



New England Fishery Management Council

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

To: Paul J. Howard, Executive Director
From: Scientific and Statistical Committee
Date: June 20, 2011

Subject: Skate Complex Acceptable Biological Catch, Annual Catch Limit and Total Allowable Landings

The Scientific and Statistical Committee (SSC) was asked to:

1. Approve ACL specifications for fishing years 2012-2013.

In order to meet this term of reference, the SSC considered the following:

1. Skate PDT report "2012-2013 Skate Complex Acceptable Catch Limit Recommendations," May 2011.
2. SSC report "Calibration Methods for Setting ABCs for the Northeast Skate Complex," April 26, 2011.
3. SSC report "Review of Skate Acceptable Biological Catch," April 28, 2010.
4. SSC report "SSC Recommendations on Skate Amendment 3," February 11, 2009.
5. Skate PDT report "Skate Rebuilding Catch Limit Re-analysis," January 14, 2009.
6. Presentation on catch limit recommendations by PDT Chair Andy Applegate.
7. Presentation on discard mortality estimates by PDT member Tobey Curtis.

The control rule for setting the ABC for the northeast skate complex approved in Amendment 3 to the skate FMP uses the median catch/biomass ratio as an estimate of exploitation rate applied to the three-year moving average of fall survey stratified mean kg/tow (spring survey for little skate). Mean survey kg/tow from 2009-2010 were converted to Albatross-equivalent units from Bigelow survey data using calibration methodology developed by the PDT and approved by the SSC in April 2011. The Annual Catch Limit (ACL) for the skate fishery is set equivalent to the ABC, an Annual Catch Target (ACT) is set at 75% of ABC/ACL, and finally Total Allowable Landings (TAL) is set by subtracting recent estimates of dead discards (2008-2010) and state landings (2010) from the TAL. Current specifications for the 2010 and 2011 fishing years following these calculations include ABC/ACL of 41,080 mt, ACT of 30,810 mt, and TAL of 14,780 mt.

In setting the 2012-2013 ABC/ACL, the PDT proposed and the SSC approved using new of discard mortality estimates for little and winter skate caught in trawls of 20% and 12%, respectively. These are the two most abundant skate species, the biomass of which largely drives setting of catch limits. Previously, discard mortality was assumed to be 50% for all species in the complex captured by any gear, based on the average value of estimates derived from published studies, most of which are for species and locations different from those covered in the FMP. However, ongoing research by Drs. John Mandelman and James Sulikowski has provided the new estimates of discard mortality for little skates and winter skates. Although the research is ongoing, the SSC reviewed the methodology and data, and found the sample sizes, experimental design and analyses to be comparable or superior to

the available published studies. Because these estimates are for species and areas covered in the FMP, and the new values for little skate and winter skate were estimated with sufficient precision to reject the previous literature values, they were determined to be the best scientific information available to be applied to little and winter skates captured by trawls and discarded under normal commercial practices.

Using the existing control rule and updated discard mortality estimates, ABC/ACL for the northeast skate complex is 50,435 mt, with an ACT of 37,826 mt and TAL of 24,088 mt. The substantial increase from current specifications is a result of increased kg/tow observed in the surveys. Little skate and winter skate in particular exceed their biomass targets, although smooth and thorny skates remain below their biomass threshold, with little sign of rebuilding. Barndoor skate biomass has increased and is not overfished, but remains well below the target.

The SSC also discussed the recommendation in its April 28, 2010 report that the strategy for managing skates be revisited. Specifically, the SSC raised three issues that warrant further attention as skate management has evolved, biomass of the complex has increased, and industry concerns have arisen:

1. The ABC control rule should be revisited. The control rule was established when the complex was overfished, and it might not be as suitable for rebuilt stocks. A revised control rule might include different methodologies that apply at different stock statuses.
2. Development of ABCs for individual species and/or geographically defined management units should be considered. Although there are important practical limitations associated with species- and/or area-specific ABCs, there are also important costs of an ABC applied across too large of an area and across species with different biology, distribution and status.
3. Development of improved MSY reference points (or proxies) should be considered.

The SSC recommends:

- 1. ABC/ACL for the skate complex should be set using recent the current control rule with new discard mortality estimates for little skate and winter skate, resulting in a value of 50,435 mt.**
- 2. The strategy for managing skates should be reconsidered, particularly consideration of a control rule tailored to different stock conditions, status determination and development of ABCs for individual species and/or area-specific stock complexes, and development of MSY reference points or suitable proxies.**