, an OFL proxy.

> The SSC accepts the OFL proxy ($F_{35\%}$ = 0.45) used in the assessment. The SSC recommends the use of the most recent 7-year recruitment series for OFL projections, because near-term future conditions are more likely to reflect recent recruitment patterns than those in the entire 36-year time series.

Year	OFL (mt)
2019	13,609
2020	14,226
2021	14,496

For a constant ABC approach derived from the average 2019-2021 ABCs, OFLs will deviate from those derived under the current P* control rule. In this case, the OFLs under the constant ABC control rule are expected to be consistent with the Council's P* criteria.

3. The level of catch (in weight) and the probability of overfishing associated with the acceptable biological catch (ABC) for the stock including: 1) the typical approach of varying ABCs in each year, and 2) a constant ABC approach derived from the average 2019-2021 ABCs. Specify the number of fishing years for which the ABCs apply and, if possible, interim metrics that can be examined to determine if multi-year specifications need reconsideration prior to their expiration.

The SSC continues to use the 60% OFL CV, which is also MAFMC staff's recommendation, and concurs with MAFMC staff's justification: (1) the latest benchmark assessment did not result in major changes to the quality of the data and model that the SSC has previously determined to meet the criteria for a 60% CV; (2) the Summer Flounder assessment continues to be a data rich assessment with many fishery independent surveys incorporated and with relatively good precision of the fishery dependent data; (3) several different models and model configurations were considered and evaluated by SAW-66, most of which showed similar stock trends and stock status; and (4) no major persistent retrospective patterns were identified in the most recent model. Significant improvements in quality of data and exhaustive investigations of alternate model structures affirm the specification of the 60% OFL CV by the SSC.

Implementing the Council's risk policy based on a lognormal distribution with a CV of 60% around the OFL, and no additional buffer to account for the atypical life history, the SSC recommends two alternative sets of ABCs for the next three fishing years. Under an annually varying ABC scenario, the ABCs are:

Year	ABC (mt)	P*
2019	10,667	0.330
2020	11,559	0.354
2021	11,837	0.357

Under a fixed ABC scenario, the average 2019-2021 ABC is 11,354 mt. Preliminary calculations indicate that it is highly unlikely this value would violate the Council's risk policy of average P* not greater than 0.4, and no individual P* greater than 0.5.

Once a harvest policy is selected, it should be sustained for the three-year period, because each scenario is based on different risk policies.

Interim metrics include NMFS bottom trawl survey indices (relative abundance, weigh-at-length, length-at-age, if available) and catch levels.

4. The most significant sources of scientific uncertainty associated with determination of OFL and ABC.

- Changes in life history are apparent in the population; for example, declining growth rates.
- Potential changes in productivity of the stock, which may affect estimates of biological reference points. Changes in size-at-age, growth, and recruitment may be environmentally mediated, but mechanisms are unknown.
- Potential changes in availability of fish to some surveys and to the fishery as a result of changes in the distribution of the population.

5. Ecosystem considerations accounted for in the stock assessment, and any additional ecosystem considerations that the SSC considered in selecting the ABC, including the basis for those additional considerations.

No specific additional ecosystem information was used by the SSC for consideration in forming its ABC recommendation. The assessment reviewed potential causal factors for changes in distribution or growth rates, but none were identified as significant.

6. Prioritized research or monitoring recommendations that would reduce the scientific uncertainty in the ABC recommendations and/or improve the assessment level.

The SSC endorses the research recommendations provided in the SAW-66 assessment report.

The SSC also recommends that research should be conducted to:

- Understand the objectives and performance measures for the fishery from a socio-economic perspective, to evaluate the balance of costs and benefits of ABC specifications;
- Evaluate the causes of decreased recruitment and changes in the recruit per spawner relationship in recent years;
- Evaluate uncertainties in biomass to determine potential modifications to the OFL CV employed;
- Evaluate fully the sex and size distributions of landed and discarded fish in the Summer Flounder fisheries;
- Evaluate the effects of past and possible future changes to size regulations on retention and selectivity in stock assessments and projections;
- Incorporate sex-specific differences in size-at-age into the stock assessment through model structures as well as data streams;
- Validate the otolith-based age determination; and
- Further develop understanding of effects of ecosystem changes (e.g., temperature, trophic structure changes) on population dynamics.

7. The materials considered in reaching its recommendations.

- Staff Memo: 2019-2021 Summer Flounder ABC recommendations
- SAW/SARC 66 Assessment Summary Report
- Revised stock projections as of 1/31/19
- Full Summer Flounder Assessment Document – Draft for Peer Review
- SAW/SARC 66 Peer Review Panel Summary Report
- SAW/SARC 66 Review Panelist Reports
    - Panelist report – Casey
    - Panelist report – Cook
    - Panelist report – Jiao
- Working Papers and Background Papers available for SAW/SARC review

These documents can be accessed through the SSC meeting website (http://www.mafmc.org/ssc-meetings/2019/february-21).

8. 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.

