SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

SCIENTIFIC AND STATISTICAL COMMITTEE

SSC Meeting Report

October 27-29, 2021

Meeting via Webinar

FINAL VERSION
November 16, 2021

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1. INTRODUCTION

1.1. Documents

- SSC Agenda October 2021
- Attachment 1. Minutes of the July 2021 meeting

1.2. Action

- Introductions
- Review and Approve Agenda
- Approve Minutes

Agenda was approved after inserting Agenda Item 12 before Item 9 and adding an update on the SEDAR schedule to Other Business. Minutes from the July SSC meeting were 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.

2.1. Documents

Attachment 2. SAFMC Public Comment Process

Public comment was provided. See meeting minutes.

3. SEDAR 68 ATLANTIC SCAMP RESEARCH TRACK ASSESSMENT REVIEW

3.1. Documents

Attachment 3a. SEDAR 68 Scamp Research Track Assessment Report
Attachment 3b. SEDAR 68 Scamp Research Track Assessment Presentation
Background 3c. SEDAR 68 Scamp Research Track Assessment TORs

3.2. Presentation

SEDAR 68 Assessment Overview – Dr. Francesca Forrestal, SEFSC

3.3. Overview

The SSC is asked to provide feedback on the Atlantic Scamp Research Track Assessment prepared through the SEDAR 68 (Attachment 3a), and identify and characterize the impacts of

assessment uncertainties. This is the first research track assessment conducted through the SEDAR process and was conducted alongside an assessment with Gulf of Mexico Scamp. An operational assessment to provide management advice for Scamp will begin in 2022. Atlantic Scamp has never been assessed through the SEDAR process and the current stock status is unknown.

3.4. Public Comment

Public comment was provided. See meeting minutes.

3.5. Breakout Groups

3.6. Action

- Review assessment
  - Does the assessment address the ToRs to the SSCs satisfaction?
    - *The research track assessment addressed a majority of the ToRs in depth. However, some ToRs could not be fully addressed due to a lack of available information and should be considered for future research recommendations, particularly ecosystem and climate effects.*
  - Does the assessment represent Best Scientific Information Available?
    - *The assessment represents the Best Scientific Information Available for this species. However, more work should be undertaken to address some areas of uncertainty within the assessment, including selectivity of video and trap surveys, impacts of age and size structure information in the model, and estimation of steepness and recruitment via a stock-recruit relationship.*
  - Are there any issues with the assessment configuration that would prevent it from providing stock status and supporting fishing level recommendations?
    - *There are no issues that would prevent the assessment tool from providing stock status and fishing level recommendations. The exact configuration may or may not change during the Operational Assessment, but the final configuration could be used to provide stock status and fishing level recommendations.*
- Identify, summarize, and discuss assessment uncertainties.
  - Review, summarize, and discuss the factors of this assessment that affect the reliability of estimates of stock status.
    - Qualitatively characterize these factors in terms of their influence on assessment uncertainty.
      - *The estimation of steepness and subsequent recruitment was influenced by model assumptions and configuration, particularly length of time series (i.e., retrospective analyses), selectivity blocking, and natural mortality. Across sensitivity and retrospective runs, estimated values for steepness varied from 0.46 to 0.76.*

- *The SSC recommends additional exploration of the potential influence of Chevron Trap Index composition data to determine their impact on the assessment. Use of the combined Chevron Trap/Video Index via the Conn method is also a potential source of uncertainty.*
- *The SSC also recommends additional exploration of age/length composition fits for the fisheries and the Chevron Trap Index data to examine their impact on model estimates, particularly selectivity. The potential mismatch between model fits to the age and length composition data and the tradeoffs between these data sources should be thoroughly examined. If necessary, consider dropping less informative length data.*
- *The assessment of scamp and yellowmouth grouper as a complex is a potential source of uncertainty should these two species differ greatly in life history and/or exploitation patterns.*
- *The assessment highlighted several sources of uncertainty in commercial and recreational landings that could impact assessment uncertainty, including conversion of numbers to weight, economic influences on fishing effort trends, incorporation of CVs provided, and changes in potential targeting.*
- *Retrospective analyses, primarily in the F/F_{MSY} ratio, suggest potential model misspecification, which could affect uncertainty in stock status.*

- List the risks and describe potential consequences of assessment uncertainties with regard to stock status, fishing level recommendations, and future yield predictions.
  - *Each of the above uncertainties could impact stock status, fishing level recommendations, and future yield predictions. These impacts will not be known until they have been thoroughly explored in the upcoming Operational Assessment.*
- Are methods of addressing uncertainty consistent with SSC expectations and the available information?
  - *Yes, the methods are consistent with SSC expectations, given that the assessment team provided sensitivity analysis, retrospective analysis, and jitter analysis. Uncertainty in results and precision of estimates was computed through an ensemble modeling approach using a mixed Monte Carlo and bootstrap framework.*

- Provide research recommendations and guidance on the upcoming operational assessment.
  - Review the included research recommendations and indicate those most likely to reduce risk and uncertainty in the next assessment.
    - *The SSC concurred with the assessment report research recommendations and their order of priority, noting all*

recommendations were long-term in nature and unlikely to be addressed prior to the next Operational Assessment.

- *Regarding assessment research recommendation #3 ("Better characterize reproductive parameters…"), the SSC noted that age-dependent natural mortality was estimated by indirect methods. Mark-recapture approaches (e.g., conventional, telemetry, or close-kin) might make it possible to obtain direct estimates of natural mortality for scamp.*
- *In general, the SSC agreed with many of the review panel recommendations; however, the SSC disagreed with the recommendation to consider "borrowing" length and age composition samples from the Gulf of Mexico to address poorly sampled strata in the South Atlantic.*

- Provide any additional research recommendations the SSC believes will improve the 2022 operational assessment, future stock assessments (after 2022 operational assessment), evaluation of uncertainty, application of the ABC Control Rule, and fishing level recommendations.

