Species:

Red Porgy

Model and Additional Data Years:

- Prior Assessment: SEDAR60 Red Porgy Standard Assessment
- Prior Terminal Year: 2017
- OA Terminal Year: 2024, adding 7 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 using appropriate CVs for the landings data to capture the uncertainty in the model results.

Potential Modifications to previously approved assessment (Please be as specific as possible):

- Investigate potential factors that may be contributing to the continued low recruitment of Red Porgy to inform projections including impacts of overharvesting and external environmental factors on winter spawners.
- Include abundance and catch time series to inform projection timeframes
  - Autocorrelation and partial autocorrelation functions
  - Negative correlations with Red Snapper and Red Lionfish
- Catch level projection working group topics

Is a Topical Working Group Needed? No

Consider having discussions of Red Porgy low recruitment along with Gag topical working group on low recruitment

If Yes, Topical Working Group Topics:

- Topic 1:
- Topic 2:

Suggested Topical Working Group Process:

Is an in-person workshop requested for the Topical Working Group, or can it meet via webinar.

POTENTIAL SCHEDULE:

- Cooperators use their process to develop SoWs
- SSC reviews SoWs at April meeting, then SAFMC reviews in September, 2022
- Initial Cooperator-approved SoWs submitted to SEFSC by November 1, 2022
- SEFSC provides feedback to Cooperators via memo no later than February 1, 2023
- Cooperators/Technical review bodies review feedback and negotiate final SoWs with SEFSC
- Final SoWs provided to SEDAR Program Manager by May 1, 2023
- Assessment Species are approved at Spring SEDAR Steering Committee Meeting, May 2023.

- Terms of Reference to SSC in October, 2023 and SAFMC in March, 2024
- Data scoping workshop meet 2025
- Topical working groups (if necessary) meet 2025
- Assessment reviewed by SSC and SAFMC in late 2025/early 2026

Species:
Gag Grouper

Model and Additional Data Years:

- Prior Assessment: SEDAR 71 Gag Operational Assessment
- Prior Terminal Year: 2019
- OA Terminal Year: 2024, adding 5 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 using appropriate CVs for the landings data to capture the uncertainty in the model results.

Potential Modifications to previously approved assessment (Please be as specific as possible):

- 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.
- Explore alternative reference points for management as developed by GMFMC for Gag
- Include abundance and catch time series to inform projection timeframes
  - Autocorrelation and partial autocorrelation functions
- Catch level projection working group topics

Is a Topical Working Group Needed? Yes

If Yes, Topical Working Group Topics:

- 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.
- 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.

Suggested Topical Working Group Process:
webinar.

POTENTIAL SCHEDULE:

- Cooperators use their process to develop SoWs
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- Initial Cooperator-approved SoWs submitted to SEFSC by November 1, 2022
- SEFSC provides feedback to Cooperators via memo no later than February 1, 2023
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- Final SoWs provided to SEDAR Program Manager by May 1, 2023
- Assessment Species are approved at Spring SEDAR Steering Committee Meeting, May 2023.
- Terms of Reference to SSC in October, 2023 and SAFMC in March, 2024
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- Topical working groups (if necessary) meet 2025
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Appendix
Research Recommendations for future:

- Implement systematic age sampling for the general recreational and commercial sectors. Age samples were important for this assessment for identifying strong year classes, but sample sizes were limited, particularly for the general recreational sector, which accounts for the majority of the recent landings.
- Age-dependent natural mortality was estimated by indirect methods (Lorenzen) for this assessment. Telemetry- and conventional-tagging programs can provide alternative estimates of natural mortality.

Species:
King Mackerel

Model and Additional Data Years:

- Prior Assessment: SEDAR 38U King Mackerel Update Assessment
- Prior Terminal Year: 2017/2018 FY
- OA Terminal Year: 2024, adding 6 years of new data
- Apply the current SS3 configuration.

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

- Include any new and updated information on life history, discard mortality, and steepness.
- Explore using appropriate CVs for the landings data to capture the uncertainty in the model results.

Potential Modifications to previously approved assessment (Please be as specific as possible):

- 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.
- 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.
- 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.
- 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.
- 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
    - Run a sensitivity 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

Is a Topical Working Group Needed? No

If Yes, Topical Working Group Topics:

- Topic 1:
- Topic 2:

Suggested Topical Working Group Process:

Is an in-person workshop requested for the Topical Working Group, or can it meet via webinar.

POTENTIAL SCHEDULE:

- Cooperators use their process to develop SoWs
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Appendix

List of Research Recommendations:

- impacts of climate change on winter spawners
- Investigate potential factors that may be contributing to the continued low recruitment of Red Porgy, including egg production, egg quality, fertilization rate, juvenile survival, sex ratio, and size/age of sex transition
- Investigate whether Red Porgy males establish and maintain territories as part of their spawning behavior (although territorial behavior has not previously been observed, the SSC deemed the question worthy of further investigation).
- Investigate the potential impact(s) on Red Porgy of increased abundance of Red Lionfish and Red Snapper (or other piscivores found to have recent increased abundance) in the South Atlantic, including:
    - Predation of juvenile Red Porgy by Red Lionfish and Red Snapper and its potential impact on the apparent recruitment failure of Red Porgy
    - Competition for prey between Red Snapper and Red Porgy (e.g., diet composition and size range overlaps)
    - Exploring to what extent the resurgence in the Red Snapper South Atlantic population co-occurred with the decline in the South Atlantic Red Porgy population

Potential Items for a Research Track Assessment:

- Investigate temporal trends in growth, sex at age, and female maturity at age. In the previous assessments, female maturity at age was estimated for several time blocks and included in the model as a time-varying relationship. During the current assessment process, the basis for modeling only female maturity as time-varying was called into question, given that life history parameters are often linked. The decision was made to use only a single female maturity at age relationship. However, the panel judged this to be an important area of future research.