SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SCIENTIFIC AND STATISTICAL COMMITTEE

SSC Meeting Report

FINAL

July 27, 2023

Via Webinar

VERSION
FINAL
8/22/23

CONTENTS

DOCUMENTS

**Indicates materials not available for briefing book at time of posting. These materials will be added to the recent materials section when available.*

TABLES

SAFMC PUBLIC COMMENT PROCESS

Written comment:

Written comment on SSC agenda topics is provided to the Committee through an online form, similar to all other Council briefing materials. Written comment can be submitted at this link. For this meeting, the deadline for submission of written comment is 9:00 a.m., July 27, 2023.

Verbal comment:

Two opportunities for comment on agenda items will be provided at set times during SSC meetings. The first will be at the beginning of the meeting, and the second near the conclusion. Those wishing to comment should indicate such in the manner requested by the Chair, who will then recognize individuals to provide comment.

An opportunity for comment on specific agenda items will also be provided as each item comes up for discussion. Comments will be taken after all the initial presentations are given and questions from the SSC are answered, but before the SSC starts making recommendations to address the action items. As before, those wishing to comment should indicate such in the manner requested by the Chair, who will then recognize individuals to provide comment. All comments are part of the record of the meeting.

Meeting Format:

This meeting will be held via webinar. Online registration for the meeting can be found at the Council's website: https://safmc.net/events/july-2023-ssc-meeting/

1. INTRODUCTIONS

1.1 Documents

Attachment 1a. SSC July 2023 Agenda
Attachment 1b. Minutes from the April 2023 meeting

1.2 Action

- Introductions and new member appointments.
- Review and approve agenda. *Agenda Approved*
- Approve minutes from April meeting. *Minutes Approved*

2. PUBLIC COMMENT

The public is provided this comment period for any general comments pertaining to any items on the agenda. There will also be time provided for public comment during each specific agenda item as they are discussed. Those wishing to make comment should indicate their desire to do so to the Committee Chair.

No public comments.

3. SEDAR 76: BLACK SEA BASS OPERATIONAL ASSESSMENT

3.1 Documents

Attachment 3a. Black Sea Bass Projections Presentation
Attachment 3b. SEDAR 76 Black Sea Bass Assessment
Attachment 3c. SAFMC ABC Control Rules

3.2 Presentation

Dr. Matthew Vincent, SEFSC

3.3 Overview

The SEDAR 76 Black Sea Bass Operational Assessment was reviewed by the SSC at the April 2023 meeting. The base run estimate of terminal year (2021) spawning stock is below the MSST ($SSB_{2021}/MSST = 0.32$) indicating that the stock is overfished, and the estimated fishing rate is above F_{MSY}. The terminal estimate, which is based on a three-year geometric mean, is above F_{MSY} in the base run ($F_{2019–2021}/F_{MSY} = 2.14$). Thus, this assessment indicates that the stock is overfished and undergoing overfishing. Projections with $F = 0$ indicate that the stock could recover to its target of SSB_{MSY} within ten years if recruitment returns to its long-term average. If recruitment remains low, the stock abundance will remain low and not achieve SSB_{MSY}.

The SSC deemed the assessment consistent with best scientific information available, was suitable for providing management advice, and worked through the ABC Control Rule to determine P* and the recommended $P_{Rebuild}$. Certain model configurations were requested to be revised before recommending catch levels and rebuilding scenarios (see April SSC report).

The SSC is asked to review, discuss, and provide feedback on the approaches to used by the analyst to develop current F, fit to landings and discards, methods to calculate $F_{0.1}$, and MSY proxy.

3.4 Public Comment

3.5 Action

- Review requested changes for projections for SEDAR 76 and provide guidance on:
  - Years to calculate current F
  - Fitting to landings and discards
  - Methods to calculate $F_{0.1}$
  - MSY proxy
  - How to address changing reference points if landings and discards are separated.