  - *Although the general outcomes may not change substantially, the SSC suggests the following research recommendations for finalizing this assessment tool to reduce uncertainty:*

<u>Short term (Operational Assessment 2022)</u>

1. *Determine which model components are most influential in the likelihood profiles for the fishery selectivity parameters. Assess the impact of age composition data from the Chevron Trap Index on model estimates. Further break down length and age components of the negative log-likelihood into commercial, recreational, and index components and examine their relative impacts. Consider additional sensitivity analyses such as:*
   - *Removing length composition data from the model*
   - *Excluding the Chevron Trap Index age composition data to determine their influence on model estimates*
   - *Explore time-varying catchability and/or catchability blocks for the Chevron Trap Index*
   - *Explore time-varying selectivity for the Chevron Trap Index*
   - *Closely examine changes over time in length and age composition data*
   - *Address the mismatch in length and age composition data*
   - *Explore the use of a random walk on the A50 selectivity parameter and the potential for multispecies fishery changes/targeting to affect selectivity.*
2. *The stock-recruitment curve overestimated recruitment at low stock sizes and vice versa, indicating steepness may not be well determined.*

Examine alternative ways to estimate recruitment without a stock-recruitment curve.

Long-term

The SSC recommends:

- *Enhanced data collection and generation of length data from the video component of SERFS*
- *Examining the impact of — and alternatives to — combining the video and Chevron trap into a single index*
- *Exploration of species interactions and the impact of climate variability*

4. SEDAR 68 ATLANTIC SCAMP OPERATIONAL ASSESSMENT

4.1. Documents

Attachment 4a. SEDAR 68 Scamp Operational Assessment Schedule
Attachment 4b. SEDAR 68 Scamp Operational Assessment Terms of Reference

4.2. Presentation

SEDAR 68 Scamp OA Materials – Kathleen Howington, SAFMC Staff

4.3. Overview

The SSC is asked to review the SEDAR 68 Scamp Operational Assessment schedule, draft terms of reference and appoint/suggest topical working group members (if necessary). This operational assessment is scheduled to begin in 2022 pending review of the terms of reference and schedule by the Council at the December 2021 meeting.

4.4. Public Comment

Public comment was provided. See meeting minutes.

4.5. Action

- Review draft Terms of Reference
- Review Schedule
- Appoint topical working group members (if recommended)

The SSC recommended revisions to the ToRs (Appendix A). No topical working groups are recommended.

5. SEDAR 82 GRAY TRIGGERFISH RESEARCH TRACK

5.1. Documents

Attachment 5a. SEDAR 82 Gray Triggerfish Schedule
Attachment 5b. SEDAR 82 Gray Triggerfish Terms of Reference

5.2. Presentation

SEDAR 82 Gray Triggerfish Materials – Kathleen Howington, SAFMC Staff

5.3. Overview

The SSC is asked to review the SEDAR 82 Gray Triggerfish Research Track schedule and terms of reference, and appoint Chairs and ADT members for the data, assessment, and review workshops.

5.4. Public Comment

Public comment was provided. See meeting minutes.

5.5. Action

- Review Terms of Reference
- Review Schedule
- Appoint Chairs and ADT members for SEDAR 82 workshops

The SSC recommended revisions to the ToRs (Appendix B). Jie Cao and Wally Bubley volunteered to serve as ADT members. The following SSC members volunteered to serve as workshop Chairs: Wilson Laney (DW), Genny Nesslage (AW), and Scott Crosson (RW). Jeff Buckel volunteered to serve as an SSC participant at the Data Workshop. Alexei Sharov volunteered to serve as an SSC participant at the Review Workshop.

SSC RECOMMENDATION:

6. SEDAR UPCOMING ASSESSMENTS - TILEFISH

6.1. Documents

Attachment 6. SEDAR Tilefish Schedule and Scope of Work

6.2. Presentation

SEDAR Tilefish Materials – SAFMC Staff

6.3. Overview

The SSC is asked to review the SEDAR Tilefish Operational Assessment schedule and draft scope of work.

6.4. Public Comment

Public comment was provided. See meeting minutes.

6.5. Action

- Review draft Scope of Work
- Review Schedule

The SSC recommended revisions to the draft Scope of Work (Appendix C).

7. SEDAR 71 GAG GROUPER PROJECTIONS REVIEW

7.1. Documents

*Attachment 7a. SEDAR 71 Gag New Projections Presentation
Attachment 7b. SEDAR 71 Gag New Projections Report

7.2. Presentation

SEDAR 71 Gag Projections – Dr. Erik Williams, SEFSC

7.3. Overview

The SSC is asked to review the new SEDAR 71 Gag catch and rebuilding projections requested by the SAFMC at the September Council meeting (Attachment 7) and provide fishing level recommendations. Gag was last assessed during the SEDAR 71 in 2021, where the stock was found to be overfished and undergoing overfishing. The terminal (2019) base-run estimate of spawning stock was below the minimum stock size threshold (SSB_{2019}/MSST=0.20), indicating that the stock is overfished, and the estimated terminal fishing rate based on a three-year geometric mean is above F_{msy} ($F_{2017\text{-}2019}/F_{msy}$=2.15), indicating overfishing is occurring. The new projection requests include additional catch projections for Gag at average and recent low recruitment scenarios and with 70% and 50% probabilities of rebuilding in 10 years. These new projections will be reviewed by the SAFMC at the December 2021 Council meeting. The Council will need to select a rebuilding plan for the stock and the two probability rebuilding scenarios have been selected by the Council in past to rebuild stocks.

