

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SCIENTIFIC AND STATISTICAL COMMITTEE



SSC Meeting Overview

October 25-27, 2022

Town and County Inn

Charleston, SC

VERSION
FINAL
10/20/22

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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 5:00 p.m., October 26, 2022.

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 in-person at the Town & Country Inn, Charleston, SC. Online registration for the meeting can be found at the Council's website: <https://safmc.net/scientific-and-statistical-committee-meeting/>

1. INTRODUCTIONS

1.1 Documents

Attachment 1a: SSC October 2022 Revised Agenda
Attachment 1b: Transcript from the August meeting

1.2 Action

- Introductions
- Review and approve agenda
- Approve transcript from August meeting

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.

3. SEFSC INTERIM ANALYSIS STRATEGY

3.1 Documents

Attachment 3a. Interim analysis strategy presentation
Attachment 3b. Interim analysis strategy full report

3.2 Presentation

Dr. Nikolai Klibansky and Dr. Cassidy Peterson, SEFSC

3.3 Overview

We conducted a management strategy evaluation (MSE) to investigate how management procedures that adjust catch advice between stock assessments performed compared with existing management procedures. We built operating models (OM) for four reef fish species from the US Southeast Atlantic, based on recent stock assessments including Black Sea Bass, Red Porgy, Snowy Grouper, and Vermilion Snapper. These OM contained parameters and data specific to each stock, associated fisheries, and the sampling programs that monitor them. The analysis assumed efficient implementation of management, such that observed catch was equal to total allowable catch (TAC). Our analysis focused on a base scenario intended to most closely characterize the reality of each stock. We also developed multiple alternative scenarios to investigate the sensitivity of the analysis to deviations from the base configuration. A set of management procedures (MP) were applied independently in closed loop simulation for each species and scenario, with many replicate runs. The MP varied in terms of how often stock assessments were conducted (every 1, 5, or 10 years), and how catch advice (i.e. TAC) was adjusted between stock assessments. Between assessments, TACs were either fixed,

adjusted based on projections or adjusted based on a reference index of abundance. Results varied among species and scenarios, but generally showed that healthy stock and fishery status ($SSB > SSB_{MSY}$ and $F < F_{MSY}$) and comparable levels of total catch could be maintained with stock assessments conducted every 1, 5 or 10 years, whether TACs were fixed, projected, or adjusted based on indices of abundance. But these management procedures vary in terms of average annual variability in yield (AAVY), which was highest when TACs were adjusted based on indices of abundance and lowest when TACs were fixed between assessments.

3.4 Public Comment

3.5 Action

- Review, discuss, and provide feedback on the interim analysis strategy
- Can interim analysis be a tool to improve management during the interval between assessments? If yes, how should it be implemented?
 - What hurdles might the SSC run across in recommending/adopting new recommendations or actions based on interim analysis?
 - How would the interim analysis strategy integrate with the proposed ABC control rule?
- To what degree can/should interim analysis replace current stock assessments or reduce the frequency of full stock assessments?
- Does the SSC have any advice for next steps in studying the effectiveness of interim analysis? (e.g., Is more simulation analysis required? Does this need to be done for more species?)

4. **SNAPPER-GROUPER MANAGEMENT STRATEGY EVALUATION (MSE) MODEL**

4.1 Documents

Attachment 4a. Blue Matter Science Snapper Grouper MSE presentation

4.2 Presentation

Dr. Adrian Hordyk, Blue Matter Science

4.3 Overview

Management Strategy Evaluation (MSE) is internationally recognized as best practice for evaluating the performance of alternative management approaches and identifying the mode of management that is most likely to meet the various management objectives of a fishery. The MSE process is designed to support evidence-based decision-making in the face of uncertainty on the status and dynamics of a fishery system. It was developed in response to a common situation where there were conflicting interpretations of a stock assessment process, and there was no clear path for making an informed and transparent management decision. In short, the MSE process involves building a range of models which span the key uncertainties in the fishery

system and using computer simulations to evaluate the performance of alternative management methods against established management objectives.