- *The SEFSC asked the SSC for direction on how to proceed with the projections for SEDAR 76. The SSC did not have the time during the webinar to discuss the implications of the many decisions requested given that there were several components of the projections, which could have an impact on the assessment, that will need to be further explored. The SSC recommends forming a technical workgroup to evaluate approaches to handle harvest and dead discards when selecting proxies (e.g., maximum landings yield, maximum total yield, etc.), associated reference points, and impacts of these decisions on catch projections.*
  - *Workgroup members (SSC and SEFSC) will address the following questions, present a set of recommendations during the October SSC meeting, including preliminary OFL/ABC recommendations, with a final decision on OFL/ABC by the full SSC during a January webinar.*
  - *Provide baseline OFL/ABC for the October SSC meeting for comparison*
- *Questions from the SEFSC for the workgroup. How to Proceed?*
  1. *Are the methods for fitting to 2022 landings/discards and choice of Fcurrent for 2023-2024 appropriate?*
  2. *Is Maximum Landed Yield an acceptable proxy for MSY in this scenario or is F0.1 or Total F0.1 (and the associated SSB) more suitable?*
  3. *The proposed 75%F0.1 is not consistent with the ABC control rule. What is the P* that should be used for Black Sea Bass? (Inserted comment from SSC: "Or, should an alternative approach be generated by the SSC. If so, provide detailed recommendation.").*

4. *What should the F for the landings be set at if separating discards from landings in the projections?*
    i. *Would a scenario with landings=0 and discards at recent average level, ignoring the change in reference point be sufficient?*
5. *How should the issue of changing reference points be dealt with if we attempt to separate landings and discards?*

Table 1. Black Sea Bass Catch Level Recommendations

Criteria	**Deterministic**	**Probabilistic**
Overfished evaluation ($SSB_{2001}/MSST_{)}$	0.32	0.37
Overfishing evaluation ($F_{2019-2021}/F_{MSY}$)	2.14	2.04
MFMT (F_{MSY})	0.41	0.36
SSB_{MSY} (1E10 eggs)	407.15	481.97
MSST (1E10 eggs)	254.47	283.74
MSY (1000 lbs.)	941.37	893.45
Y at 75% F_{MSY} (1000 lbs.)	918.95	871.45
ABC Control Rule Adjustment	17.5%	
P-Star	32.5%	
SSC recommended $P_{Rebuild}$	67.5%	
M	0.375	
Generation Time	~ 6 years	

OFL RECOMMENDATIONS				
Year	Landed (lbs ww)	Discard (lbs ww)	Landed (number)	Discard (number)
2025	TBD			
2026				
2027				
2028				
2029				

ABC RECOMMENDATIONS				
Year	Landed (lbs ww)	Discard (lbs ww)	Landed (number)	Discard (number)
2025	TBD			
2026				
2027				
2028				
2029				

4. SEDAR 68OA: ATLANTIC SCAMP OPERATIONAL ASSESSMENT

4.1 Documents

Attachment 4a. Scamp/Yellowmouth Additional Forecast Scenarios
Attachment 4b. Scamp/Yellowmouth Nonstationarity in Recruitment

4.2 Presentation

Dr. Kyle Shertzer, SEFSC

4.3 Overview

The SEDAR 68OA: Scamp Operational Assessment was reviewed during the January 2023 SSC meeting where it was determined to be consistent with BSIA, used methods of addressing uncertainty that are consistent with expectations and available information, and is an adequate basis for determining stock status and supporting fishing level recommendations. The estimated spawning stock biomass (SSB) has fluctuated throughout the time series but has been declining since the mid-2000s. The terminal (2021) base-run estimate of spawning stock was near its lowest level of the time series and was well below the minimum stock size threshold (MSST) ($SSB_{2021}/MSST = 0.27$), as was the median estimate ($SSB_{2021}/MSST = 0.29$), indicating that the stock is overfished. The estimated fishing rate has fluctuated around the Maximum Fishing Mortality Threshold (MFMT, represented by $F_{40\%}$) throughout most of the assessment period, but has exceeded it only once since 2010. The terminal estimate, which is based on a three-year geometric mean, is below $F_{40\%}$ in the case of the base run ($F_{2019\text{-}2021}/F_{40\%} = 0.91$) and the median ($F_{2019\text{-}2021}/F_{40\%} = 0.81$). Thus, this assessment indicates that the stock is overfished, but is not experiencing overfishing.

The primary reason for the low stock size in the terminal year of the assessment is not fishing, but rather low recruitment. Recruitment has been lower than average since the mid-2000s, and the lowest values for the entire time series occur since 2010. The SSC determined that the assessment provides a good basis to predict future conditions and support fishing level recommendations; however, the consistently lower recruitment during the recent period (2010-2019), relative to mean recruitment for the full time series, results in substantial uncertainty in predictions of future recruitment and stock biomass.

