SSC Member Comments on SEFSC Changes to Scopes of Work for Red Porgy, Gag, King Mackerel

The SEFSC made several changes to the Scopes of Work (SoW) for Red Porgy, Gag, and King Mackerel operational assessments to be started in 2025. Changes and edits were consolidated and emailed to the SSC for review. Comments were provided back to staff by a few members of the SSC. This is **not** consensus of the SSC. The comments were separated out into comments that were similar in the major headings among the three SoWs submitted and comments that varied by species for each SoW. Original language is highlighted in blue and revised language and SEFSC comments are in gray. A few members of the SSC provided comments on the change in sections highlighted in yellow.

Model and Additional Data Years: (similar in the three SoWs)

Does the SSC agree with removing the terminal year?

During discussions at the April SSC 2022 Meeting, the SSC indicated they did not want to remove the terminal year. It provided the data providers a minimum to include in the operational assessment. The SSC developed the below language to incorporate in upcoming operational assessments. It includes a minimum date and allows flexibility for more data. This language could be used in current and upcoming SoWs.

> "Update the approved (SEDAR 50 Atlantic Blueline Tilefish) models with previously provided data, adding all new and recent available data sufficient for use in the stock assessment through 2023. Data providers may decide to include preliminary or partial 2024 data that could be used in the stock assessment models or projection analyses. Data inclusion for the stock assessment models and projection analyses will be determined by the lead analyst based on quantity and quality of the most recent data."
>
> SSC Member Comments: Agreed with the language from the April 2022 meeting.

Requested Data Updates: (similar in the three SoWs)

Does the SSC agree with rewording for the first bullet?

> Submitted: Include any new and updated information on life history, discard mortality, and steepness.
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> Revised: Review any new and updated information to determine if it warrants consideration for modifying existing assumptions to life history, discard mortality, and steepness.
>
> SSC Member Comments: No issues with the SEFSC changes

Does the SSC agree with removing the second bullet related to the CVs included in the model?

SEFSC response: Uncertainty in landings data is incorporated in BAM through the Monte-Carlo Bootstrap Estimation process, and interannual variations in CVs are already implemented in the BAM model framework.

SSC Member Comment: Supported removing CVs

Potential Schedule: (similar in the three SoWs)

Does the SSC agree with removing the schedule in SoWs?

SEFSC recommended removing the schedule.

SSC Member Comments: Comments varied. Some were ok with removing the schedule, but another felt it was important to have a sequential list of activities and target completion date.

Appendix (Research Recommendations not addressed in SoW)

Does the SSC agree with removing research recommendations from the previous assessment(s)?

The SSC recommended developing a Future research recommendations/informational needs section in upcoming statements of work. This will allow the SSC to look at information from past SEDAR Research Recommendations and SAFMC Research and Monitoring Recommendations. The SSC also recommended making research recommendations more visible on the website (completed).

SEFSC recommended removing research recommendations to avoid confusion.

SSC Member Comments: One was ok with removing while others preferred having an appendix or section in the SoWs that identifies new data or information that resulted from previous recommendations. The historical record is important as are recommendations for future assessments.

Red Porgy

Potential Modifications to previously approved assessment:

Does the SSC agree with removing an investigation into potential factors causing continued low recruitment?

The SSC noted the issue with low recruitment for several species that have been assessed. They recommended a workgroup be developed to address the issue. The SEFSC has also been conducting research related to the low recruitment.

SEFSC is recommending a SEDAR Procedural Workshop in 2024 to address this issue.

SSC Member Comment: All agreed.

Does the SSC agree with removing the second bullet?

The SSC report stated that information from EwE indicated there could be negative correlations between Red Snapper and Red Porgy. The autocorrelation and partial autocorrelations have been a suggestion for recent assessments.

Include abundance and catch time series to inform projection timeframes

Autocorrelation and partial autocorrelation functions

SEFSC indicated this will be addressed when addressing the Catch Level Working Group recommendations below

Negative correlations with Red Snapper and Red Lionfish

SEFSC indicated this is not possible without specific research to develop an indicator.

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SSC Member Comment: All were ok with removing both. Autocorrelations may not help explain what is happening and Catch Level Workgroup recommendations are being addressed. Some expressed concern and noted the research need to be done to understand potential impacts of Red Snapper and Lionfish on Red Porgy. However if it cannot be completed for the operational assessment, then it cannot be completed.

Does the SSC agree with rewording for autocorrleations and Catch Level Working Group recommendations? (This was the same for all three species)

Submitted: Catch level projection working group topics
Revised: Incorporate catch level working group recommendations, as feasible.

SSC Member Comment: All agreed

Gag

Potential Modifications to previously approved assessment:

Does the SSC agree with the rewording for bullet 1 on length and age composition?

Submitted: Incorporate methods to characterize length and age composition of gag grouper observed on videos from SERFS fishery independent surveys from other research track assessments. Trap sampling of gag was limited and potentially biased due to size selectivity of the gear.
Revised: Incorporate length composition from the video survey, as feasible.

SEFSC removed age data because there is no age data from the video survey.

SSC Member Comment: All agreed

Does the SSC agree with removing bullet on reference points?

The Council added this bullet point during their review of the statement of work.

Explore alternative reference points for management developed by GMFMC for Gag

SSC Member Comment: All agreed

Does the SSC agree with rewording for autocorrleations and Catch Level Working Group recommendations?

