



Term of Reference 3: Peer Review Process

Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC)

The Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC) process has been jointly established by the NMFS Northeast Fisheries Science Center (NEFSC), NMFS Greater Atlantic Regional Fisheries Office (GARFO), New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council (MAFMC), and Atlantic States Marine Fisheries Commission (ASMFC) to conduct the peer review of scientific stock assessment information used for fishery management in the Northeast and Mid-Atlantic regions.

The Northeast Regional Stock Assessment Workshop (SAW) is a formal scientific peer-review process for evaluating and presenting stock assessment results to managers. The SAW protocol is used to prepare and review assessments for fish and invertebrate stocks in the offshore U.S. waters of the northwest Atlantic. Assessments are prepared by SAW working groups (federally-led assessments) or ASMFC technical assessment committees (state-led assessments.) The assessment are then peer reviewed by an independent panel of stock assessment experts called the Stock Assessment Review Committee (SARC), who determine the adequacy of assessments for providing a scientific basis for management. Published SAW assessment reports reflect the written decisions and conclusions of the SARC panel regarding each of the assessment Terms of Reference.

The assessment schedule is developed by the Northeast Region Coordinating Council (NRCC). The NRCC includes high-level representatives from the NEFSC, GARFO, MAFMC, NEFMC, and ASMFC. Assessment scheduling is an NRCC consensus decision, based on many factors. The NEFSC Science and Research Director has the ultimate responsibility for staff tasking and prioritization even though the assessments will be based on NRCC consensus to the extent possible. Peer-reviewed assessment results and reports from the SARC review panel are provided to the science and statistical committees (SSCs), who then make acceptable biological catch (ABC) recommendations to the fishery management councils.

The terms of reference (TORs) for conducting a peer review within the SAW/SARC process are reviewed and established prior to each SAW/SARC meeting by the NEFSC, the NRCC, GARFO, NEFMC, MAFMC, ASMFC, and their appropriate committees.

The SAW/SARC process for conducting peer review of scientific information for fishery management is fully compliant with the Magnuson-Stevens Act National Standard 2 guidelines. Peer reviewer selection takes into consideration qualifications of experts, balance of perspective, conflict of interest, and independence. Benchmark stock assessments undergo a higher degree of peer review than do stock assessment updates because the latter incorporate new data into the previously accepted benchmark assessment model. Results from these assessments are entered into the NMFS Species Information System.

SAW working group meetings, as well as the SARC peer review meetings, are open to the public. Dates and locations of these meetings are posted on a public NEFSC webpage well in advance, and peer review meetings are also announced through public notices and at public Fishery Management Council meetings. SAW working papers made available to the SARC are available on a public NEFSC webpage before, during, and after the peer review. Names of reviewers are posted online. Paper copies of reports are available during peer reviews. A public comment period is scheduled on the SARC review meeting agenda. When the peer review is completed, published proceedings and reviewer reports are posted on public NEFSC webpages (<http://www.nefsc.noaa.gov/publications/> and <http://www.nefsc.noaa.gov/nefsc/saw/>) and public presentations are given to the Fishery Management Councils. A detailed description of the SAW/SARC peer review guidelines is available to the public at <http://www.nefsc.noaa.gov/nefsc/saw/>.

Transboundary Resources Assessment Committee (TRAC)

The Transboundary Resources Assessment Committee (TRAC), the scientific arm of the Transboundary Management Guidance Committee (TMGC), was established jointly with the Department of Fisheries and Oceans (DFO) in Canada, and with full participation of the NMFS Northeast Fisheries Science Center (NEFSC), NMFS Greater Atlantic Regional Fisheries Office (GARFO), and the New England Fishery Management Council (NEFMC), to conduct peer review of scientific information used for fishery management in the transboundary waters of the Northeast region.

The TRAC is overseen by the US-Canada Steering Committee, composed of executive directors and chairs of the NEFMC, the GARFO Regional Administrator, and Canadian counterparts. It is co-chaired by NMFS and DFO personnel. The TRAC is an integrated peer-review process for annual stock assessments as well as for “benchmark” assessments that are reviewed periodically. The benchmark assessment meeting is a review by independent experts of the scientific rigor of the assessment approach to determine its adequacy for providing a scientific basis for catch advice. The benchmark meeting reviews (1) the data, where datasets are documented and analyzed, and (2) the proposed model that provides quantitative population analyses and population parameters. The final accepted benchmark stock assessment model is then applied in the annual stock assessments.

Terms of reference

The terms of reference are established and reviewed prior to each TRAC meeting by the TMGC, the NEFSC, the NRCC, and parallel committees in DFO before final review by the US-CA Steering Committee.

Transparency

TRAC meetings are open to the public, and meeting dates are posted on the TRAC website and by a link on the SAW/SARC website. Letters of invitation for these meetings are sent via e-mail announcing meeting dates, location, and agenda. Prior to the TRAC meeting, science-industry meetings are held with the fishing industry to provide an opportunity to share any concerns relative to the data that will be used in the upcoming assessments. Assessment results are presented to the TMGC, the NEFSC, and the US-CA Steering Committee, and the assessment results are used by the NEFMC and GARFO as a basis for fishery management decisions. Working papers are available on the TRAC website and on a public website prior to each meeting. Final peer review assessment results, status reports, and proceedings are available on the TRAC website, maintained by DFO at <http://www2.mar.dfo-mpo.gc.ca/science/trac/rd.html>, and status reports are available on the NEFSC website <http://www.nefsc.noaa.gov/saw/trac/>.