In April 2023, the SSC recommended setting ABC to $75\%F_{40\%}$ using recent (low) recruitment for projections. They also recommended setting OFL to $F_{40\%}$ using long-term average recruitment; however, this projection was not available in April and was requested from the SEFSC for the July meeting. The SSC should review the additional rebuilding projections and make OFL recommendations in the table below. The SSC is also provided an additional presentation on nonstationarity for Scamp/ and Yellowmouth Grouper due to the difficulty in determining OFL for the stocks.

4.4 Public Comment

4.5 Action

- Review additional requested rebuilding projections and timelines.
- Review presentation regarding nonstationarity, OFL, and rebuilding schedules.
- Make OFL recommendations to complete table below.
    - *Per the SSC's catch level projections workgroup report, OFL should be based on long-term recruitment, and ABC should be based on short-term recent recruitment. The SSC supports the recommendations of this report for setting OFL for Scamp/Yellowmouth.*
    - *As proposed in the report, Tmin and Tmax would be based on the long-term R scenario.*
    - *This is consistent with the prior conclusion of no regime shift. The Klaer et al 2015 paper was used to assess if regime shift had occurred during assessment review → no regime shift*
    - *The SSC is in the process of forming a Workgroup to look at regime shifts and how best to identify their occurrence*
    - *Using different recruitment levels for OFL and ABC creates additional buffer between these two benchmarks than from P* approach alone.*
        - *This approach for setting OFL and ABC values was discussed as part of workgroup review and was accepted by the SSC.*
        - *Because of the uncertainty in recruitment and its influence on rebuilding schedule, the SSC requests an updated operational stock assessment by 2029 (at the termination of the ABC recommendations).*
    - *The SSC was reminded that accountability measures are tied to ACLs and not OFLs.*

Table 2. Scamp Catch Level Recommendations

Criteria	Deterministic	Probabilistic
Overfished evaluation ($SSB/MSST_{)}$	0.36	0.38
Overfishing evaluation ($F/F_{MSY\ proxy}$)	0.91	0.81
MFMT ($F_{MSY\ proxy}$)	0.28	0.30
SSB_{MSY} (metric tons)	1503.87	1540.65
MSST (metric tons)	801.60	801.14
MSY (1000 lbs.)	372.28	381.39
Y at 75% F_{MSY} (1000 lbs.)	344.83	353.68
ABC Control Rule Adjustment	20%	
P-Star	30%	
SSC recommended $P_{Rebuild}$	70%	
M	0.155	
Generation Time	~ 10 years	

OFL RECOMMENDATIONS

Year	Total Removals (lbs ww)	Discard (lbs ww)	Total Removals (number)	Discard (number)
2025	97,000		17,000	
2026	119,000		22,000	
2027	171,000		32,000	
2028	227,000		42,000	
2029	270,000		49,000	

ABC RECOMMENDATIONS

Year	Total Removals (lbs ww)	Discard (lbs ww)	Total Removals (number)	Discard (number)
2025	71,000		12,000	
2026	76,000		12,000	
2027	79,000		13,000	
2028	82,000		13,000	
2029	84,000		14,000	

**Note: Total Removals = Landings plus dead discards*

5. GREATER AMBERJACK ESTIMATION PROJECT UPDATE

5.1 Documents

Attachment 5a. Presentation of Greater Amberjack Estimation Project
Attachment 5b. Greater Amberjack project narrative

5.2 Presentation

Dr. Sean Powers and Dr. Mark Albins, University of South Alabama, and Dr. John Hoenig, Virginia Institute of Marine Science

5.3 Overview

The overarching goal of the proposed research initiative is to provide an independent estimate of Greater Amberjack abundance in the US Gulf GoM and SA in waters out to 150 m in depth. The independent estimate of abundance derived from the proposed research will be compared with the estimates derived from the stock assessment models used by NOAA Fisheries (Stock Synthesis, Beaufort Assessment Model), allowing validation, calibration, and further refinement of the model. To accomplish this goal, an expansive sampling program focused on providing a rigorous estimate of Age 1+ Greater Amberjack that can be separated into length bins and stratified by region and habitat type. The sampling design will be informed by a comprehensive data synthesis (fisheries-dependent and independent data, previous habitat mapping and traditional fishermen knowledge). Sampling approaches will be refined through intensive calibration studies. Key assumptions of our sampling design and approaches as well as supportive information will be collected through a series of companion studies. These supportive projects include studies that are designed to examine unresolved issues associated with our understanding of movement and connectivity of Greater Amberjack in the southeastern U.S.

