

SEDAR XX: Gulf of Mexico Gag Grouper
Operational Assessment DRAFT Terms of Reference
10 September 2018

1. Update the approved SEDAR 33 Update Gulf of Mexico gag grouper base model with data through 2019.
2. Document any changes or corrections made to model and input datasets and provide updated input data tables.
 - Re-evaluate the potential effects of red tide on gag, with consideration of past red tide events through 2018.
 - Document changes in MRIP data, both pre- and post-recalibration, in terms of the magnitude of changes to catch and effort.
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.
 - Examine spawning stock biomass with respect to females only, males and females combined, and in number of eggs, as the data allow.
 - Use the following status determination criteria (SDC) adopted in Amendment 30B:
 - $MSY\ proxy = yield\ at\ F_{MAX}$
 - $MSST = 0.5 * B_{MAX}$
 - $MFMT = F_{MAX}$
 - 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 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 secondary model, such as a surplus production model (e.g., Just Another Bayesian Biomass Assessment model [Winker et al. 2018]) to perform a side-by-side comparison with the proposed base model from Stock Synthesis.
5. Develop a stock assessment report to address these TORS and fully document the input data and results of the stock assessment and the comparison model.

Commented [WU1]: This doesn't really belong in "operational model" TORs. Presumably, alternative model structures have been/will be considered during the "research track" assessment. To improve efficiency and assessment throughput, The operational model must be very close to an update assessment. However, if no alternative model structure has been considered in recent assessments, we could make exceptions in certain cases.

SEDAR XX: Gulf of Mexico Greater Amberjack
Operational Assessment DRAFT Terms of Reference
10 September 2018

1. Update the approved SEDAR 33 Update Gulf of Mexico greater amberjack base model with data through 2017.
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.
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):
 - $MSY \text{ proxy} = \text{yield at } F_{SPR \ 30\%} \text{ or } F_{Rebuild} \text{ (if overfished)}$
 - $MSST = 0.5 * B_{SPR \ 30\%}$
 - $MFMT = F_{SPR \ 30\%} \text{ or } F_{Rebuild} \text{ (if overfished)}$
 - 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 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 secondary model, such as a surplus production model (e.g., Just Another Bayesian Biomass Assessment model [Winker et al. 2018]) to perform a side-by-side comparison with the proposed base model from Stock Synthesis.
5. Develop a stock assessment report to address these TORS and fully document the input data and results of the stock assessment and the comparison model.

Commented [WU2]: Same comments as on Gag TORS.