7.4. Public Comment

Public comment was provided. See meeting minutes.

7.5. Action

- Provide fishing level recommendations
  - *The SSC recommended that the ABC be set with a $P_{Rebuild}$ of 70% using projections that incorporate recruitment estimates from the stock-recruitment curve. If the Council selects a $P_{Rebuild}$ of 50%, the SSC would add an*

additional ad-hoc buffer to its recommended ABC to account for scientific uncertainty in recruitment.

- *The SSC emphasizes that significant reductions in fishing mortality need to occur for stock rebuilding. Other management actions may have little impact if a reduction in fishing mortality is not achieved.*
- *The SSC recommends that the Council set the ACL lower than the recommended ABC to account for management uncertainty (e.g., discard).*

- Comment on any difficulties encountered in applying the Control Rule, including any required information that is not available.
  - *There is considerable uncertainty in recruitment for this assessment. The stock-recruitment curve appears to overestimate recruitment at low stock size. Theoretically, the stock-recruitment relationship should provide sufficient information to inform short-term projections; however, recent recruitment estimates are lower than the long-term stock-recruitment curve predictions.*
  - *There is a lack of fishery-independent information on recent recruitment to compare with model-estimated trends in recruitment. The SSC noted, though, that a new MARFIN study being conducted by SCDNR should provide an additional, fishery-independent index of recruitment in future assessments (beyond the next Operational Assessment).*
  - *Given uncertainty in recruitment, the SSC recommends that the Council ensure the next assessment stay on schedule for 2025 to determine if the stock is showing signs of rebuilding or other trends in recruitment and to determine if recruitment is still being overestimated by the stock-recruitment curve at low stock size.*
  - *The SSC also recommends that the Council and SEFSC prioritize the research recommendations highlighted in our April 2021 meeting report to identify recruitment and stock biomass trends. In particular, the SSC recommends: (a) further exploration of length and age data in the Chevron trap survey, (b) development of an estuarine recruitment index using fall catch of age-0 gag in MRIP inland B2s, and (c) exploration of Cape Fear River larval impingement data as potential index of spawning stock biomass.*

Table 1. **Provisional** Gag recommendations, assuming Council adoption of $P_{Rebuild}$ = 70%. Landings and discards are expressed in both numbers (1,000s of fish) and gutted weight (1,000s of lbs).

Criteria	**Deterministic**	**Probabilistic**
Overfished evaluation ($SSB/SSB_{MSY)}$	0.15	0.14
Overfishing evaluation	2.15	2.27
MFMT (F_{MSY})	0.37	0.35
SSB_{MSY} (Units)	1563.9	1659.4
MSST (Units)	1172.9	1244.5
MSY (1000 lbs.)	1455.1	1453.5
Y at 75% F_{MSY} (1000 lbs.)		
ABC Control Rule Adjustment	20%	
P-Star	30%	
SSC recommended $P_{Rebuild}$	70%	
M	0.15	

OFL RECOMMENDATIONS				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number
2023	367	42	36	10
2024	494	48	45	11
2025	605	54	53	13
2026	706	60	60	14
2027	808	64	68	15

ABC RECOMMENDATIONS				
Year	Landed LBS	Discard LBS	Landed Number	Discard Number
2023	176	19	17	5
2024	262	22	23	5
2025	348	26	29	6
2026	435	29	35	7
2027	525	32	41	7

8. ECOSYSTEM IMPACTS OF HIGH RED SNAPPER RECRUITMENT

8.1. Documents

*Attachment 8a. Ecosystem Impacts of Red Snapper Recruitment Presentation
*Attachment 8b. EwE Red Snapper Workshop Findings Summary
*Attachment 8c. EwE All Results Table

8.2. Presentation

Ecosystem Impacts of High Red Snapper Recruitment – Lauren Gentry, FWRI

8.3. Overview

The SSC will review and make comments on an Ecopath with Ecosim (EwE) model that examined the effects of high Red Snapper recruitment on the South Atlantic ecosystem. The EwE workgroup convened a 3-day workshop in September to review the EwE model results and comment on the findings. The results of this workshop and discussion from the SSC during this meeting will be presented to the SAFMC at the December Council meeting.

8.4. Public Comment

Public comment was provided. See meeting minutes.

8.5. Action

- Review and provide comments on the implications of these findings for Red Snapper and other South Atlantic stock assessments.
    - *The SSC commented on the following aspects of the diet data sources used in the EwE model:*
        - *As new diet data becomes available, these can be added to the EwE to refine the model over time.*
        - *The SSC expressed concern regarding the limited amount of data available from the South Atlantic Region to inform the EwE model. Expanding the spatiotemporal scope of diet data would be useful for model refinement given spatially limited data might not be scalable to the population level for red snapper. Also, a more thorough spatial characterization of overall data coverage would be helpful. Temporal variability of diet data was also discussed as a critical concern. This highlights the importance of fishery-independent surveys for long-term data sources that can be used to inform EwE modeling efforts.*
        - *The SSC also noted that a large proportion of prey items are included by way of aggregate prey groups, which might limit the model's ability to estimate species-specific impacts of red snapper on their prey.*
    - *Model validation and sensitivity analyses were hampered by the large size of the EwE model. A reduced model may allow for more informative validation and sensitivity analyses.*
    - *These EwE model results represent ecosystem responses to a generalist predator (red snapper). Different impacts may be predicted if the impacts of predators having a more specific niche diet are examined (e.g., wahoo).*

