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New England Fishery Management Council
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John Pappalardo, *Chairman* | Paul J. Howard, *Executive Director*

MEMORANDUM

DATE: **September 25, 2008**

TO: Scientific and Statistical Committee

FROM: Paul J. Howard, Executive Director

SUBJECT: **Review of Skate Amendment 3 - Term of Reference and Background**

The SSC is asked to provide advice to the Council on whether the analyses identified below are adequate to support Council selection of management measures to achieve biological objectives such as ABCs, target fishing mortality rates and rebuilding. Amendment 3 is intended to address and provide remedies for the following four issues:

- Overfished status of smooth, thorny and winter skates
- Overfishing of thorny skate
- Implementation of annual catch limits (ACLs) and accountability measures (AMs)
- The need to revise the baseline review process

At a meeting on Skate Amendment 3 in April 2008, the SSC approved an interim framework for setting skate catch limits, which defined the skate landings targets, TACs and also potentially defined when accountability measures would be triggered.

The SSC recommendations were to set the interim catch limits using the median catch/biomass index applied to the survey biomass index to increase the probability of thorny and winter skate rebuilding (see document 5b, SSC recommendations, April 15, 2008). Since that time, the stock status determinations provided to the Council by NMFS in July 2008 indicated that smooth skate had become overfished and that overfishing of thorny skate was occurring.

The Plan Development Team (PDT) reviewed the information in the catch limit analysis, and using Dr. Todd Gedamke's (NMFS/SEFSC) demographic model, estimated smooth skate rebuilding potential (for background, see document 14 in Skate Amendment 3, Appendix I) to determine whether the median catch limits would address these new status determinations. The PDT determined that the proposed skate catch limits were sufficient to address these issues with the caveat that the Council should consider measures in other plans to reduce skate discards in the Gulf of Maine.

These interim catch limit specifications were also updated when the 2007 survey data became available for analysis, which resulted in a 5.8% reduction in the estimated catch limits. The limits were included in Amendment 3 as an ABC, ACL, ACT, and TAL with the expectation that the catch limit framework would comply with the revised National Standard 1 Guidelines. As such, the Amendment 3 document specifies an ABC/ACL of 27,809 mt, an ACT (75% of the ACL to account for uncertainty) of 20,857 mt and a skate complex TAL of 11,544 mt (to account for the 2004-2006 discard rate) allocated to the skate wing, the skate bait, and state water fisheries based on history. The time/area management and possession limit specifications were estimated to achieve the 11,544 mt landings target (TAL).

The Skate PDT used the "two-bin" and the "possession limit" models to analyze the time/area closures and possession limits needed to achieve the catch targets. The description of these analyses are included in the DEIS as indicated below. The SSC should pay particular attention to these analyses since they form the basis for determining how the management alternatives may achieve the target catches. An additional issue identified in a review of the document by the NEFSC, the allocation of unclassified skate catches by species using data from the NOAA Bottom Trawl Survey, will be referred to the Data Poor Stock Assessment Workshop which will take place later this fall.

The documents (Amendment 3, the Draft Environmental Impact Statement (DEIS) and a Stock Assessment and Fishery Evaluation (SAFE) Report) are available for review at http://www.nefmc.org/skates/planamen/amend3/Amend3_DSEIS_Sept08.htm.

The sections that that are most relevant to the TOR are the Executive Summary (Section 1.0), the description of Purpose and Need (Section 3.0), the description of the proposed management measures (Section 5.1) and alternatives (Section 5.2), the analysis of time/area closures (Section 8.3.1.6), the analysis of the proposed skate possession limits (Section 8.3.1.7), estimates of changes in skate discards from the possession limits (Section 8.3.1.10), a comparison of the effects of the alternatives (Section 8.3.2), and the economic impact analysis (Section 8.7). Please also refer to supporting technical documents 9, 10, and 11 in Appendix I for details about how the skate management areas were chosen and how they were analyzed via a two-bin effort displacement model. Appendix I contains supporting technical documents 12 and 13, which detail the possession limit model methods and describe how the model was applied to estimate possession limits which are expected to be consistent with the skate wing and bait fisheries TALs.

Hard copies of the document may also be requested from Karen Roy (kroy@nefmc.org) at the Council office. If you have questions about Amendment 3 or the impact analyses, please contact Chris Kellogg (ckellogg@nefmc.org).

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

To: Paul Howard

From: Patrick Sullivan, Chair SSC

Date: April 15, 2008

Re: SSC Recommendations

The SSC was asked to recommend an ABC for skates based on the analysis and recommendations provided by the PDT. The SSC is only able to offer interim advice for a catch limit framework, because National Standard 1 guidelines for ACLs and AMs have not been issued, in particular for establishing catch limits in data poor situations. In lieu of this guidance, the Council should consider the SSC's recommendation as a catch limit framework to prevent overfishing and potentially rebuild winter and thorny skates. The population dynamics for skates is considered to be a data poor situation because the species composition of the catch is highly uncertain and because it is unclear to what degree the actual biomass trends are driven by the catches particularly for those stocks that have distributions that extend far beyond US waters.