Operational Assessments

Operational assessments were conceived to allow an expedited peer-review process that would help meet the demands and needs of the Councils and Commission for more timely stock assessment reports. The operational assessments are part of a transitional process for stock assessments in the Northeast wherein assessments models are classified as “research” or “operational.” Research models are those under development, and may be incorporating new processes, estimation methods, and data sets. Research models are not ready for direct use in management until they have been peer-reviewed *via* a benchmark assessment. The products of a benchmark assessment are considered “operational” and therefore ready for general application.

In contrast to the detailed terms of reference (TOR) associated with a benchmark assessment *via* the SARC or TRAC, an operational assessment is based on a limited TOR, defined by an Assessment Oversight Panel (AOP). The panel consists of a senior NEFSC assessment scientist and the chairs of the Mid-Atlantic and New England SSCs. It is advised by staff of GARFO, NEFMC, MAFMC, and the ASMFC through the Northeast Regional Coordinating Council (NRCC). The purpose of the AOP’s review is to finalize the terms of reference for each assessment and review the assessor’s proposed approach for every assessment. One key feature is that each assessor is also expected to provide an alternative approach to the assessment should the baseline model fail (the Plan B option). The AOP review focuses on any changes in the baseline model proposed by the lead assessor, recognizing that the proposed modeling approach should follow the baseline model as closely as possible. Other possible approaches to the assessment can be discussed, and proposals from other potential assessors can also be tabled.

However, any approaches significantly different from the baseline model will be referred to be research track for study, development, and peer review.

Operational assessments themselves are based on an integrated peer-review process that includes at minimum the lead assessor(s), the SSC member responsible for the stock, and an assessment scientist either from outside of NMFS; if from within NMFS, then from outside of the lead assessor's working group. External experts from other NMFS science centers, academia, or international institutions may also participate. Results from the peer review are then forwarded to the plan development team/technical committee/SSC use in setting the acceptable biological catch (ABC).

The operational assessment process has been tested twice in the Northeast: the 12-stock groundfish update in 2012, and the 2013 monkfish assessment. The operational assessment will be applied again in August 2014 to assess three stocks within the multispecies (groundfish) FMP.

Updates Assessments

“Update assessment” refers to products prepared by NEFSC scientists that are reviewed directly by fishery management council SSCs. Update assessments apply an existing peer-reviewed model with updated fishery-dependent and -independent data. Terms of reference are standardized, and focused on estimating current biomass and fishing mortality, and deriving an appropriate overfishing limit (OFL). Depending upon the species and council, a candidate ABC may also be estimated. Changes to model parameterization are generally minimal. For example, in a statistical-catch-at-age model the selectivity parameters would be re-estimated with the updated data. Larger changes in model parameterization, such as a change in natural mortality or the basis of a biological reference point, would be beyond the scope of an update and require instead a full benchmark assessment. In some instances, a change in the value of a biological reference point can be made in an update. For example a change in the recruitment time series, average weights, or fishery selectivity may warrant re-estimation of the reference points.

The lead assessment scientist has primary responsibility for assembling the data, running the model, modifying it as necessary, and preparing a report to the SSC. In the Mid-Atlantic region, the SSC will often have a public comment briefing webinar in which the lead scientist will provide initial details on the updated data and the proposed scope of work. Following that the draft assessment report is delivered to the SSC and subsequently presented to the SSC either in person (preferred) or by webinar. The SSC then prepares a written summary of their findings and a decision on the ABC. These estimates are then used by the Council and appropriate standing committees for development of fishery specifications (e.g., landings, allocations, accountability measures).

The term “update” can also be applied to data series, relative abundance and exploitation indices, or other indicators for consideration by the councils. Such metrics are often used in a qualitative way to evaluate abundance trends or fishery performance, or in a more formal way such as the use of statistical control charts. The MAFMC SSC is developing a “rumble strip” approach based on scoring of several metrics. The NEFMC uses a control chart approach for the evaluation of species within the skate complex. In both instances the reports are reviewed internally and delivered to the councils by formal correspondence. The lead scientist will generally present the report to the SSC in person if logistically possible.

Atlantic Salmon Assessments

The Atlantic salmon in the Gulf of Maine have been designated as an endangered population within the US and are the subject of long-term restoration efforts and habitat improvement. Evaluation of these assessments will be considered in the 2015 NFMS Program Review for Protected Species. A description of the assessment process for Atlantic salmon is included herein to illustrate additional assessment work conducted by the Population Dynamics Branch.

NEFSC assessment scientists work closely with the US Fish and Wildlife Service and state natural resource agencies from Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine to assess the domestic status of Atlantic salmon in the United States. Each state and federal agency provides representatives to the US Atlantic Salmon Assessment Committee (USASAC). The USASAC produces annual reports on stock status and associated activities (<http://www.nefsc.noaa.gov/sos/spsyn/af/salmon/>).

The North Atlantic Salmon Conservation Organization (NASCO) is an international treaty organization charged with managing Atlantic salmon throughout their range based on the best available scientific information. NASCO seeks scientific advice from the International Council for the Exploration of the Seas (ICES) on a number of different issues including stock status across the species range, and catch advice for mixed-stock fisheries subject to the NASCO convention. NEFSC assessment scientists participate in the ICES Working Group on North Atlantic Salmon (WGNAS) to address terms of reference provided to ICES from NASCO. The USASAC annual report provides the basis for the US input data needed by the WGNAS. The WGNAS annual report is peer reviewed by the ICES Salmon Review Group (RG) in conjunction with the Working Group on Baltic Salmon and Trout. The Salmon RG is composed of a panel of experts and together with the WGNAS report, they draft the advice document in response to the terms of reference. Draft advice documents for NASCO are reviewed by the ICES Advisory Committee (<http://www.ices.dk/community/groups/Pages/WGNAS.aspx>).