5.4 Public Comment

5.5 Action

- Comment and provide feedback on the methods and potential uncertainties for the Greater Amberjack research project.
    - *The SSC commends the work of the project, acknowledges the magnitude of difficulty to address the objectives, and looks forward to a subsequent update on its progress.*
    - *There will be an additional calibration event scheduled for spring 2024 to address lingering uncertainties and data concerns (species ID concerns, AJ response to different sampling gear types).*
        - *The SSC requests that an update presentation be added to the October 2024 SSC meeting agenda to assess calibration experiments, refinements to the methods, preliminary abundance estimation, and modeling and data analysis.*

- *The SSC noted that a better understanding of uncharacterized bottom and other habitats has potential uses for other managed species in the region.*

6. NS1 TECHNICAL GUIDANCE MEMORANDUM

6.1 Documents

Attachment 6a. Presentation on NS1 Technical Guidance
Attachment 6b. NS1 Tech Memo

6.2 Presentation

Dr. Richard Methot, NOAA

6.3 Overview

Dr. Richard Methot, NOAA ST for Stock Assessments, will present on draft Technical Guidance for Estimating Status Determination Reference Points and their Proxies in Accordance with the National Standard 1 Guidelines. The focus of this document is on technical aspects of calculating and evaluating reference points, especially with regard to proxies for MSY quantities, data-limited approaches, and updating reference points as changes occur in prevailing biological and fishery conditions. The document has been distributed to all Councils for their comment and has been presented to the Council Coordination Committee. NMFS requests written feedback from Councils by August 31, 2023.

6.4 Public Comment

6.5 Action

- Discuss and comment on NS1 tech memo.

- *Questions from the SSC with answers from Dr. Rick Methot:*
  - *What recommendations are there for applying an SPR proxy or SPR-based approaches?*
    - *More complete MSEs to look at basis for appropriate proxies.*
  - *From top-level (national) point of view, where data are insufficient for an assessment, this can create rebuilding schedules that go unmet. Has this been occurring more frequently?*
    - *When rebuilding plans are set to 50% chance of success, this effectively means that 50% of stocks may not meet rebuilding target.*
  - *Density dependence in fish biology outside of the stock-recruit relationship has gained traction recently in other regions for setting reference points.*

        - *Currently, challenging to build DD into stock assessment models though capability does exist for certain stock assessment models. Highly dependent on what life history/biological data are available.*
    - *Changing ecosystems as an area of needed research for exploring changing stock dynamics. Are national MSE workgroups tackling this issue?*
        - *Some MSE work is underway with conversations occurring between MSE teams and stock assessment teams.*
    - *Environmental regime shifts may be occurring in SA with much lower recruitment in several fish stocks. What have been responses in other regions, and what decisions are being made to address this?*
        - *Fundamental understanding of the mechanisms of poor recruitment are incomplete, which makes it difficult to decouple the effects of environmental variation from changes in fishing effort.*
        - *Where multiple species in same complex are experiencing low recruitment, may reveal a larger environmental change, but also could be result of species all experiencing increased fishing effort.*
    - *Black sea bass landings and discards have different selectivities (decrease in landings results in increased discards). Has this occurred in other regions and what was the approach?*
        - *The SA and GOM regions have this issue and are leading the way in how to handle this in projections.*
    - *Dynamic B_0 being used in other regions. Caution should be applied as susceptible to tracking "drift"*

- *Recommendations from SSC to NOAA Fisheries on the NS1 technical document:*

    - *The SSC would like to see more developmental guidance for density-dependent forces (outside of SRR) and biological stock composition and their impacts on reference points.*
    - *Incorporating some of the figures from the powerpoint presentation into the NS1 Tech memo document will help to clarify the text.*
    - *More exploration of Dynamic B_0 approaches. In the South Atlantic, do we have the capabilities to apply this approach? Test dynamic B_0 approaches before implementation. Better define dynamic B_0 as not used previously in this region.*
    - *Poorly defined SRR and status determination criteria. Shift in how the SRR has been applied has changed over time. More in depth investigation as a workgroup is probably merited.*

7. SPANISH MACKEREL CATCH LEVEL RECOMMENDATIONS

7.1 Documents

Attachment 7a. Equilibrium Values from S78 Base Run

7.2 Presentation

Dr. Erik Williams, SEFSC

7.3 Overview

At the April 2023 SSC meeting, the SSC determined the SEDAR 78 stock assessment was sufficient for providing stock status (not overfished, not overfishing), and was also sufficient for providing catch level recommendations using model output but not projections. Significant concerns with natural mortality in the assessment persisted and was considered as justification to deviate from the ABC control rule for setting catch level recommendations. The OFL was set equal to the yield at F_{MSY} from the base model run (8.210 mp), and the ABC was set equal to 75%F_{MSY} from the base model run (8.024 mp).

