



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116  
John Pappalardo, *Chairman* | Paul J. Howard, *Executive Director*

**MEMORANDUM**

**DATE:** August 6, 2010  
**TO:** Scientific and Statistical Committee (SSC)  
**FROM:** Paul J. Howard, Executive Director  
**SUBJECT:** Terms of Reference - Review of Monkfish Biological Reference Points and Interim Acceptable Biological Catch (ABC) control rule and develop updated Recommendations to Council

**Terms of Reference  
SSC Review of Monkfish Biological and Management  
Reference Points**

- 1) Review SARC 50 Report, Monkfish (Goosefish) Assessment for 2010, including the recommendations for updating biomass reference points, and the approach to estimating the MSY proxy, for purposes of developing an ABC recommendation for the monkfish resource;
- 2) Review the PDT's updated calculation of OFL using SARC 50 results; and
- 3) Develop a recommendation to the Council for an updated ABC that accounts for uncertainty in the estimate of OFL, including assessment model uncertainties and projection uncertainties.

An updated monkfish stock assessment was recently been completed in the context of SARC 50, held in July, 2010. The Council also has recently submitted Amendment 5 to the Fishery Management Plan for Monkfish which incorporates annual catch limits (ACLs) and accountability measures (AMs) for both northern and southern management area (NMA and SMA) stock components. The Amendment also includes specifications for 2011-2013. In Amendment 5, the New England and Mid-Atlantic Councils adopted the recommendations of the SSC with regard to the interim Acceptable Biological Catch (ABC) based on information from the 2007 Data Poor Working Group (DPWG) assessment and updated material provided by the Monkfish Plan Development Team, as summarized in Attachment #5 (May 2009 SSC Meeting Memo, presented at the June 23, 2009 Council meeting). Stock status reported in Amendment 5 is based on the DPWG recommended biomass reference points.

In March 2009, the SSC made the following recommendation to the Council which was adopted in Amendment 5 as the ABC control rule:

*An interim Acceptable Biological Catch should be derived as the product of the average exploitation rate during the recent period of stable or increasing trend in biomass for each management unit and the most recent estimate of exploitable biomass. Therefore, the method of determining ABC should be considered an interim proxy until Overfishing Level of Catch and its uncertainty can be projected*

The SARC 50 report (Summary, Attachment #1 and Full Report, Attachment #2) provides recommendations for updating the biomass reference points based on the long-term projected biomass corresponding to  $F_{msy}$  or its proxy (in this case,  $F_{max}$ ). Based on this approach, SARC 50 recommended biomass targets and thresholds to be calculated as  $B_{max}$  at  $F_{max}$ , and  $0.5 * B_{max}$ , respectively. This approach will also allow for the calculation of a proxy value for Maximum Sustainable Yield (MSY) as the total catch produced from the long-term  $B_{target}$  at the respective values of  $F_{max}$  for each management area.

Additionally, the assessment enables a recalculation of the point estimate of catch corresponding to overfishing (OFL, the overfishing limit,  $F_{threshold} * B_{current}$ ). Uncertainty in the estimate of OFL is the basis for setting ABC. The 2007 DPWG assessment did not provide the capability to characterize the uncertainty in the model results, which is why the SSC developed the current *interim* ABC control rule. Because of continuing uncertainty in critical inputs to the SCALE model, uncertainty in the estimate of OFL cannot be adequately quantified by examining results of the stochastic projections, as these do not capture the input uncertainty, which is considered very significant. Therefore an interim approach to estimating ABC will need to be continued. The PDT has updated the calculation of ABC using the current interim control rule and SARC 50 results (see attachment #3).

Documents:

Monkfish TOR Memo

- 1) SARC 50 Monkfish Assessment Summary Report for 2010
- 2) SARC 50 Monkfish Assessment Report for 2010
- 3) Monkfish PDT calculation of OFL and interim rule based ABC, using updated, SARC 50, results, and discussion of sources of uncertainty
- 4) March 2009 SSC Report to the Council
- 5) May 2009 SSC Report to the Council

**Note: the reports of the SARC reviewers are now available on the NEFSC website. They address scallops and pollock, as well as monkfish.**

[http://www.nefsc.noaa.gov/nefsc/saw/SAW%2050/Reviewer%20Reports/saw50\\_panelists\\_report.html](http://www.nefsc.noaa.gov/nefsc/saw/SAW%2050/Reviewer%20Reports/saw50_panelists_report.html)