SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PACIFIC WHITING ASSESSMENT AND HARVEST SPECIFICATIONS FOR 2011

The Scientific and Statistical Committee (SSC) was briefed on the hake assessment conducted using the Stock Synthesis (SS) model by Dr. Ian Stewart and the TINSS model by Dr. Robyn Forrest. Mr. Tom Jagielo presented the report of the Stock Assessment Review (STAR) Panel. There was increased collaboration between the Canadian and U.S. members of the Joint Technical Working Team (Team) prior to this year's assessment, and both models used a common data set. This data set was checked and revised for the 2011 assessment. A major difference between the data sets on which the 2010 and 2011 assessments were based was that the acoustic survey data prior to 1995 were not included in the 2011 assessment owing to limited spatial and bathymetric coverage. The acoustic data from 1995 to 2009 were comprehensively re-analysed, and account was taken of the impact of the presence of Humboldt squid on the results of the 2009 survey.

The SSC commends the Team for the analyses undertaken and the level of collaboration. This made the process of reviewing the two models more straightforward than was the case in 2010 when the two models were based on vastly different assumptions and data sets. The SSC noted that several differences between two models remain. However, there is no compelling reason to prefer one model over the other. As such, the SSC agrees that the outcome of two models from the STAR Panel represents best available science, and that management decisions should be based on the combined results of both models.

The SSC was informed that a minor error was discovered in the specification of the TINSS model after the STAR Panel. The differences in results between the corrected version of the model and those in the Draft Stock Assessment (Supplemental Attachment 2) are small, and the SSC recommends that the corrected model be used for decision making. The assessment report should be updated with the results for the corrected model before the Stock Assessment and Fishery Evaluation (SAFE) report is published. The numbers in this statement are based on the outcomes of the corrected model.

The SSC notes that the results from the 2011 assessment differ from those of 2010 assessment. There are a number of reasons for this, including a reformulation of the SS model, correction of errors to the implementation of the TINSS model, and changes to data streams. The inclusion of the 2010 fishery age data had a particularly large impact on the estimates of abundance for recent years.

Pacific hake is an exempt species under the U.S.-Canada hake treaty. As such, although an overfishing level (OFL) needs to be set, there is no requirement for the SSC to recommend an acceptable biological catch (ABC). The SSC agreed to base the OFL for Pacific hake on pooling the results from the SS and the corrected TINSS models under the assumption that these two models are equally likely. The resulting OFL from this approach is 973,700 mt and the SSC endorses this value. There is a 75 percent probability that OFL lies between 530,000 mt and 1,726,000 mt. The full results of this pooling process should be provided by the Team to the Groundfish Management Team because it reflects a distribution for the OFL, and hence captures the uncertainty due to model choice and the uncertainty due to the fit of the model to the data. This information, in addition to the decision tables for each model, could be used by the Council if it wishes to compute a buffer to account for scientific uncertainty.

The SSC agrees with the Joint Technical Team and the STAR Panel that a key uncertainty in the stock assessment is associated with the estimate of the size of the 2008 year-class, which is currently based entirely on the 2010 fishery age data. Inferences about the strength of this year-class rely on the assumption that the selectivity for age-2 animals in the fishery is unchanging over time even though this may not be the case. In particular, the SSC notes that although a large number of age-2 fish in the fishery catches is generally indicative of strong year-class, this is not always the case.

PFMC
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