# SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

## SCIENTIFIC AND STATISTICAL COMMITTEE

# SSC MEETING REPORT

# FINAL

## Meeting via Webinar

## JANUARY 20, 2023

VERSION
FINAL
2/9/23

# CONTENTS



# FIGURES

*None*

# TABLES

# DOCUMENTS



* Indicates documents not available for the Briefing Book. These will be distributed as they become available and added to Recent Documents section of the webpage.

# 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., January 20, 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 come up for discussion. This opportunity for comment will happen after all the initial presentations are given and before the SSC starts the discussion of the agenda topic. 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.

# 1. INTRODUCTIONS

## 1.1 Documents

Attachment 1a: January 2023 Agenda
Attachment 1b: October 2022 meeting transcript

## 1.2 Action

- Introductions
- Review and Approve Agenda
  - *Revised Agenda approved.*
- Review and Approve October 2022 Meeting transcript.
  - *October meeting transcript 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 comment given.*

# 3. SEDAR 68OA: SCAMP OPERATIONAL ASSESSMENT REVIEW

## 3.1 Documents

*Attachment 3a: SEFSC Presentation for SEDAR68OA Scamp
Attachment 3b: SEDAR 68OA Scamp: Stock Assessment Report
Attachment 3c: Diagnostics of the SEDAR68OA
Attachment 3d: Terms of Reference for SEDAR68OA Scamp
Attachment 3e: SSC Oct 2021 review of the SEDAR68 Research Track
Attachment 3f: Breakout Group Assignments

## 3.2 Presentation

Dr. Kyle Shertzer, SEFSC

## 3.3 Overview

SEDAR 68 Atlantic Scamp was the first Research Track stock assessment to be conducted in the South Atlantic through the SEDAR process. This assessment was completed in Fall 2021 and reviewed by the SSC at the October 2021 meeting, where the SSC deemed this assessment best scientific information available and determined that the assessment configuration was appropriate for providing stock status and fishing level recommendations upon completion of the

Operational Assessment with an updated terminal year. During this review, the SSC made several research recommendations and guidance to the terms of reference for the Operational Assessment, and these recommendations were integrated into the assessment configuration where possible.

The SSC is asked to review, discuss, and provide feedback on SEDAR 68 Scamp Operational Assessment model configurations, projections, and uncertainties. Diagnostics for the assessment have been included as a separate document and should also be reviewed. If the assessment is determined to be suitable for providing management advice, the SSC will apply the South Atlantic Council's ABC Control Rule and make catch level recommendations.

## 3.4 Public Comment

## 3.5 Breakout Groups

## 3.6 Action

- **Review assessment**
  - Does the assessment address the ToRs to the SSCs satisfaction?
    - *Yes, the assessment addresses the terms of reference to the satisfaction of the SSC.*
  - Does the assessment represent Best Scientific Information Available?
    - *Yes, the assessment for scamp represents the best scientific information available. The SSC commends the SEFSC analysts for their comprehensive approach during this Operational Assessment. The explanations of how this OA built upon the findings from the Research Track were very thorough.*
  - Does the assessment reliably capture past trends in the fishery and population?
    - *Yes, the assessment reliably captures past trends in the fishery and population. However, the assessment results are strongly dependent on the fishery-independent index and thus estimates of stock status rely on the representativeness of the SERFS index. This is not necessarily a weakness as the SERFS index is fishery-independent and we have no reason to believe the index is not representative of trends in stock abundance.*
    - *The fishery-dependent indices (commercial and recreational) do not span the most recent years of the assessment (2010-2021) and there are no commercial age/length comps during 1992-2003; however, the assessment results appear to be robust to these data issues.*
  - Does the assessment provide a reliable, quantitative estimate of current stock status?
    - *Assessment with regard to $SSB/SSB_{MSY}$ is robust and shows clear overfished status (100% of MCBE runs indicated*

*SSB(2021)/MSST<1). Overfishing status ($F/F_{MSY}$) includes greater uncertainty; the base run indicates overfishing is not occurring in recent years (2019-2021), but approximately 30% of MCBE runs estimate that overfishing was occurring.*

- *Two key assumptions:*
  - *$F_{40\%}$ as MSY proxy → The change from $F_{30\%}$ is supported by recent literature and also aspects of scamp life history (e.g., their protogynous reproductive strategy). $F_{40\%}$ is also supported by the uncertainty in discard rates and natural mortality, similar to other members of the snapper-grouper complex.*
  - *Natural mortality (M) → uncertainties and broader ranges in M were thoroughly investigated and the M value was scaled appropriately.*

- Does the assessment provide reliable predictions of future conditions to support fishing level recommendations?
  - *Yes, 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.*

➢ **Identify, summarize, and discuss assessment uncertainties.**

- Review, summarize, and discuss the factors of this assessment that affect the reliability of estimates of stock status and fishing level recommendations.