Additional comments: There are two separate but related issues that need to be further addressed in the process of asking the SSC to specify constant multi-year ABCs: 1) a sound scientific socioeconomic basis for choosing constant versus varying catches; and 2) the appropriate linkage between ABC and ACL setting in determining what the constant catches should be.

The MAFMC's decision to adopt either a three-year varying or a three-year average ABC for the 2019-2021 Summer Flounder fishery would benefit by being science-based, using the best scientific data available, and relying on peer-reviewed science where available. The MAFMC could consider, for example: the impact of a 53 percent versus 71 percent increase in catch on commercial prices and recreational consumer surplus; the effect on supply and distribution of Summer Flounder catch and competing products, by port, gear, state; and, changes to the net economic benefits (higher or lower) over the three years.

The NEFSC Social Sciences Branch and the SSC each have a role here. For the SSC, the Magnuson Act specifies that "...each Scientific and Statistical Committee shall provide its Council ongoing scientific advice for fishery management decisions, including recommendations on ... social and economic impacts of management measures." Since the final rule implementing the Omnibus ABC Framework Adjustment was passed on 11 April 2018, the SSC has been allowed to specify constant multi-year ABCs if the average of the probabilities of overfishing meet the MAFMC's risk policy goals and if the resulting ABC always results in less than a 50% probability of overfishing in any one year. The SSC could recommend both variable and averaged ABCs so that the MAFMC can select their preferred approach based on their policy goals.

While this rulemaking allows the SSC to specify "multiple" ABCs, it conflates the specification of one acceptable biological level of harvest with alternative harvest strategies inside the ABC-setting process to specify multiple ABCs, as seen in Summer Flounder, and previously in Atlantic Mackerel. This scenario creates a lot of tension that could be avoided if the setting of constant harvest and rebuilding strategies could be shifted to the MAFMC's Annual Catch Limit setting process.

In conclusion, the SSC's ABC-setting role should be solely for choosing the acceptable biological catch, and alternative harvest scenarios of the Council get handled under the ACL-setting process. An allied, but currently unused role for the SSC should be adopted that allows the SSC to provide advice and recommendations related to social and economic impacts of fishery management measures that include alternative harvest strategies like constant catch.

c: SSC Members, Warren Elliott, Chris Moore, Brandon Muffley, Kiley Dancy, Matt Seeley, Julia Beaty, Mark Terceiro, Gary Shepherd, Jan Saunders

Attachment 1

Mid-Atlantic Fishery Management Council

Scientific and Statistical Committee Meeting

February 21, 2019 Webinar

AGENDA

Thursday, February 21, 2019

10:00 Welcome/Overview of meeting agenda (J. Boreman)

10:10 Review 2020 interim *status quo* ABC specifications for scup, black sea bass and bluefish (Council staff)

10:45 Overview of SAW/SARC 66 Summer Flounder Assessment (M. Terceiro/R. Latour)

12:00 Review of staff memo and 2019-2021 ABC recommendations (K. Dancy)

12:30 Lunch

1:30 SSC 2019-2021 Summer Flounder ABC Recommendations (M. Wilberg)

3:30 Update on Northeast Trawl Advisory Panel activities (W. Gabriel)

4:00 Other business, if needed

4:15 Adjourn

Attachment 2

MAFMC Scientific and Statistical Committee
21 February 2019
Webinar

Meeting Attendance

Name	Affiliation
SSC Members in Attendance:	
John Boreman (SSC Chairman)	NC State University
Tom Miller (SSC Vice-Chairman)	University of Maryland – CBL
Ed Houde	University of Maryland – CBL (retired)
Mike Wilberg	University of Maryland – CBL
Dave Secor	University of Maryland – CBL
Paul Rago	NMFS Fisheries (retired)
Doug Lipton	NMFS
Wendy Gabriel	NMFS Northeast Fisheries Science Center
Lee Anderson	University of Delaware (emeritus)
Mark Holliday	NMFS (retired)
Yan Jiao	Virginia Tech University
Mike Frisk	Stony Brook University
Cynthia Jones	Old Dominion University
Rob Latour	VIMS
Others in attendance:	
Kiley Dancy	MAFMC staff
Karson Coutre	MAFMC staff
Julia Beaty	MAFMC staff
Matt Seeley	MAFMC staff
Brandon Muffley	MAFMC staff
Mark Terceiro	NMFS NEFSC
Gary Shepherd	NMFS NEFSC
Mike Luisi	MAFMC Chair
Warren Elliott	MAFMC Vice-Chair
Kirby Rootes-Murdy	ASMFC
Caitlin Starks	ASMFC
Toni Kerns	ASMFC
Jeff Kipp	ASMFC
Emily Gilbert	NMFS GARFO
Jeff Kaelin	Lund's Fisheries
Greg DiDomenico	GSSA
James Fletcher	United National Fisherman's Association
Steve EC Newellman	Fishing United
Jason McNamee	RI DFW
Greg Wojcik	CT DEP
Buddy Siegel	