- *Acceleration of the rebuilding schedule would have implications for the EwE model outputs and their applicability to management. Note that 'High' and 'Very High' future red snapper recruitment levels were included as sensitivity runs in the EwE analysis to span the potential range of stock responses.*
- *This EwE modeling tool would need to be further refined and validated before incorporation into management to provide quantitative advice.*

- Does the model describe a potential range of impacts from high Red Snapper recruitment?
  - *Qualitative EwE model results are reasonable given the concerns and caveats listed above and in the workshop report, particularly the finding that increased, high recruitment of red snapper has minor impact on the biomass of other species. Additional details and a complete list of assumptions can be found in the full workgroup report.*
- Are there any changes to the presentation/report needed before presentation to the Council?
  - *None are recommended.*

9. STANDARD BYCATCH REPORTING METHODOLOGY

9.1. Documents

Attachment 9a. Review of Standard Bycatch Reporting Methodology
Attachment 9b. Standard Bycatch Reporting Methodology Presentation

9.2. Presentation

Review of Standard Bycatch Reporting Methodology – Frank Helies, SERO

9.3. Overview

The SSC will review and comment on the review of the Standard Bycatch Reporting Methodology (SBRM) with particular emphasis towards fishery management plans for the South Atlantic region. SBRMs are required for every federal fishery management plan. A final rule requiring review of SBRM's every 5 years was published in February 2017. The first review of the SAFMC's SBRMs was conducted by NMFS with help from SAFMC staff (Attachment 9a). The SSC is asked to comment on the methodology design considerations such as data elements, sampling designs, sample sizes, and reporting frequency. The Committee should discuss the review of the current methodologies used to describe bycatch reporting and data gaps present.

9.4. Public Comment

Public comment was provided. See meeting minutes.

9.5. Action

- Discuss and comment on the review of SBRM:
  - *The importance of accurately quantifying bycatch/discards in South Atlantic fisheries is high and there are a number of concerns this review has raised. Given the importance of quantifying the number of discards and discard mortality in stocks, this should be a high priority for this region. The SSC recommends that improvements in bycatch reporting be elevated to a high priority in the South Atlantic Research and Monitoring Prioritization Plan, which outlines research priorities for the region. These priorities are not yet ranked.*
  - *The SSC requests that prior SSC recommendations related to discards and bycatch be compiled during future stock assessments so that they can be compared to progress made in SBRMs during the next review in 5 years.*
  - *The SSC noted that "no discards" is frequently and increasingly reported in the South Atlantic Region and that is not likely reflective of actual discard numbers. This indicates substantial enforcement challenges for the collection of logbook data in the region. The SSC recommends considering the following:*
    - *Randomized response survey methodology*
    - *Incentive mechanism design (from the economics and policy literature) to look at combinations of data that would incentivize accurate reporting*
  - *Bycatch is primarily self-reported in the South Atlantic Region, which results in substantial data gaps. This is not well-documented in the SBRM review.*
  - *Current observer coverage percentages by state for headboats in South Atlantic Region fisheries (Table 1.3.2) need further explanation. The SSC expressed concern that the reported percentages may not be representative of the headboat fleet distribution by state within the region.*
  - *Observer coverage is extremely limited for commercial vessels in the South Atlantic Region due to small vessel size, safety at sea, etc. This creates the potential for bias in the sampling design if observers are placed only on vessels that can accommodate an observer.*
  - *Observer presence can also bias data reporting such that lower discards may be reported on trips when an observer is present if the presence of the observer results in changes in fishing practices by the vessel. Several alternatives were discussed, including:*
    - *Potential use of ancillary data (not direct discards) to determine logbook compliance rates for other fishing metrics to inform discard rates.*

- *Development of citizen science and/or outreach programs to influence some stakeholder's perception that providing more data leads to more regulations (a potential reason for non-compliance).*
- *The use of full retention trips through exempted fishing permits to characterize the entire composition of the trip catch.*
- *The SSC noted there was a research project targeted at placing video recording devices on vessels to serve as 'electronic observers' that should be considered when making future changes to SBRMs.*

- *The SSC recommends revising the sentence, "*The ecological effects of bycatch mortality are the same as fishing mortality from directed fishing efforts*" to more accurately reflect the range of impacts that different types of discarding (e.g., regulatory, economic) can have on the stock and ecosystem.*
- *The SSC recommends incentivization of more accurate and compliant reporting to reduce uncertainty in discard estimates, which could result in increased catch limits in the following ways:*
  - *Increased stakeholder involvement through citizen science to improve data collection in management*
  - *Careful consideration of phrasing (language) used when formulating questions to stakeholders. The SEP could be asked to provide advice on a positive lexicon that could lead to more productive engagement of stakeholders.*
  - *Highlighting positive case studies and success stories in fisheries management. Case studies should show how improved data collection by stakeholders helped stocks recover so that higher catch limits were obtained.*

10. CATCH LEVEL PROJECTIONS WORKGROUP

10.1. Documents

Attachment 10. Catch Level Projections Workgroup Report

10.2. Presentation

Workgroup Report – Dr. Amy Schueller, SSC

10.3. Overview

The SSC will be given an overview of the preliminary findings and future directions of the Catch Level Projections Workgroup, which has met twice since the last SSC meeting.

10.4. Public Comment

No public comment was provided.

10.5. Action

- No action items.