  - *High uncertainty:*
    - *The majority of years for MRIP discard estimates had a CV>0.5, and thus were approximated using a smoothed regression approach. This level of uncertainty would affect model estimates of stock status and catch monitoring.*
    - *There are uncertainties in the species complex composition and the identification of these two species (scamp and yellowmouth grouper). The two species may have different population trends and differences in key life history traits. Combining the two species into a single complex for this assessment could bias assessment results.*
    - *Poor recruitment is a major factor determining the stock status. Due to lack of data, recruitment in the two*

*terminal years (2020 and 2021) was not estimable. Consistently low recruitment in the most recent period (2010-2019) raises questions about a possible regime shift, which was discussed in the assessment report and scored according to the Klaer et al. paper (scored as no regime shift).*

- *Medium uncertainty:*
  - *Annual MRIP landings with a CV>0.5 were replaced with the mean recreational landings from the nearest two years. Given recreational landings can be a significant portion of overall catch for this stock, this would increase assessment uncertainty and decrease reliability. For the 5 years in which the CV for landings was >0.5, appropriate methods were used to address the uncertainty.*
  - *There were no commercial discard estimates/data included for 2021; that value was approximated in the assessment using the mean discards from 2019 and 2020. This uncertainty would potentially affect the terminal year estimates.*
  - *The SERFS index has great impact on the assessment results. This is the only index that covered the recent time period showing a declining trend and a potential change point when the decline started. The assessment results are heavily reliant on this index without additional information to support the rate of decline.*

- *Low uncertainty:*
  - *Natural mortality (M) is an important source of uncertainty in general. Although overfished status was robust to a broad range of M values, overfishing status was sensitive to M values.*
  - *Overfishing status was determined by pre-defined BRP (40%SPR) instead of a stock recruitment curve used to estimate FMSY. Justification for using this proxy was based on a detailed review of scientific literature and considered the biology of scamp and yellowmouth grouper.*

- Describe the risks and consequences of the assessment uncertainties with regard to status and fishing level recommendations.
  - *See above.*

- Are methods of addressing uncertainty consistent with SSC expectations and the available information?
  - *Yes, the methods of addressing uncertainty are consistent with SSC expectations and the available information.*
- List (in order of the greatest contribution to risk and overall assessment uncertainty) and comment on the effects of those assessment factors that most contribute to risk and impact status determinations and future yield predictions.
  - *See above.*

➢ **Provide fishing level recommendations.**

- Apply the ABC control rule and complete the fishing level recommendations table.
  - *Additional projections are needed for the SSC to make ABC recommendations:*
    - *Recent low recruitment, F=0 scenario. How is SSB predicted to respond? Would it remain low or rebuild?*
      - *By reducing F to zero (with recent low recruitment), SSB does increase modestly, though not to the rebuilding benchmark.*
      - *Under this scenario, recruitment is still the driving factor with respect to the ability of the stock to rebuild.*
      - *There is potential for the stock to increase its reproductive potential under the F=0 scenario (mainly through expansion of the age structure) despite low recent recruitment and this would increase the speed of recovery.*
    - *The rebuilding schedule should be based on long-term recruitment patterns following conclusions from the Catch Level Projections workgroup report. However, near-term ABC should be determined using recent recruitment estimates.*
    - *The SSC requests the following analysis: Determine constant F that will allow the stock to rebuild within 10-year time frame assuming long-term average recruitment.*
  - *Rebuilding success will be highly reliant on recruitment returning to the long-term average. Thus, interim analysis or other methods (e.g., CVID index) for checking on stock health will be important to determine if recruitment returns to the long-term average and if the rebuilding schedule is on track, as*

*well as to further evaluate the potential that a regime shift has occurred.*

- Comment on any difficulties encountered in applying the Control Rule, including any required information that is not available.
  - *n/a*