Stakeholder participation is a fundamental component of the MSE process. Discussions with stakeholders are used to establish the three main areas of the MSE process: 1) Uncertainties in the Fishery System, 2) Feasible Management Options, and 3) Objectives for Evaluating Performance. Stakeholder input and feedback will be primarily obtained from the SAFMC Snapper-Grouper Advisory Panel.

The SSC is requested to discuss potential uncertainties with the model framework and data inputs, and how these uncertainties may affect model performance. The SSC will have the opportunity to review the final operating models produced by the MSE process at a later meeting.

4.4 Public Comment

4.5 Action

- Review MSE model structure, potential data inputs, and uncertainties:
 - What are the most important uncertainties in the fishery system?
 - What are the main data sources that can be used to evaluate the state of the fishery?
 - What are the primary concerns with the data sources?

5. **SEFSC MSE STRATEGIC PLAN**

5.1 Documents

Attachment 5a: MSE Strategic plan for South Atlantic

5.2 Presentation

Dr. Cassidy Peterson & Dr. John Walter, SEFSC

5.3 Overview

The Southeast Fishery Science Center (SEFSC) will present their strategic plan for using management strategy evaluations (MSE) for three flagship case studies that focus on regime-changing, high-profile applications that have the potential to improve management of fisheries in the southeast region. The three case studies presented will include Dolphin in the South Atlantic, Gulf of Mexico shrimp, and Kemp's Ridley Sea turtles. Beyond these flagship cases, the SEFSC will also describe other potential collaborations and processes related to the MSE strategic plan for the South Atlantic and other regions.

5.4 Public Comment

5.5 Action

- No actions needed.

6. SPANISH MACKEREL REVISED OPERATIONAL ASSESSMENT

6.1 Documents

Attachment 6a: SEDAR 78 Spanish Mackerel update MRIP 2020 data

Attachment 6b: SAFMC Sept 2022 Meeting - Mackerel Cobia Committee Report

6.2 Presentation

Dr. Erik Williams, SEFSC

6.3 Overview

The SEDAR 78 South Atlantic Spanish Mackerel operational assessment was reviewed by the SSC at the August 2022 meeting. The SSC noted several concerns with the assessment (see August meeting final report), and determined it was not suitable for providing management advice until several issues could be resolved. 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 agreed to rerun the SEDAR 78 assessment model with new landings to address uncertainty with the MRIP estimates in the terminal year. The SSC will review the changes at this meeting and determine whether the changes were sufficient to address their cited concerns or if additional changes are needed. If additional changes are substantial, a research track assessment would be needed for Atlantic Spanish mackerel.

6.4 Public Comment

6.5 Action

- Review any additional data provided since the SEDAR 78 Spanish Mackerel operational assessment if available.
- Based on the issues stated during the SEDAR 78 stock assessment review, recommend whether a re-run of the operational assessment with requested changes or a research track assessment is more appropriate.
- Discuss and recommend procedure for stock status determination and acceptable biological catch levels if assessment is not accepted.

7. RELEASE MORTALITY REDUCTION FRAMEWORK AMENDMENT 35

7.1 Documents

Attachment 7a: FWC FL hook analyses

Attachment 7b: SAFMC SC hook analyses

7.2 Presentation

Dr. Heather Christiansen, FWC and SAFMC Staff

7.3 Overview

The SAFMC is considering means to reduce the discard rate for snapper grouper species as an action in Amendment 35: Snapper Grouper Release Mortality Reduction and Red Snapper Catch Levels, in order to increase the level of acceptable biological catch for red snapper from the last stock assessment projections. One of the mechanisms being investigated is the requirement of using single hook tackle (as opposed to double hook) to reduce encounter rates and catch per unit effort. FWC has single-hook/double-hook data that will be investigated to determine how these datasets can be used together to characterize efficiency differences between single and double-hook rigs. A pilot project is also being conducted by Council staff off the coast of South Carolina comparing catch rates between single hook and double hook rigs.