11. CASE STUDIES FOR SCS7

11.1. Documents

Attachment 11. SAFMC SSC Case Studies for SCS7

11.2. Presentation

Case studies document overview – Dr. Genny Nesslage, SSC

11.3. Overview

The National SSC is soliciting regionally representative case studies under three theme topics for the upcoming SCS7 meeting. Regional SSCs are requested to suggest 1-2 case studies from their respective regions to be considered. These suggestions should be made prior to the next Steering Committee meeting on November 19th. The SSC should discuss and decide on 2 case study areas and provide a brief description for each and with which session they align for submission.

11.4. Public Comment

Public comment was provided. See meeting minutes.

11.5. Action

- Select 2 case studies for the upcoming SCS7 meeting.

Presentations on the following topics will be requested. Additional topics will be considered for future meetings.

- *Topic #3: Distributional Changes - Blueline Tilefish (Scott Crosson)*
- *Topic #1: Population parameters - Recruitment variability (Brendan Runde, SEFSC)*
- *Additional topics:*
  - *Black Sea Bass: coastwide species distribution model with NEFSC (Jie Cao)*
  - *Dolphin (Jie Cao, Mandy Karnauskas)*
  - *Red Porgy (Tracy Smart & Wally Bubley, SCDNR)*
  - *Ecosystem status report (SEFSC)*

12. COMPREHENSIVE ABC CONTROL RULE AMENDMENT

12.1. Documents

Attachment 12a. ABC CR Amendment Decision Document
Attachment 12b. ABC CR Amendment Risk Tolerance Analysis Spreadsheet
Attachment 12c. ABC CR P Examples Spreadsheet
*Attachment 12d. ABC CR Amendment Presentation

12.2. Presentation

Updates on ABC control rule amendment – Dr. Mike Schmidtke, SAFMC staff (Late Materials)
Risk Tolerance Analysis Spreadsheet – Dr. Mike Schmidtke, SAFMC Staff
P* Examples Spreadsheet – Dr. Mike Schmidtke, SAFMC Staff (Late Materials)

12.3. Overview

The SSC will be given an update on development of the comprehensive ABC control rule amendment, explanation of considered ABC control rule alternatives, a walk-through of the Risk Tolerance Analysis spreadsheet for determining stock risk ratings, and P* estimates for an example set of stocks. Stock risk ratings are being considered for use in conjunction with biomass information from stock assessments to guide the Council on the level of risk (i.e. P*) they would consider for each of the species they manage. Resultant P* values would be applied to assessment projections to determine ABC. This is the last scheduled opportunity for the SSC to recommend changes to alternatives that could be incorporated into the amendment. The SSC will then review and finalize recommendations for the method used to derive stock risk ratings. The SSC will also review P* estimates for an example set of stocks under each of the ABC Control Rule alternatives, and review and revise past recommendations for ABC control rule alternatives considered in the amendment, as necessary.

12.4. Public Comment

Public comment was provided. See meeting minutes.

12.5. Breakout Groups

12.6. Action

- Review updates to the comprehensive ABC control rule amendment.
    - *Regarding Action 1, Alt. 3 (Table 5): For assessed stocks, catch history and catch records should be reliable, making their inclusion here unnecessary. The SSC recommends removing this tier classification and redistributing these percentages.*
- Review Risk Tolerance Analysis spreadsheet and determine recommended method for stock risk ratings.

- *The SSC recommends that the SSC continue to work in collaboration with Council and Advisory Panel members to make any necessary updates to the risk rating scores. This process has great value in its transparency, but the logistics of how changes would be made should be described more explicitly in the document.*

- *The SSC recommends that language be included in the amendment to clarify how the risk tolerance P* translates to a probability of rebuilding for overfished stocks (1-P*).*

- *The SSC recommends use of the 'alternate' method for scoring criteria in the risk tolerance analysis.*

- Review example P* values for stocks using different ABC control rule alternatives.

  - *The SSC commends Council staff for providing clear examples of how scientific uncertainty and management risk would be separated and how this would be used in setting a P*.*

- Review ABC control rule alternatives and previous recommendations; revise recommendations as necessary.

  - *All recommendations that the SSC provided in previous meetings remain unchanged.*

  - *The SSC maintains that scientific uncertainty encompasses both assessment uncertainty and biological uncertainty in our understanding of the stock (i.e., our ability to quantify a stock's life history, fisheries, etc.).*

  - *The SSC continues to support Alternative 2 because biomass and stock risk rating are included in the Council's setting of P*, whereas Alternative 3 provides less clear guidelines to justify selection of P*. In addition, the SSC recommends using the 'alternate' method for scoring criteria of the risk tolerance analysis used in Alternative 2, as mentioned above.*

  - *Regarding Alternative 3: Table 5, Level 1 needs to be adjusted. The SSC suggests that 4 and 5 be removed as those would fall under the unassessed stock categories. Once removed, the percentages would be redistributed among remaining 3 Tiers.*

- Solicit membership for data-limited stocks ABC-setting workgroup.

- *Workgroup volunteers were: Amy Schueller, Wally Bubley, Genny Nesslage, Anne Lange, (potential SEFSC member), (other outside experts)*

13. OTHER BUSINESS

- Updates on ongoing fishery management plan amendments – SAFMC Staff
- Update on SEDAR78: South Atlantic Spanish Mackerel Assessment review – SAFMC Staff
- Update on SEDAR68: South Atlantic Scamp Operational Assessment – SAFMC Staff

14. PUBLIC COMMENT

Public comment was provided. See meeting minutes.

