



# SEDAR

## SouthEast Data, Assessment, and Review

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### SEDAR 81: Gulf of Mexico Spanish Mackerel Operational Assessment Terms of Reference

October 2021

Updated: June 2023

1. Update the approved SEDAR 28 Gulf of Mexico Spanish mackerel base model with data through 2021.
2. Document any changes or corrections made to model and input datasets and provide updated input data tables.
  - Document changes in MRIP data, both pre- and post-recalibration, in terms of the magnitude of changes to catch and effort.
    - Generate a catch equivalency table to describe the catch recommendations which would have resulted had MRIP-FES data been used in SEDAR 28.
  - Include available length frequency for the commercial fleet(s).
  - Update life history data (e.g., growth, reproduction, mortality) if warranted.
    - Consider age-dependent versus constant natural mortality estimates.
  - Characterize any differences in annual commercial and recreational landings data from the SEDAR 28 stock assessment greater than 5% in any year, respecting appropriate data currencies.
3. To the extent possible, the following should be considered for inclusion in the model:
  - Consider whether steepness can be estimated, with or without a prior. If steepness is fixed, evaluate the sensitivity of that assumption.
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. Provide commercial and recreational landings and discards in pounds and numbers.
  - Use the following status determination criteria (SDC):
    - $MSY$  proxy = yield at  $F_{MSY}$  or  $F_{Rebuild}$  (if overfished)
    - $MSST = (1-M)*SSB_{MSY}$
    - $MFMT = F_{MSY}$  and  $F_{Rebuild}$  (if overfished)
    - $OY = ACL$  as defined by the Gulf and South Atlantic Councils in CMP Amendment 18 (GMFMC and SAFMC 2011).
    - If different SDC are recommended, provide outputs for both the current and recommended SDC.



- Unless otherwise recommended, use the geometric mean of the previous three years' fishing mortality to determine  $F_{\text{Current}}$ . If an alternative approach is recommended, provide justification and outputs for the current and alternative approach.
  - Describe changes in catch advice as they relate to the use of FES-adjusted MRIP recreational catch and effort data, versus changes related to stock abundance.
  - Provide yield and spawning stock biomass streams for the overfishing limit and acceptable biological catch in pounds:
    - Annually for five years
    - Under a “constant catch” scenario for both three and five years
    - For the equilibrium yield at  $F_{\text{MSY}}$ , when estimable
5. Develop a stock assessment report to address these ToRs and fully document the input data and results of the stock assessment.