

Assessment Terms of Reference for SAW/SARC48, June 2009

(file: 12/22/08b)

A. Tilefish

1. Characterize the commercial catch including landings, effort and discards. Characterize recreational landings. Evaluate utility of study fleet results as improved measures of CPUE.
2. Estimate fishing mortality and total stock biomass for the current year, and for previous years if possible, and characterize the uncertainty of those estimates. Incorporate results of new age and growth studies.
3. Update or redefine biological reference points (BRPs; estimates or proxies for B_{MSY} and F_{MSY}). Comment on the scientific adequacy of existing and redefined BRPs.
4. Evaluate stock status with respect to the existing BRPs, as well as with respect to updated or redefined BRPs (from TOR 3).
5. Develop and recommend analytical approaches and data that can be used for conducting single and multi-year stock projections and computing candidate ABCs and TACs (or TALs). Provide numerical short-term projections (2-3 years). Projections should include probabilities of exceeding BRPs for F and probabilities of falling below BRPs for biomass.
 - a. In carrying out projections, consider a range of assumptions about the most important uncertainties in the assessment (alternate states of nature). If possible, comment on the relative probability of the alternate states of nature.
 - b. Compute the expected change in biomass as a function of alternative catches.
 - c. Compute the probability of exceeding $F_{REBUILD}$ and F_{MSY} values for alternative catches.
6. Review, evaluate and report on the status of the research recommendations offered in recent SARC reviewed assessments. Identify new research recommendations, including recruitment estimation.

B. Ocean quahog

1. Characterize commercial catch including landings, effort, and discards.
2. Estimate fishing mortality, spawning stock biomass, and stock biomass for the current and previous years. Characterize uncertainty of the estimates.
3. Update or redefine biological reference points (BRPs; estimates or proxies for B_{MSY} and F_{MSY}). Comment on the scientific adequacy of existing and redefined BRPs.
4. Evaluate stock status with respect to the existing BRPs, as well as with respect to updated or redefined BRPs (from TOR 3).
5. Develop and recommend analytical approaches and data that can be used for conducting single and multi-year stock projections and computing candidate ABCs and TACs (or TALs). Provide numerical short-term projections (3-4 years). Projections should include probabilities of exceeding BRPs for F and probabilities of falling below BRPs for biomass.
 - d. In carrying out projections, consider a range of assumptions about the most important uncertainties in the assessment (alternate states of nature). If possible, comment on the relative probability of the alternate states of nature.
 - e. Compute the expected change in biomass as a function of alternative catches.
 - f. Compute the probability of exceeding F_{MSY} values for alternative catches.
6. Review, evaluate and report on the status of SARC/Working Group research recommendations listed in recent SARC reviewed assessments. Identify new research recommendations.

C. Weakfish (Draft Terms of Reference. Approved by the Weakfish Stock Assessment Subcommittee on January 7, 2008. Approved by the Weakfish Management Board on February 5, 2008, with the understanding that TORs 3 and 4 may be further refined.)

1. Evaluate biases, precision, uncertainty, and sampling methodology of the commercial and recreational catch including landings and discards.
2. Evaluate precision, geographical coverage, representation of stock structure, and relative accuracy of the fisheries independent and dependent indices of abundance.
3. Evaluate the catch at age modeling methods and the estimates of F, spawning stock biomass, and total abundance of weakfish produced, along with the uncertainty of those estimates. Review the severity of retrospective bias.
4. Evaluate the aggregated biomass modeling and index methods and the estimates of F, spawning stock biomass, and total abundance of weakfish produced, along with the uncertainty of those estimates. Determine whether these techniques, including predator-prey extensions, could substitute for age-based modeling for management advice.
5. Review evidence for constant or recent systematic changes in natural mortality.
6. Estimate and determine the accuracy and precision of biological reference points.
7. Review stock projections and impacts on the stock under different assumptions of fishing and natural mortality.
8. Make research recommendations for improving data collection and assessment.