15. CONSENSUS STATEMENTS AND RECOMMENDATIONS REVIEW

The Committee reviewed final consensus statements and recommendations, which were used to draft this final report.

16. NEXT MEETINGS

16.1. SAFMC SSC MEETINGS

Potential 2022 Meeting Dates:

- (Potential Winter webinar in early 2022)
- April 2022 in Charleston, SC
- (Likely July/August webinar in 2022)

16.2. SAFMC Meetings

2021 Council Meetings

- December 6-10, 2021 in Beaufort, NC

2022 Council Meetings

- March 7-11, 2022 in Jekyll Island, GA

Appendix A

SEDAR 68
South Atlantic Scamp
Operational Assessment
Draft Schedule of Events

TORS and Schedule Approved..... December 2021

Data Scoping Call..... The week of Jan 24, 2022
Deadline for Length and Age data (QA/QC'd in standard format)..... February 18, 2022
Deadline for the compilation of Length and Age data ..... March 11, 2022
Deadline for final Landings data and MRIP catch estimates ..... June 10, 2022
Deadline for submission of final analytical products (including commercial discards, indices, and age/length comps)..... July 22, 2022
Working paper submission to SEDAR Staff.....September 2, 2022

Final Assessment Report to SEDAR staff.....November 18, 2022

Complete Assessment Report Submitted to Council.....November 23, 2022

These are primary data milestones. See the data delivery timeline for specific details on when specific data components are due.

Assessment Information and Contacts

Prior Assessment: SEDAR 68 Research Track assessment

Terminal year of prior assessment: 2017

Terminal year for this assessment: 2021 (provide any partial or preliminary 2021 data available at the time of data provision)

Lead Analysts and Agency: SEFSC, Rob Cheshire <rob.cheshire@noaa.gov>

Data Point of Contact: SEFSC, TBD

SEDAR Coordinator: Kathleen Howington (kathleen.howington@safmc.net)

SEDAR Cooperator: South Atlantic Fishery Management Council

SEDAR
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SEDAR 68 South Atlantic Scamp

Operational Assessment

Draft Terms of Reference

1. Update the approved SEDAR 68 South Atlantic Scamp model with data through 2021 (provide any partial or preliminary 2021 data available at the time of data provision). Incorporate the latest BAM model configurations and updates to data calculation methodologies, detailing the changes made between the SEDAR 68 South Atlantic Scamp research track assessment model and the proposed SEDAR 68 Operational assessment model.

2. Consider updated information on life history, steepness, discard mortality, commercial and recreational landings and discards. Note any particular concerns or problems with any data collected since the completion of the research track. Document any changes or corrections made and provide updated input data tables. Provide commercial and recreational landings and discards in pounds and numbers.

3. Examine and describe impacts on model performance and estimates of the data limitations in any data collected since the completion of the research track.

4. Update model parameter estimates and their variances, model uncertainties, estimates of stock status and management benchmarks, and provide the probability of overfishing occurring at specified future harvest and exploitation levels.

5. Investigate potential changes to selectivity structure for Chervon trap data, using likelihood values to guide in determining best configuration. Consider sensitivities such as:
    a. Explore time-varying selectivity in the Chevron trap index
    b. Examine change over time in length and age comps
    c. Random walk on A50 selectivity parameter. Examine multispecies/targeting impact on selectivity.

6. Investigate influence of length and age composition data on stock assessment model. Consider the following:
    1. Dropping length comps from model.
    2. Excluding Chevron trap age comps.
    3. Address mismatch between length and age comps.

7. Explore time-varying catchability in the Chevron trap index.

8. The SR curve overestimates R at low stock sizes and vice versa. Steepness may not be appropriately defined. Examine alternative way to estimate recruitment without SR curve.

9. Develop a stock assessment report to address these TORs and fully document the input data, methods, and results.

Appendix B

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SEDAR 82

South Atlantic Gray Triggerfish

Research Track Assessment

Draft Terms of Reference

Data Workshop Terms of Reference

1) Review stock structure and unit stock definitions.
   a) Characterize changes in spatial distribution of Gray Triggerfish catches including catches in the Mid Atlantic.

2) Review, discuss, and summarize available life history information.
   a) Evaluate age, growth, natural mortality, meristic conversions (length-weight relationship, length-length relationship), and reproductive characteristics (maturity, fecundity, sex ratio, and spawning season).
   b) Evaluate the aging structure and its ability to provide reliable ages. Evaluate age data and methodology across ageing facilities and discuss validation techniques.
   c) Provide appropriate models to describe population and fleet specific (if warranted) growth, maturity, and fecundity by age, sex, or length as applicable.
   d) Evaluate and discuss the sources of uncertainty and error, and data limitations (such as temporal and spatial coverage) for each data source. Provide estimates or ranges of uncertainty for natural mortality and other model based parameter values.
   e) Discuss the adequacy of available life history information for conducting stock assessments and recommend life history information for use in population modeling.

3) Provide measures of population abundance that are appropriate for stock assessment
   a) Consider all available and relevant fishery-dependent and -independent data sources
   b) Document all programs evaluated; address program objectives, methods, coverage, sampling intensity, and other relevant characteristics.
   c) Provide maps of fishery dependent and independent survey coverage.
   d) Develop fishery and survey CPUE indices, standardize as appropriate, generate measures of precision, and document all methods.
   e) Document pros and cons of available indices regarding their ability to represent abundance.
      i) Characterize species identification issues and identify whether the index is representative of Gray Triggerfish Stock.

f) For recommended indices, document any known or suspected temporal patterns in catchability not accounted for by standardization.
g) Categorize the available indices into one of three tiers: suitable and recommended, suitable and not recommended, or not suitable; provide justifications for the categorization.
h) For any recommended fishery independent surveys provide age and length composition as appropriate.