- **Provide advice on monitoring the stock until the next assessment**
  - What indicators or metrics should be included in the SAFE Report to monitor and evaluate the stock until the next assessment? Current data will be included:
    - Total Landings relative to ABC from Amendment 29 until values from SEDAR 68 are adopted
    - Recreational (CHTS and FES values) and Commercial Landings
    - Trends in abundance included in SEDAR 68
      - *Age/Length compositions*
      - *Pre-recruit or recruit index*
      - *Compare projection of SERFS index to actual observations*
    - Economic trends
      - Recreational – MRIP Directed Trips
      - Commercial – Ex-Vessel Value
      - *Price per pound*
    - Social trends
      - Observations of Closures
      - Comments from Fishery Performance Report
    - Recent management actions
    - *Discards*
      - *Only possible from MRIP (recreational) (Need monitoring/observers for commercial)*
    - *Climate vulnerability assessment*
      - *Regime shift – continued examination in the future*
        - *Use of recent recruitment for projections*

- **Provide research recommendations and guidance on the next assessment.**
  - Review the included research recommendations and indicate those most likely to reduce risk and uncertainty in the next assessment.
    - *All research recommendations appear likely to reduce risk and uncertainty in the next assessment.*
  - Provide any additional research recommendations the SSC believes will improve future stock assessments.
    - *Investigate methods to increase precision (lower CV) of MRIP discard estimates.*

        - *Explore additional means of estimating recruitment (instead of mean recruitment or stock-recruit curve).*
    - Provide guidance on the next assessment, addressing its timing and type.
        - *Incorporate findings from CVID selectivity study.*
        - *Incorporate findings from SCDNR reproductive study for females if total spawning biomass is not used*
        - *Timing – minimum of 5 years*
            - *Examine CVID index, landings, or discards to determine if substantial changes have occurred to inform if a new assessment is warranted.*
        - *Type - Operational*

- **SSC RECOMMENDATION:**
    - *Use $F_{40\%}$ as MSY proxy for benchmarks.*
    - *Note: Landings in this assessment includes dead discards*

Table 1. Scamp Complex Catch Level Recommendations using $F_{40\%}$ as a proxy for $F_{MSY}$.

| 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 | TBD during April 2023 SSC meeting | |
| P-Star | TBD, April 2023 | |
| SSC recommended $P_{Rebuild}$ | TBD, April 2023 | |
| M | 0.155 | |

| **OFL RECOMMENDATIONS** | | | | |
|---|---|---|---|---|
| Year | Landed (lbs ww) | Discard (lbs ww) | Landed (number) | Discard (number) |
| 2023 | TBD | | | |
| 2024 | | | | |
| 2025 | | | | |
| 2026 | | | | |
| 2027 | | | | |
| **ABC RECOMMENDATIONS** | | | | |
| Year | Landed (lbs ww) | Discard (lbs ww) | Landed (number) | Discard (number) |
| 2023 | TBD | | | |
| 2024 | | | | |
| 2025 | | | | |
| 2026 | | | | |
| 2027 | | | | |

**Note: Landings includes dead discards*

## --- LUNCH BREAK ---

# 4. SPANISH MACKEREL REVISED OPERATIONAL ASSESSMENT TERMS OF REFERENCE

## 4.1 Documents

*Attachment 4a: Spanish Mackerel Summary Presentation
Attachment 4b: Revised Terms of Reference for Spanish Mackerel OA
Attachment 4c: Spanish Mackerel Workgroup Meeting Notes
Attachment 4d: Excerpts from CMP Framework Amendment 1
Attachment 4e: NOAA-NMFS Procedure 01-101-11: Procedural guidance for changing assessed stock status from known to unknown
*Attachment 4f: Setting ABCs when stock status changes

## 4.2 Presentation

Dr. Judd Curtis, SAFMC Staff

## 4.3 Overview

For the SEDAR 78 assessment, data compilation and assessment methods were guided by methodology of SEDAR 28 (2012), as well as by current SEDAR practices and recommendations by the SEDAR 28 review panel. The assessment period is 1986–2020. The base-run estimate of terminal (2020) spawning stock was above the MSST ($SSB_{2020}/MSST = 1.40$), as was the median estimate from the MCBE ($SSB_{2020}/MSST = 1.42$), indicating this stock is not overfished. The estimated fishing rate has been at or below the maximum fishing mortality threshold (MFMT), represented by $F_{MSY}$, every year except for the terminal year (2020). The terminal estimate, which is based on a three-year geometric mean, was below $F_{MSY}$ in the base run ($F_{2018–2020}/ F_{MSY} = 0.77$) and in the median of the MCBE ($F_{2018–2020}/ F_{MSY} = 0.74$). Thus, this assessment indicated that the stock is not experiencing overfishing.

