



New England Fishery Management Council

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John Pappalardo, *Chairman* | Paul J. Howard, *Executive Director*

MEMORANDUM

DATE: April 4, 2011
TO: Science and Statistical Committee
FROM: Paul J. Howard, Executive Director
SUBJECT: Terms of reference, April 12-13, 2011 SSC Meeting

Northeast Skate Complex

The Northeast Skate Complex Fishery Management Plan (FMP) uses a three year running average of fall and spring (for little skate) survey biomass to determine Allowable Biological Catch (ABC). In setting the ABC for the 2010 and 2011 fishing years, Amendment 3 uses the 2006-2008 surveys by applying the catch/biomass median values which were derived using data processing methods developed by the Data Poor Assessment Workshop and analytical methods approved by the Council's Scientific and Statistical Committee (SSC) in April 2009.

Using these approved methods, presented to the SSC in January 2009 (see Document 7), future biomass tended to increase more often than not and by a greater amount when the catch/biomass ratio was less than the median, and vice versa. Based on this analysis, the SSC approved using the median catch/biomass ratio and the three year average stratified mean survey biomass for setting an aggregate skate ABC. The Skate ABC was approved using 2006-2008 FSV Albatross indices in September 2009 (Document 8) and corrected in April 2010 (Document 9). The three year biomass average used in the ABC calculation was not at the time updated with 2007-2009 data, because only calibrations for little and winter skate were available and there were some outstanding issues from the September 2009 SSC review that remained to be resolved.

To use the 2009 and 2010 FSV Bigelow survey data in the ABC specification, the survey data needs to be adjusted to FSV Albatross units (or vice versa with some additional analysis of the catch/biomass time series). A base model approach was developed, presented, and reviewed by a special 2009 Stock Assessment Workshop (Documents 4 and 5). The peer review recommended that the method be further developed and reviewed in individual stock assessments, many which have applied a length-based approach when the relative efficiency in the calibration data appears to vary with length. Other species where a length-based approach has been applied are cod, haddock, yellowtail flounder, red hake, offshore hake, silver hake, loligo, and winter flounder (analyses pending and may include region and season as explanatory factors).

The Skate PDT has evaluated three models (one with two options) to calibrate skate survey data and conducted internal (with 2008 NMFS trawl survey data) and external (with shrimp trawl

survey, MA DMF trawl survey, scallop dredge survey, NEAMap survey (Document 12), and SMAST camera survey (Documents 10 and 11) data) validation.

After the SSC approves the calibration method, the SSC will recommend the Skate ABC specifications for the 2012-2013 specifications package at the June Council meeting. These specifications will include updated discard rate estimates from 2010, adjustments to the assumed discard mortality rate based on new research, adjustments due to accountability measures (if applicable), and potentially regional (north/south) ABCs. This final recommendation is planned for June 2010, enabling the Council to approve the final specifications package in September, with implementation planned for May 2012. In the meantime, the Council may request Emergency Action to adjust the 2011 fishing year specifications based on the approved calibration method and updated survey data for 2009 and 2010. By June, the updated 2011 little skate survey data may also be available.

Terms of reference for setting Skate ABCs:

1. Approve a FSV Bigelow calibration method to be used to set Skate ABC specifications and to determine stock status.
2. Approve calibration of FSV Bigelow catches to FSV Albatross equivalents, rather than the reverse which would make it easier to directly apply future survey data.
3. Approve the use of a consistent set of FSV Bigelow strata to adjust biological reference points and adjust the catch/biomass medians as a basis for setting ABC.

References & documents:

1. An Evaluation of Calibration Options – Skate PDT report
2. Model 2 and Model 3 length based calibration analyses – March 16, 2011
3. A hierarchical model for relative catch efficiency from gear selectivity and calibration studies, submitted manuscript by Timothy Miller.
4. Estimation of (aggregate) calibration factors – Miller et al. 2010
5. Vessel calibration review – Consensus report – August 2009
6. 2009 vessel calibration peer review document – August 2009
7. Skate rebuilding catch limit re-analysis - January 2009
8. SSC ABC and overfishing definition update approval – September 2009
9. SSC Review of Skate Acceptable Biological Catch (ABC) - April 2010
10. Abundance estimates of skates using a video survey - MacDonald et al 2010

11. Skate distribution and abundance on Georges Bank and the Mid-Atlantic Bight – Thesis
by SMAST student Alyssa MacDonald

12. NeaMAP Trawl Manual

Whiting (Red hake, silver hake, offshore hake)

The development of Amendment 19 which will implement Annual Catch Limits (ACLs) for whiting was postponed until after the December 2010 benchmark assessment (SAW 51). It was hoped that the benchmark would produce analytical assessments with estimates of MSY reference points and scientific uncertainty, particularly since age data for red and silver hake survey catches were available. Unfortunately, many attempts to model the population with different models could not ultimately resolve different signals coming from low catches (especially compared with those in the early part of the time series), increasing stock biomass, and an increasingly truncated age structure in survey catches (i.e. increasing absence of older fish, particularly silver hake).

Nonetheless, the benchmark assessment made progress on resolving stock structure, species identification in the survey and commercial catches, and in estimating consumption by silver hake and other species. And despite incorporating consumption estimates which were almost an order of magnitude greater than catch, the analytical models still did not perform well. As a fall back, the SAW relied on an index based assessment of red and silver hake status, similar to previous assessments, with updated reference points. There was no reliable information about catch or trends in abundance and biomass to guide management of offshore hake.

The Whiting PDT is considering various MSY proxy approaches that may be applied to red and silver hake ABCs. An allowance for a small percentage of offshore hake is being proposed for the silver hake TAC, to be managed jointly as one complex.

Using guidance from the SSC, the Whiting PDT will return with ABC specification recommendations for SSC consideration in August. These will be incorporated into a developing Draft Amendment 19 for approval at the September Council meeting.

Terms of reference for Whiting ABCs

1. Discuss the Whiting PDT evaluation of ABC setting options and provide guidance to the PDT for developing draft ABC specifications in Amendment 19.

References & documents

1. Options for setting whiting ABC specifications - Whiting PDT report
2. Summary of hake assessments.- presentation
3. SAW 51 hake assessment summaries CRD 11-01
4. SAW 51 hake benchmark assessment report CRD 11-02
5. SAW 51 panelist reports