7.4 Public Comment

7.5 Action

- Comment on the utility of using single hook versus double hook tackle for reducing catch rates in the snapper grouper fishery.

8. RED SNAPPER RECRUITMENT PATTERNS

8.1 Documents

Attachment 8a: Red snapper recruitment patterns presentation

Attachment 8b: Karnauskas et al. 2022 *Fisheries Oceanography*

8.2 Presentation

Dr. Mandy Karnauskas, SEFSC

8.3 Overview

Abstract: Geopolitical fishery management boundaries are often misaligned with the ecological population structure of marine species, which presents challenges for assessment and management of these species. Red snapper, *Lutjanus campechanus*, is an iconic and heavily exploited species in both the US Gulf of Mexico and off the southeastern US Atlantic coast and is managed separately in the two jurisdictions. It is hypothesized that the Atlantic red snapper stock is sustained partially by larval subsidies from the Gulf of Mexico. Here we use a biophysical modeling approach to simulate recruitment of red snapper across the entire Southeastern US region and quantify rates of larval exchange across management jurisdictions. The biophysical framework simulates realistic red snapper behaviors and traits with respect to spatial distribution and timing of spawning, larval vertical migration and pelagic larval duration,

and settlement habitat. Our results suggest that areas of the West Florida Shelf south of Tampa Bay are important sources of larvae for the Atlantic population, supplying as much as one third of the recruitment during some years. Yet, contributions of Gulf-spawned red snapper to the Atlantic stock are highly dynamic given large variability in spatial and temporal patterns of red snapper recovery in each region. As such, effective management of the Gulf of Mexico red snapper stock, particularly the spawning population in southwest Florida, may have important consequences for the sustainable harvest of red snapper off the Atlantic coast.

8.4 Public Comment

8.5 Action

- Review paper on red snapper source-sink dynamics
- Discuss the implications of these findings in the context of the latest red snapper operational assessment and for providing fishing level recommendations.

9. **SEFSC MINIMIZING DISCARDS IN THE SNAPPER GROUPEL FISHERY**

9.1 Documents

Attachment 9a: SEFSC discards project for snapper grouper

9.2 Presentation

Dr. Scott Crosson & Dr. Kyle Shertzer, SEFSC

9.3 Overview

The SEFSC will provide a summary and some preliminary results of a project seeking to explore mechanisms for reducing discards in the snapper grouper fishery. Specifically, the project aims to: (1) Compute improved discard estimates for the reef fish fishery in the U.S. South Atlantic and, (2) Model the economic and biological effects of a limited number of significantly different regulatory regimes that would minimize those discards while potentially increasing retained catch. Scenario modeling in the project includes both short-term and long-term options and explores the tradeoffs between regulatory ease and fishing access.

9.4 Public Comment

9.5 Action

- Does this modeling approach have potential utility?
 - Specifically, could it help the SSC frame its scientific guidance to the Council?
- Any recommendations for model configuration or development?
- Any recommendations for specific output that would be useful?

- Any recommendations of additional management scenarios to explore?

10. GREATER AMBERJACK ESTIMATION PROJECT UPDATE

10.1 Documents

Attachment 10a: Presentation of Greater Amberjack estimation project
Attachment 10b: Greater Amberjack project narrative
Attachment 10c: Powers et al TRP response

10.2 Presentation

Dr. Mark Albins and Dr. Sean Powers, University of South Alabama

10.3 Overview

The overarching goal of the proposed research initiative is to provide an independent estimate of GAJ 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+ GAJ 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 GAJ in the southeastern U.S.

10.4 Public Comment

10.5 Action

- Comment and provide feedback on the methods and potential uncertainties for the Greater Amberjack research project.
- Discuss how this estimate will be integrated into next Greater Amberjack stock assessment process.
 - What potential obstacles might there be in using these data?

