



Term of Reference 2: Is the Assessment Process Efficient and Effective?

Summary

The Northeast Fisheries Science Center (NEFSC) assessment process provides a portfolio of assessment products for more than 60 stocks. Assessment products range from full benchmarks to updates of assessments models to data updates for use by the plan development teams and Scientific and Statistical Committees.

The NEFSC stock assessments are provided to the New England Fishery Management Council (NEFMC), the Mid-Atlantic Fishery Management Council (MAFMC), and the Atlantic States Marine Fisheries Commission (ASMFC). Between the two Councils there are 14 fishery management plans (FMPs). The scope of FMPs range from single-stock single species plans to a 20 stock multispecies plan. There are two FMPs jointly managed by NEMFC and MAFMC. One species, spiny dogfish, is jointly managed by the two Councils and the Commission. The ASMFC shares management responsibilities with the NEFMC on two stocks and with the MAFMC on three stocks. Finally there are three stocks that are managed separately by the ASMFC. Three fishery management area stocks are jointly managed with Canada as part of the Transboundary Resource Assessment Committee (TRAC). Adding a layer of complexity is that there are five distinct fishing years among the FMPs. NEFSC staff are actively involved with a number of endangered and potentially endangered species assessments including those for Atlantic salmon, river herring and shad, Atlantic sturgeon, and cusk.

In a nutshell, there is no downtime in the stock assessment cycle. Demands of Magnuson Stevens Act are great. The current process for developing benchmarks cannot provide annual benchmarks for each species stock. Apart from a traditional biannual Stock Assessment Review Committee (SARC) to review benchmarks of two to four stocks at each weeklong meeting, and a somewhat routine annual cycle for updates of MAFMC stock assessments, the annual cycle is driven primarily by the regulatory need of the Councils and Commission. The pulsing of assessment demand has led to a number of special projects such as the GARM I, II, and III, a Data Poor Working Group, and a number of multi-stock Operational Assessments over the past 10 years.

From an institutional standpoint, the relationships among the Councils, Commission, Greater Atlantic Regional Fisheries Office (GARFO), and NEFSC are evolving in response to the demands of the Magnuson Stevens Act. The enhanced role of the Science and Statistical Committee (SSC) within each Council has been positive, but it has created a need to interweave another set of meetings, committees, and reports within a set of working relationships already well-established. Hence, the time available for stock assessments must also be constrained to accommodate these changes.

All stock assessments are conducted on a calendar year cycle. Ultimately all analyses for stock assessments depend on the availability of the fishery-dependent data from the preceding year. The final assembly and auditing of the landings and discard data, and the *post hoc* allocation of catches to stock areas, occurs in late April to early May. Reasons for this timing were enumerated at the NEFSC Data Program Review in August 2013.

Stock assessments in the Northeast are often implanted with catch data that are three years old, owing to when the data arrive, the model development and review process, the council implementation process, and the GARFO regulatory implementation period. For example, catch data from 2013 that become available in May 2014 would be analyzed and reviewed at a November 2014 SARC, reviewed by the SSC in January 2015, considered by the Plan Development Team (PDT) and Council Committees throughout 2015 with Acceptable Biological Catch (ABCs) to be implemented by GARFO at the start of the 2016 fishing year in May 2016.

The inefficiencies introduced by lags between data availability and management action stain the ability of any model to give sound management advice. Forecasts for some stocks have been accurate, but in many instances the utility of longer-term forecasts for management declines with time. Hence, the need to update assessments increases. Underlying process changes, often resulting in retrospective patterns, are a cause for concern and exacerbate the problems of resource management. Incorporation of the uncertainty of retrospective pattern is controversial.

The Councils and Commission have either developed or are preparing methods to deal with uncertainty. Actual implementation of these policies will be a challenge as not all of the consequences can be anticipated.