SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
TERMS OF REFERENCE FOR GROUNDFISH REBUILDING PLAN

Since the last Council meeting, members of the Scientific and Statistical Committee (SSC) Groundfish Subcommittee have revised the SSC Terms of Reference for Groundfish Rebuilding Analyses (Agenda Item B.4.a, Supplemental SSC Terms of Reference, April 2005). The draft version of the document, which revises the guidelines in a number of important ways, was reviewed by the SSC. Some areas of significant revision include:

1. A more explicit procedure for determining the overfished, minimum stock size threshold is provided, (i.e., the maximum likelihood estimate of depletion or the maximum of the posterior density function).

2. Rebuilding projections based on a spawner-recruit curve estimated from a stock assessment are given equal standing with projections based on re-sampling of year-specific estimates of recruitment.

3. Terminology and notation is revised to be consistent with language used in amendments to the groundfish fishery management plan (FMP).

4. Additional requirements to include certain reporting elements requested by the Groundfish Management Team (GMT) are included (e.g., the estimate of P_{MAX} at F=0; see Agenda Item B.4.a, Attachment 1, April 2005: Groundfish Management Team Report on Terms of Reference for Groundfish Rebuilding Plan Review).

5. A section on Evaluating Progress Towards Rebuilding is included.

6. Decision tables to highlight the implications to management of model uncertainty are encouraged.

Based on its discussion of the draft document, the SSC endorses adoption of the revised guidelines. Notwithstanding that endorsement, the following recommendations were developed after some discussion.

1. $B_{40\%}$ should be maintained as the rebuilding target (B_{MSY} proxy) until a workshop can be convened to evaluate possible redefinition of biomass-based targets and thresholds that are in use by the Council. Even so, it is desirable to compare virgin biomass (B_0) estimated from the stock assessment model and from the rebuilding software to evaluate the consistency of these estimates.

2. Under Section 7 (Evaluating Progress Toward Rebuilding) the second paragraph and second set of bullet points should be deleted until more definitive progress has been made on establishing the Council's policy on this subject. A joint meeting (Council, SSC, Groundfish Advisory Subpanel (GAP), and GMT) scheduled for the June meeting should advance this issue forward
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3. Section 9 (The Consequences of Spatial Structure) should be deleted. The SSC recognizes that there often is a need to spatially partition an optimum yield (OY), and stock assessment results are frequently insufficient to do so. This difficulty, however, is not unique to species under rebuilding plans, but pertains to healthy stocks as well. To help solve this problem, the SSC agreed to review the analytical approaches the GMT has used to spatially distribute an OY.

4. An example presentation of the required documentation (Section 10) would be useful to analysts conducting rebuilding analysis.

5. The SSC's Groundfish Subcommittee agreed to complete these revisions and to provide the revised document to the Council within the next two weeks.

The SSC also examined "SSC Default Rebuilding Analysis – Technical specifications and User Manual (Version 2.8, January 2005)" by Dr. Andre Punt. This document describes in detail the software that has been used to forecast rebuilding for virtually all the Council's overfished stocks. The last time the software was reviewed by the SSC was in 2002, and a number of enhancements have been implemented to the program since that time. Consequently, the SSC reviewed the more recent changes (i.e., version 2.2 onwards) and offers the following two suggestions/recommendations.

1. As part of the calculations the program should determine the median extent of rebuilding that is expected to occur by T_{MAX}.

2. Better documentation is needed concerning how results of an MCMC analysis are incorporated into rebuilding projections. The SSC also highlighted the importance of stock assessment authors ensuring that an MCMC has converged before utilizing those results in a rebuilding analysis.

The software package developed by Dr. Punt is a powerful tool with which to conduct stock projections, and the SSC continues to endorse its use in rebuilding analyses used by the Council.

PFMC
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