11. SEDAR: GOLDEN TILEFISH, BLUELINE TILEFISH, SADL SURVEY

11.1 Documents

Attachment 11a: Golden Tilefish TORs, schedule, participants – option 1
Attachment 11b: Golden Tilefish TORs, schedule, participants – option 2

11.2 Presentation

Kathleen Howington, SEDAR Staff

11.3 Overview

Review terms of reference, schedule, and recruit participants for Golden Tilefish operational assessment. Review schedule and recruit participants for Blueline Tilefish operational assessment. Appoint 4-5 SSC members to workgroup for review of the South Atlantic Deepwater Longline (SADL) survey.

11.4 Public Comment

11.5 Action

- Review TORs, schedule and participants for Golden Tilefish
- Review schedule and recruit participants for Blueline Tilefish
- Appoint 4-5 SSC members to SADL workgroup

12. NATIONAL SSC MEETING SUMMARY

12.1 Documents

Attachment 12a: National SSC meeting summary
Attachment 12b: SCS7 meeting agenda

12.2 Presentation

Dr. Scott Crosson & Dr. Amy Schueller, SEFSC

12.3 Overview

The 7th national SSC meeting (SCS7) was held in Sitka, Alaska in August to discuss overarching topics related to “Adapting Fisheries Management to a Changing Environment.” Three topical sessions were held, each with a keynote speaker and several case studies related to the topic, followed by breakout discussion sessions amongst all meeting participants. The three main sessions were: (1) How to incorporate ecosystem indicators into the stock assessment process? (2) Developing information to support management of interacting species in consideration of EBFM, and (3) How to assess and develop fishing level recommendations for species exhibiting distributional changes due to climate variability and climate change?

12.4 Public Comment

12.5 Action

- No actions needed.

13. SAFE REPORTS REVIEW

13.1 Documents

Attachment 13a: SAFE reports review

13.2 Presentation

Dr. Chip Collier, SAFMC Staff

13.3 Overview

Council staff have started to develop Stock Assessment and Fishery Evaluation (SAFE) Reports. These reports are required through National Standard 2 of the Magnuson-Stevens Act. The report should contain the best scientific information available on the condition of the stock, essential fish habitat, marine ecosystems, and fishery. These reports can serve as regular updates to the SSC and Council to aid in discussing the condition of the stock and potential need for adjusting current management measures. The SSC is asked to provide feedback on information that is crucial for a SAFE report and information that would be good to include.

13.4 Public Comment

13.5 Action

- Review the SAFE report template and provide feedback on existing content and other potential content to include.
 - What other information is needed for the SAFE Report?
 - What other information would be useful to include in the SAFE Report?

14. FISHERY MANAGEMENT PLAN AMENDMENT UPDATES

14.1 Documents

Attachment 14a: Fishery management plan amendment updates

14.2 Presentation

Dr. Mike Schmidtke, SAFMC Staff

14.3 Overview

Updates to various fishery management plan amendments will be provided for informational purposes related to Snowy Grouper, Greater Amberjack, Golden Tilefish, Gag Grouper, and the ABC Control Rule. The intent of these updates is to inform the SSC of the Council's decisions regarding these amendments and how SSC recommendations were integrated into the decision-making process.

14.4 Public Comment

14.5 Action

- No action needed.

15. OTHER BUSINESS

16. PUBLIC COMMENT

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

17. 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 noon on Friday, November 18, 2022 (approximately 3 weeks from the end of the meeting) for inclusion in the briefing book for the September Council meeting.

18. NEXT MEETINGS

18.1 Scientific and Statistical Committee Meetings

- January 20, 2023 (webinar)
- April 18-20, 2023 in Charleston, SC
- October 24-26, 2023 in Charleston, SC

18.2 South Atlantic Fishery Management Council Meetings

- December 5-9, 2022 in Wrightsville Beach, NC
- March 6-10, 2023 in Jekyll Island, GA
- June 12-16, 2023 in PonteVedra, FL

ADJOURN