4) Provide commercial catch statistics, including both landings and discards in both pounds and numbers.
   a) Characterize any species identification issues and correct for these instances as appropriate.
   b) Review SEDAR 41 methods for pooling gear types into a single commercial gear and, if appropriate, maintain that fleet structure; otherwise recommend an alternative fleet structure.
   c) Evaluate and discuss the adequacy of available data for accurately characterizing landings and discards by fishery sector or gear. Discuss any temporal trends in the reliability of the commercial estimates and potential impacts of COVID-19. Compare discard rates from other sectors within the South Atlantic and with analogous fisheries in adjoining regions.
   d) Provide length and age distributions for both landings and discards as appropriate.
   e) Provide maps of fishery effort and harvest by fishery sector or gear.
   f) Develop catch streams (landings and discards), generate measures of precision, and document all methods.

5) Provide recreational catch statistics for each stock being assessed, including both landings and discards in both pounds and number.
   a) Characterize any species identification issues and correct for these instances as appropriate.
   b) Review SEDAR 41 methods for pooling gear types into two recreational gears and, if appropriate, maintain that fleet structure; otherwise recommend an alternative fleet structure.
   c) Evaluate and discuss the adequacy of available data for accurately characterizing landings and discards by fishery sector or gear. Discuss any temporal trends in the reliability of the recreational estimates.
   d) Evaluate the potential source of outliers in MRIP catch data and potential impacts of COVID-19.
   e) Provide length and age distributions for both landings and discards as appropriate.
   f) Provide maps of fishery effort and harvest by fishery sector or gear.
   g) Develop catch streams (landings and discards), generate measures of precision, and document all methods.

6) Recommend discard mortality rates.
   a) Review available research and published literature.
      i) Consider research directed at Gray Trigger as well as similar species from the southeastern United States and other areas.
   b) Provide estimates of discard mortality rate by fleet and temporal structure as appropriate.

c) Provide estimates of uncertainty around recommended discard mortality rates
d) Document the rationale for recommended rates and uncertainties.

7) Describe any known evidence regarding ecosystem, climate, species interactions, habitat considerations, and/or episodic events *(such as red tide and upwelling events)* that would reasonably be expected to affect Gray Trigger population dynamics.
   a) Identify available analysis that could improve the understanding of important ecosystem relationships or trends that can be accounted for in the assessment.

8) Provide recommendations for future research in areas such as sampling, fishery monitoring, and stock assessment.

9) Prepare a Data Workshop report providing complete documentation of workshop actions and decisions in accordance with project schedule deadlines.

Assessment Process Terms of Reference

1) Review any changes in data or analyses following the Data Workshop. Summarize data as used in each assessment model. Provide justification for any deviations from Data Workshop recommendations.

2) Develop population assessment model(s) that are appropriate for the available data.
   a) Provide standard model outputs such as parameter estimates and derived quantities.
   b) Evaluate model diagnostics.
   c) If multiple models are applied then compare and contrast model performances and appropriateness.
   d) Identify modeling issues encountered.
   e) Comment on the data component weighting used in this stock assessment, if necessary.

3) Recommend biological reference points for use in management.

4) Characterize uncertainty in the assessment and estimated values.
   a) Incorporate uncertainty of appropriate input data.
   b) Provide measures of uncertainty for estimated parameters and derived quantities, including biological reference points and stock status that incorporates appropriate input parameter and data uncertainty.

5) Provide recommendations for future research to improve the assessment. Distinguish between long term research needs and short term research recommendations that could potentially be implemented for Gray Triggerfish Operational Assessments.

6) Complete an Assessment Workshop Report in accordance with project schedule deadlines.

Review Workshop Terms of Reference

1) Evaluate the data used in the assessment. Consider the following:
   a) Are data decisions made by the DW and AW justified?
   b) Are data uncertainties acknowledged, reported, and properly characterized?
   c) For model derived data and parameter inputs (e.g. indices of abundance, life history quantities) are the methods appropriate?

2) Evaluate and discuss the strengths and weaknesses of the methods used to assess the stock, taking into account the available data. Consider the following:
   a) Are the methods appropriate for the available data?
   b) Are assessment models configured properly and used in a manner consistent with standard practices?
   c) Were modeling issues clearly identified and addressed? If not, recommend potential methods for addressing these issues.

3) Consider how uncertainties in the assessment are addressed.
   a) Comment on the degree to which methods used to evaluate uncertainty reflect and capture the significant sources of uncertainty in the input data.
   b) Comment on sources of uncertainty not accounted for and possible approaches for incorporating these sources into future assessments (e.g. ecosystem, management policies).

4) Provide, or comment on, recommendations to improve the assessment
   a) Consider the research recommendations provided by the Data and Assessment workshops in the context of overall improvement to the assessment, and make any additional research recommendations warranted.
   b) If applicable, provide recommendations for improvement or for addressing any inadequacies identified in the data or assessment modeling. These recommendations should be described in sufficient detail for application, and should be practical for short-term implementation (e.g., achievable within ~6 months). Longer-term recommendations should instead be listed as research recommendations above.

5) Provide recommendations on possible ways to improve the Research Track Assessment process.

6) Prepare a Review Workshop Summary Report describing the Panel's evaluation of the Research Track stock assessment and addressing each Term of Reference.