Recommendations:

1. Catch limits should be based on catch / biomass ratios rather than relying on catch levels alone. The PDT analysis suggests that catches less than the median catch/biomass levels would allow the stock biomass to increase, although the PDT does not indicate whether the rebuilding targets would be achieved within the rebuilding period. Given the available information the SCC supports the PDT's findings that there is not a scientific basis to precisely evaluate the effectiveness of catch advice with respect to meeting the rebuilding targets. Until more explicit guidance for data poor resources such as this one becomes available, we recommend that catch/biomass for skate species should be maintained at less than the median level.

2. The discard mortality rate appears to be uncertain and variable. Based on available literature, the SSC concludes that the most reasonable estimate to use in the analysis is 50%. The discard mortality rate should be applied both for setting an overall catch limit as well as for determining the proportion of catch to be set aside to account for discards. The implication of the 25% discard mortality assumption results in a lower landings limit, relative to results using the assumption of 50% discard mortality.

The SSC was also requested to advise the Council on how to account for large uncertainties in discard mortality in setting a TAC and TALs. The SSC recommends using the recent average discard rate (2004-2006). If the Council expects the factors that led to a decline will persist, the SSC recommends using the recent discard rate (2004-2006), if the Council expects the factors that led to a decline in discards will persist. If the Council does not believe the recent reduction in discards will persist, the Council could base TAL on longer term discard rates. Given the substantial uncertainty in the assessment, the Council may set a conservative annual catch target below the limit.

Table 1. Skate catch limit framework using median catch/biomass ratio applied to 2004-2006 average survey values compared to estimated 2007 catch.

Discard mortality assumption	Time period	Landings	Assumed discards	Total
50% discard mortality (recommended)	2007	18,855	13,731[1]	32,568
	2004-2006	16,343	14,225	30,569
	1994-2006	11,700	19,324	31,024
25% discard mortality	2007	18,855	6,866	25,720
	2004-2006	13,105	5,835	18,940
	1994-2006	10,432	8,837	19,269

[1] Discard mortality assumed by applying the 2004-2006 discard rate to 2007 landings and a 50% discard mortality rate.

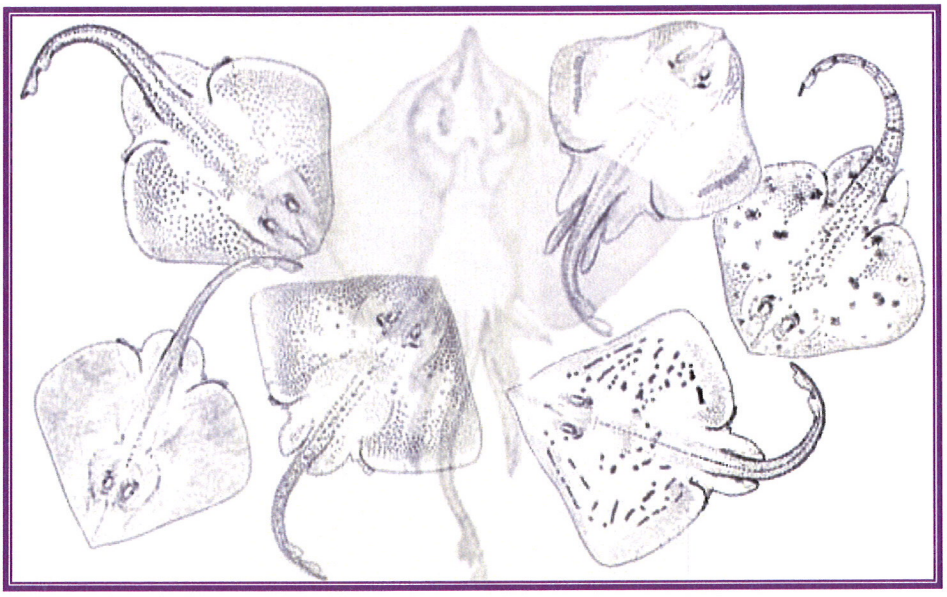
DRAFT AMENDMENT 3 TO THE FISHERY MANAGEMENT PLAN (FMP) FOR THE NORTHEAST SKATE COMPLEX

And

DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

With an

INITIAL REGULATORY FLEXIBILITY ACT ANALYSIS



Prepared by the
New England Fishery Management Council
in consultation with
National Marine Fisheries Service

September 5, 2008