



SEDAR

SouthEast Data, Assessment, and Review

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SEDAR 88 Gulf of Mexico Red Grouper Operational Assessment Terms of Reference April 2023

1. Update the approved SEDAR 61 Gulf of Mexico red grouper base model with data through 2022.
 - Use the State of Florida's State Reef Fish Survey (SRFS) to inform private recreational landings data, if historical SRFS landings have been calibrated and SRFS has been certified by the NOAA Office of Science and Technology.
 - Document any changes or corrections made to model and input datasets and provide updated input data tables.
 - Update life history data (e.g., growth, reproduction, mortality) if warranted.
 - 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.
 - Consider the treatment of recreational harvest:
 - Consider inputting recreational catch in weight (i.e., pounds) instead of in numbers of fish.
 - Re-evaluate error estimates for recreational landings.
 - Explore the effects of the changes in the mean weight estimation procedure between SEDAR 61 and the 2021 red grouper interim analysis
 - If using numbers of fish as the input unit for recreational catch, compare the mean weights estimated by the model with that reported by the SERO ACL Monitoring Dataset, or explore fitting to the SERO mean weights.
2. Explore the potential effects of red tide with consideration of past red tide events, and more recent events in 2018 and thereafter. Explore age-specific episodic mortality of red grouper due to red tide.
3. 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 or MSY proxy = yield at F_{MSY}
 - If the stock is overfished, provide projections at $F_{Rebuild}$
 - $MSST = 0.5 * SSB_{MSY}$
 - $MFMT = F_{MSY}$ (or proxy) and $F_{Rebuild}$ (if overfished)
 - $OY = 75\%$ of F_{MSY}



- The current proxy for F_{MSY} for red grouper is $F_{30\%SPR}$. Also provide estimates using an MSY proxy of $F_{40\%SPR}$.
 - 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 $F_{Current}$. If an alternative approach is recommended, provide justification and outputs for the current and alternative approach.
 - 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_{MSY} , when estimable
4. Develop a stock assessment report to address these TORS and fully document the input data and results of the stock assessment model.