A request was sent to the SEFSC for additional values (landings by number, discards by weight, and discards by number) from the SEDAR 78 Atlantic Spanish Mackerel stock assessment model that were not included in the original stock assessment report, but were computed as part of the base model run.

7.4 Public Comment

7.5 Action

- Review equilibrium values from the SEDAR 78 base stock assessment model run for Atlantic Spanish Mackerel.
  - *Equilibrium values presented in table 3 (below) are approved.*

Table 3. South Atlantic Spanish Mackerel Catch Level Recommendations

Criteria	Deterministic	Probabilistic
Overfished evaluation ($SSB_{2020}/MSST_{)}$	1.40	1.42
Overfishing evaluation ($F_{2018-2020}/F_{MSY}$)	0.77	0.74
MFMT ($F_{MSY\ proxy}$)	0.516	0.523
SSB_{MSY} (metric tons)	6406	6410
MSST (metric tons)	4804	4808
MSY (1000 lbs.)	8210	8351
Y at 75% F_{MSY} (1000 lbs.)	8024	8158
ABC Control Rule Adjustment	10%	
P-Star	40%	
M	0.35	

OFL RECOMMENDATIONS				
Year	Landed (1000 lbs ww)	Discard (1000 lbs ww)	Landed (1000's)	Discard (1000's)
2023	8,210	581	5,413	1,147
2024	8,210	581	5,413	1,147
2025	8,210	581	5,413	1,147
2026	8,210	581	5,413	1,147
2027+	8,210	581	5,413	1,147

ABC RECOMMENDATIONS				
Year	Landed (1000 lbs ww)	Discard (1000 lbs ww)	Landed (1000's)	Discard (1000's)
2023	8,024	469	4,977	916
2024	8,024	469	4,977	916
2025	8,024	469	4,977	916
2026	8,024	469	4,977	916
2027+	8,024	469	4,977	916

8. SEDAR: SCOPES OF WORK FOR 2026 ASSESSMENTS

8.1 Documents

Attachment 8a. Scopes of Work for 2026 Assessments

8.2 Presentation

Drs. Judd Curtis and Chip Collier, SAFMC Staff

8.3 Overview

The SSC is asked to review the draft scopes of work for the Snowy Grouper Operational Assessment, Spanish Mackerel Benchmark, and Dolphinfish MSE, and provide comments and feedback. This document includes the list of research recommendations from the stock assessment review and SSC reviews as well as any major uncertainties uncovered during these processes. The SSC is asked to consider these research recommendations in the formulation of the scopes of work and should discuss and provide requested model modifications appropriate for the upcoming assessments.

8.4 Public Comment

8.5 Action

- Review scopes of work and provide feedback.
  - *The SSC's feedback and comments were provided to council staff within the draft document.*

9. OTHER BUSINESS

- SSC Workgroup membership and SEDAR appointees.
- Regime shifts workgroup schedule.
- Scamp/Yellowmouth separating landings and discards
  - *The SEFSC will provide separate landings and discards for ACL tracking purposes for Scamp/Yellowmouth.*
- Red Grouper operational assessment spatial considerations
  - *Schedule webinar meeting: Thurs, Sept 7th 1-5PM*

10. PUBLIC COMMENT

The public is provided one final opportunity to comment on SSC recommendations and agenda items. Electronically submitted comments can be viewed here.

11. CONSENSUS STATEMENT AND RECOMMENDATIONS

The Committee is provided with an opportunity to review its report, final consensus statements, and final recommendations.

The Final SSC report will be provided to the Council by noon on Friday, August 18th, 2023 (approximately 3 weeks from the end of the meeting) for inclusion in the briefing book for the September Council meeting.

12. NEXT MEETINGS

12.1 Scientific and Statistical Committee Meetings

- *Half-day webinar: Thursday, Sept 7th 1-5pm*
- October 24-26, 2023 in Charleston, SC
- *One-day webinar: TBD in Jan/Feb 2024*
- April 15-16, 2024 in Charleston, SC (SEP)
- April 16-18, 2024 in Charleston, SC (SSC)

12.2 South Atlantic Fishery Management Council Meetings

- September 11-15, 2023 in Charleston, SC
- December 4-8, 2023 in Beaufort, NC

ADJOURNED AT 4:48PM