Submitted: Catch level projection working group topics
Revised: Incorporate catch level working group recommendations, as feasible.

SSC Member Comment: All agreed

Is a Topical Working Group Needed:

Does the SSC agree with changing from yes to possibly for topical working groups?

Submitted Yes – SEFSC Possibly

SSC Member Comment: Agreed- if recruitment and reproductive questions are better addressed with a SEDAR PW than a Topical WG, than a Topical WG may not be needed.

Does the SSC agree with the revised language for topical working groups?

Topic 1
The SSC provided specific recommendations on potential sources of recruitment information.

Submitted: Topic 1: Investigate potential sources of recent recruitment declines in gag in the South Atlantic. Gag recruitment has been low over the last 10 years, possibly due to overharvest or external environmental factors. Non-traditional datasets, such as inshore estuarine surveys and larval bridge net surveys, may be helpful in better understanding recruitment dynamics of gag.

Better characterize population and fishery dynamics of gag during their residency in estuaries. Gag spend their first year of life in estuaries, and differences in natural mortality, growth, or harvest between the estuarine phase and the offshore stock could induce biases in the assessment.

Revised: Low recruitment: The Center recommends a SEDAR Procedural Workshop (PW) be conducted in 2024 to examine the potential sources of recent recruitment declines in several reef fish species in the South Atlantic, including: gag, scamp, and red porgy. The Center will work with the Council to draft appropriate terms of reference for that PW.

SEFSC noted that the bridge net survey does not operate when gag ingress and SC DNR does not have a larval or estuarine survey.

SSC Member Comment: Agree with SEFSC's recommended revisions to address low recruitment with a SEDAR PW.

Topic 2
Although there has been little new reproductive data collected, SSC discussions indicated there was limited time during SEDAR 71 to investigate sperm limitation and other issues related to reproduction.

Topic 2: Better characterize the reproductive dynamics of gag including sex ratio, maturity schedule, batch fecundity, spawning seasonality, and spawning frequency, as well as the potential for sperm limitation. Mature male and female biomass was the measure of reproductive potential for this assessment, but may be biased if reproductive parameters vary significantly with size and age, or if sex ratio and other life history characteristics have varied considerably over time.
Revised: Reproductive Dynamics: A TWG is recommended if sufficient information is made available to better characterize the reproductive dynamics of gag (e.g. sex ratio, maturity schedule, batch fecundity, spawning seasonality, and spawning frequency, sperm limitation).

SEFSC noted reproductive work has been curtailed due to budget cuts. There is only 1 new fecundity sample since SEDAR 71. SERFS does not operate during gag spawning season.

SSC Member Comment: Agree with recommendation for a TWG, IF sufficient info becomes available.

King Mackerel

Potential Modifications to previously accepted assessment

Does the SSC agree with revised language for several bullets

Submitted: An evaluation of alternative age references, or age-specific time series, for the SEAMAP fishery independent survey was recommended by the data providers and noted by the analyst for future assessments.
Revised: Explore alternative age references, or age-specific time series for the SEAMAP fishery independent survey.

An analysis of the effect of excluding sublegal fish size observations on the assessment should be undertaken. Information on the age composition of discarded fish from all fleets is needed to validate the assumption of exclusively age-0 discards. The conditional age-at-length data had a significant influence on recent recruitment estimates.
Revised: Explore model sensitivity to the exclusion of sub-legal fish observations. Explore assumptions regarding the size/age of discards and bycatch.

Evaluate model sensitivity to the age-data and explore alternative parameterizations (such as inverse age-length key), as the fleet coverage was suboptimal with zero information available for several fleets and years.
Revised: Evaluate model sensitivity to the age-data and explore alternative parameterizations (such as inverse age-length key).

Run a sensitivity with FISHStory length data (1950s-1970s)
Revised: As feasible, explore the possibility to include a sensitivity run with FISHStory length data (1950s-1970s)

Include abundance and catch time series to inform projection timeframes
Autocorrelation and partial autocorrelation functions
Catch level projection working group topics
Revised: Incorporate catch level working group recommendations, as appropriate

SSC Member Comment: All agreed

Does the SSC agree with an added item regarding projections?

Provide a means to model projected discards in a manner that relaxes the assumption that discards would increase/decrease in proportion to changes in the landings.
SEFSC indicated this is an urgent topic.

SSC Member Comment: All agreed

Does the SSC agree with removing bullet regarding documentation?

This recommendation was included in the SEDAR 38 Update Assessment Report as a research recommendation.

Research aimed at improving the documentation of data series formatting, including index standardization, for SS3 would improve modeling efficiency. This includes statistical coding for consistent database querying and data processing.

SSC Member Comment: All agreed. One asked if this was an issue that should be addressed by the data providers.

Does the SSC agree with revising bullet regarding the max gradient?

During SoW development and review of the SEDAR 38 Update the SSC noted that the max gradient was very high. The SSC provided specific pieces of information to include in the next assessment to identify the issues with the max gradient.

Submitted: Explore cause of high max gradient for the model
Examine correlation among parameters in the .eva file and identify where smallest and largest eigenvalue is above 1 million.
Examine growth parameters as a potential cause
Describe the potential impact of cause identified for the high max gradient
Revised: Explore cause of high max gradient for the model. Describe the cause and implement improvements feasible.

SSC Member Comment: All agreed