The SEDAR 78 South Atlantic Spanish Mackerel operational assessment was reviewed by the SSC at their August 2022 meetings. The SSC noted several concerns with the assessment, and determined it was not suitable for providing management advice until some issues could be resolved (specifically: recreational landings, natural mortality, MCBE distributions and likelihood profiles, growth models, and steepness). This recommendation was given to the Council at the September 2022 meeting. During Council discussions, the SEFSC indicated that one of the SSC's primary concerns (the recreational landing estimates in the terminal year of the assessment) could be further investigated and adjusted. The SEFSC updated 2020 and 2021 recreational landings in the SEDAR 78 assessment model. The updated estimates had little impact on the assessment results.

To address the remaining concerns (natural mortality, MCBE distributions and likelihood profiles, growth models, and steepness), a Spanish Mackerel workgroup comprised of four SSC members, one SEFSC representative, and Council staff, was convened and tasked with further exploration and elaboration of the requested changes to the operational assessment expressed by the SSC. The workgroup distilled their findings to several key recommendations that were thought to be most feasible in terms of potential workload and timing (and potential impact on

the OA). Based on their findings, the workgroup developed terms of reference for the changes. The SSC is to review these notes and finalize the draft terms of reference generated by the workgroup before providing to the SEFSC analysts.

Lastly, the Council at their December meeting expressed their frustration with the Atlantic Spanish Mackerel Assessment (SEDAR 78) and the importance of having accurate catch level recommendations to move forward with needed management discussions. To this end, they made a motion:

MOTION: DIRECT THE SSC TO PROVIDE CATCH LEVEL RECOMMENDATIONS FOR ATLANTIC SPANISH MACKEREL AT THEIR APRIL 2023 MEETING, EITHER FROM THE UPDATED ASSESSMENT OR USING A DATA-LIMITED APPROACH.

The SSC should discuss alternate methods of setting ABCs in the event that the SSC recommends the updated assessment does not satisfy the remaining concerns and determine an appropriate pathway forward to satisfy the Council's motion. The ABC Control Rule for the Coastal Migratory Pelagics FMP was developed in CMP Amendment 18.

## 4.4 Public Comment

## 4.5 Action

- Finalize Terms of Reference
  - Review workgroup notes
  - Discuss feasibility of these modifications in terms of workload and timing.
    - *The re-run of SEDAR 78 Operational Assessment based on the workgroup TORs should be prioritized to ensure that it is available for review during the April SSC meeting. Determination of stock status and setting of ABCs are dependent on these new model runs.*
    - *The Council needs to acknowledge that if SSC rejects the OA and instead recommends a data-limited approach (DLM), that this analysis will likely take more time to accomplish than re-running the OA based on the new workgroup TORs. DLMs also may require a larger P*, resulting in a larger ABC buffer and lower catch levels.*
    - *Older DLM methods used to set ABCs for some species in past years no longer represent BSIA (e.g., 3rd highest landings, etc.). Other DLM methods will need to be evaluated.*
    - *Can the 2022 MRIP recreational catch estimates be made available in time for the April SSC meeting? Estimates of recreational landings for 2022 would help validate imputed data from 2020-2021.*

- *Data-limited approach and sequence of use needs to be prioritized to address this type of situation in the future.*

- Discuss alternate methods of setting ABCs.
  - *Request Equilibrium OY and Yield at 75%$F_{MSY}$ in model output for the OA re-run. These values were included in the previous stock assessment report.*

## 5. OTHER BUSINESS

- Unassessed Stocks Workgroup Update
  - *Email workgroup members for a status update.*

## 6. PUBLIC COMMENT

The public is provided one final opportunity to comment on SSC recommendations and agenda items.

- *No public comment given.*

## 7. CONSENSUS STATEMENT AND RECOMMENDATIONS

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

The Final SSC report will be provided to the Council by 5 p.m. on Friday, February 10, 2023 (approximately 3 weeks from the end of the meeting) for inclusion in the briefing book for the September Council meeting.

## 8. NEXT MEETINGS

### 8.1 Scientific and Statistical Committee Meetings

- SEP: April 17-18, 2023 in Charleston, SC
- April 18-20, 2023 in Charleston, SC
- July/Aug (webinar) if needed
- October 24-26, 2023 in Charleston, SC

### 8.2 South Atlantic Fishery Management Council Meetings

- March 6-10, 2023 in Jekyll Island, GA
- June 12-16, 2023 in St. Augustine, FL
- September 11-15, 2023 in Charleston, SC
- December 4-8, 2023 in Beaufort, NC

**ADJOURN**