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## SEDAR (TBD) South Atlantic Gag Grouper Terms of Reference

1. Update the SEDAR 71 South Atlantic Gag Grouper assessment model with the most recently available data. Data providers may include preliminary or partial data for more recent years that could be used in the stock assessment model or projection analyses, with inclusion in the stock assessment model determined by the lead analyst based on quantity and quality of the most recent **data**.
2. Incorporate the latest BAM model configurations and data calculation methods, detailing the changes made between the SEDAR 71 operational assessment model and the proposed (SEDAR TBD) assessment model. Provide a model run using the SEDAR 71 Gag Operational Assessment configuration including recent years data (following NMFS Procedure 01-101-11).
3. Consider new and updated information on life history, natural mortality, discard mortality, the stock-recruit relationship, commercial and recreational landings and discards. Document any changes or corrections made and provide updated input data tables. Provide commercial and recreational landings and discards in pounds and numbers. Provide sensitivity analyses as needed to compare assessment results between new values in (SEDAR TBD) and values from SEDAR 71.
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.
  - a. Evaluate a range of MSY benchmark proxies if an MSY proxy is recommended, and determine the best proxy that approximates **MSY**.
  - b. Provide F, yield, discards, biomass, SSB and recruitment levels that correspond to MSY or its chosen proxy.
5. Evaluate and document the following specific changes in input data or deviations from the previous assessment model:
  - a. Incorporate length composition from the SERFS video survey, as feasible.
  - b. Consider the newest methods for estimating natural mortality including a subset of Then et al. 2015, Hamel and Cope 2022, or other research. Consider direct estimation methods such as telemetry or conventional tagging approaches if available. Consider estimation of natural mortality within the stock assessment.
  - c. Address as many of the recommendations as possible of the South Atlantic SSC Catch Level Projections workgroup outlined on page 16 of the final workgroup report found [here](#).
6. Convene a Topical Working Group (TWG) including SSC representatives, industry representatives, and outside experts to meet via webinar or in-person prior to assessment development. This group of specialists will evaluate the following subject and document specific changes in input data or deviations from the SEDAR 71 model:
  - a. Reproductive Dynamics: A TWG is recommended to better characterize the reproductive dynamics of gag (e.g. sex ratio, maturity schedule, batch fecundity, spawning seasonality, spawning frequency, and sperm limitation).

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7. Convene a SAFMC approved technical workgroup including SSC representatives, industry representatives, and outside technical experts to meet via webinar or in-person as needed to review model development and provide guidance.
  8. Compute short-term and long-term population projections as necessary to provide OFL estimates and ABC advice. Provide additional population projections as necessary to address overfishing or overfished stock conditions (e.g. rebuilding).
  9. Develop a stock assessment report to address these TORs and fully document the input data, methods, and results.