SEDAR 82
South Atlantic Gray Trigger
Draft Schedule of Events
October 2021

Planning Team Established ..... May 2021
ToR and Milestone Schedule Development ..... Summer/Fall 2021
ToR and Schedule Approved ..... December 2021
Assessment Development Team Appointments ..... December 2021
Data Workshop Participant Appointments ..... December 2021

Data Scoping Conference Call (DW Panel) ..... Week of May 23, 2022
Data Webinar I ..... Week of July 25, 2022
Deadline for unprocessed data (includes lengths, raw age data) ..... August 1, 2022
MRIP Data Due/Raw Data Deadline ..... August 19, 2022
Preliminary Data Products to Analysts ..... September 2, 2022
DW Working Paper to SEDAR Staff ..... September 2, 2022
Pre-Data Workshop Webinar ..... week of September 12, 2022
Data Workshop: (Charleston, SC or virtual) ..... September 19-22, 2022

Post-Data Workshop Webinar I ..... week of October 3, 2022
Post-Data Workshop Webinar II ..... week of October 24, 2022
Final analytical products due ..... November 11, 2022

Draft DW Reports to DW panel for review ..... December 2, 2022
Report Comments due to Editors ..... December 16, 2022
Final DW reports to SEDAR Staff ..... January 13, 2023
Data workshop report distribution ..... January 23, 2023

All dates tentative from this point forward, depending on data analysis

Assessment webinar I ..... week of March 20, 2023
AW working paper submission to SEDAR Staff ..... April 28, 2023
Assessment webinar II ..... week of May 15, 2023
Assessment webinar III ..... week of June 19, 2023
Assessment web IV ..... week of July 17, 2023
ADT to Determine Assessment will be ready for 2023 Review ..... week of July 17, 2023
Assessment Web V ..... week of August 7, 2023

Assessment Report Draft to panel for review ..... August 25, 2023
Assessment Panel report comments due to editors ..... September 8, 2023
Final Assessment Report to SEDAR staff ..... September 22, 2023

RW Working Paper Submission ..... September 27, 2023
Final distribution to review panel ..... September 27, 2023

Review Workshop: (Beaufort, NC or virtual).....week of October 16, 2023
First Draft Review Reports .....(end of workshop)
Review Workshop Panel Drafts due to Chair .....November 3, 2023
Review Workshop Addenda/Revision Reports due to Chair & SEDAR Staff.....
.....November 17, 2023
Review Workshop Reports due to SEDAR Staff..... December 1, 2023
Complete Assessment Report Submitted to Council/SERO/SEFSC ..... December 6, 2023

Assessment Information and Contacts

Prior Assessment: SEDAR 41

Terminal year of prior assessment: 2014

Terminal year for this assessment: 2020

Lead Analysts and Agency: SEFSC, Nikolai Klibansky <nikolai.klibansky@noaa.gov>

Data Point of Contact: SEFSC, TBD

SEDAR Coordinator: Kathleen Howington <kathleen.howington@safmc.net>

SEDAR Cooperator: South Atlantic Fishery Management Council

Appendix C

Species:
Tilefish

Model and Additional Data Years:

- Prior Assessment: South Atlantic Tilefish SEDAR 66
- Prior Terminal Year: 2018
- OA Terminal Year: 2022, adding 4 years of new data.
- Apply the current BAM configuration.

Requested Data Updates (Please be as specific as possible):

- Include any new and updated information on life history, discard mortality, and steepness.
- Explore the use of life history generated by SCDNR Vertical Longline (SBLL) survey because of recent expansion of effort and spatial area.
- Explore the use of life history data generated by the new South Atlantic Deepwater Longline Survey (SADLS) and previous pilot study data.
- Review methods used to generate the commercial longline CPUE index (if not done for the 2021 update assessment).

Requested Model Modification to previously approved assessment (Please be as specific as possible):

- Explore alternate plus age/size group delineations in the assessment model (similar to SAW/SARC 58 for the northern stock) given the paucity of data collection on older individuals and previous issues with the model being sensitive to the selection of the multinomial likelihood function (if not done for 2021 update assessment).

Is a Topical Working Group Needed? Yes

If Yes, Topical Working Group Topics:

- Topic 1: Life history – review and explore the potential utility and incorporation of new life history information, including:
    - Data collected from expanded SCDNR SBLL survey, new cooperative SADLS survey, and SCDNR CRP pilot study (abundance, life history, etc). Examine spatial differences.
    - Evidence for hermaphroditism in the South Atlantic (specifically the interpretation and applicability of analyses conducted in Gulf of Mexico by Lombardi-Carlson (2012)).
    - Evidence for age or size dependence of spawning frequency and spawning season duration.
    - Genetic evidence of connectivity between northern and southern stocks (McDowell, VIMS).
    - Evidence for potential northward range shift.

Suggested Topical Working Group Process:
Webinar(s) held early during the assessment process.

PROPOSED SCHEDULE:

- Assessment Species are approved at Spring SEDAR Steering Committee Meeting (ex. May 2020)
- Cooperators use their process to develop SoWs
- Initial Cooperator-approved SoWs submitted to SEFSC by November 1, 2021. **Note: The SSC requested final review of the SoWs at their meeting following the assessment review which occurred in the April 2021.
- SEFSC provides feedback to Cooperators via memo no later than February 1st, 2022
- Cooperators/Technical review bodies review feedback and negotiate final SoWs with SEFSC
- Final SoWs provided to SEDAR Program Manager by May 1st, 2022
- Terms of Reference to SSC in October 2022 and SAFMC in December 2022
- Data scoping March to June 2024
- Topical Working Group March to June 2024
- Assessment reviewed by SSC in October 2024 and to SAFMC in December 2024