New England Fishery Management Council
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Daniel Salerno, *Acting Chair* | Cate O'Keefe, PhD, *Executive Director*

MEMORANDUM

DATE: August 31, 2025

TO: Cate O'Keefe, Ph.D., Executive Director

FROM: Scientific and Statistical Committee

SUBJECT: Response to Terms of Reference - Overfishing Limits and Acceptable Biological Catches for Skates for FY 2026 to FY 2030

The Scientific and Statistical Committee (SSC) met in person and via webinar on August 18, 2025, to address Terms of Reference (TOR) for the Northeast skate complex.

SSC members in attendance: Dr. Conor McManus (Chair), Dr. Edward Camp (Vice-Chair), Dr. Anna Birkenbach, Dr. Adam Delargy, Dr. Lisa Kerr, Dr. Gareth Lawson, Dr. Kai Lorenzen, Dr. Jason McNamee, Dr. Mateja Nenadovic, Dr. Fred Serchuk, Dr. Kevin St. Martin, Dr. Michelle Staudinger, Dr. Sam Truesdell, Dr. Hiro Uchida, and Dr. John Wiedenmann.

TERMS OF REFERENCE

A. Consider the results of the Northeast Fisheries Science Center's (NEFSC) 2025 Data Update for the Northeast skate complex and information provided by the Council's Skate Plan Development Team (PDT).

B. Recommend an OFL and ABC for the Northeast skate complex for FY 2026 – 2030 (defaults for 2028 - 2030) that will prevent overfishing, meet the management objective to rebuild thorny skate, are consistent with the Council's skate ABC control rule and thorny skate rebuilding plan, and consider the Council's Risk Policy Statement and Concept.

DOCUMENTS

To address the TORs, the SSC considered the following information:

1. NEFSC Skate Data Update Report, July 29, 2025
2. Skate Plan Development Team
    a. Presentation by Council staff
    b. Skate PDT memo to SSC re FY 2026 – 2027 (and default for FY 2028-2030) OFLs and ABCs for skate, August 11, 2025

c. Risk Policy Matrix for skates

3. Skate SAFE Report, including the most recent description of the social and economic status of the fishery (Framework Adjustment 12, Affected Environment Human Communities), monitoring and assessment reports, etc.
4. Previous SSC recommendations regarding skates
    a. Meeting materials, October 11, 2023
    b. SSC memo, November 2, 2023

Background Documents

1. The Council's Risk Policy Statement and Concept, implemented January, 2025
2. NOAA/NEFSC 2025 State of the Ecosystem Reports for the Northeast U.S. Shelf

NORTHEAST SKATE COMPLEX

The SSC received a presentation from Council staff on: 1) the recent 2025 skate data update from the Northeast Fisheries Science Center (NEFSC), and 2) the Skate Plan Development Team (PDT) recommendations of possible OFLs and ABCs for FY 2026-2030. The data update provided updated fishery catch and survey biomass indices through calendar year (CY) 2024 (and spring 2025 for little skate), as well as stratified mean indices at length. There is no overfishing on any skate species, and thorny skate is currently the only skate species overfished.

TERMS OF REFERENCE FINDINGS

Skates are managed as a complex consisting of seven species, and abundance indices for each species are derived from NEFSC bottom trawl surveys. The indices for most species are derived from the annual fall bottom trawl survey only, however the little skate index is derived from the annual spring trawl survey only. These indices and corresponding commercial catch data are used to assess changes in relative states and rates, which form the basis of the index-based method used to assess the skate complex. This index-based method is not an analytical model capable of directly estimating reference points, and therefore a proxy for B_{MSY} for each species, referred to as B_{target}, is set as the 75th percentile of the survey biomass index over a reference period specific to each species. One exception to this is for barndoor skate, for which the mean of the survey index is used instead of the 75th percentile. The reference point used to assess whether any species is overfished is $B_{threshold}$ and is set at 50% of B_{target}. The survey indices are used to also assess whether overfishing is occurring for each of the species by examining the percentage change in the latest three-year moving average of each index. Overfishing is occurring for each species if the percentage decline between the two most recent three-year windows is more than the coefficient of variation (CV) of the entire series of each species' abundance index.

The PDT calculations based on the 2025 data update presented to the SSC showed that no species were experiencing overfishing and one species, the thorny skate, is overfished. Thorny skate is 22 years into a 25-year re-building plan and is unlikely to be rebuilt in time as current estimated thorny skate biomass is 4.9% of B_{target}. Additionally, biomass of two species, barndoor and winter skates, were above B_{target}.

The SSC recommends OFL continue to be unknown for the Northeast skate complex for FY 2026-2030 as reference points are index-based for this stock. The SSC recommends an ABC of

41,282 mt held constant for FY 2026-2027 and with the advice for FY 2028-2030 held constant at 37,154 mt. The recommended OFLs and ABCs aim to prevent overfishing, be consistent with the ABC control rule, and consider the Council's Risk Policy Statement and Concept.

Rationale Including Significant Sources of Uncertainty

The SSC used the ABC control rule established in Amendment 3 of the Northeast skate complex fishery management plan to make the recommendation for an ABC of 41,282 mt for FY 2026-2027, aligning with the PDT recommendation. This ABC for FY 2026-2027 is the second highest in the time series for this complex and represents a 28% increase from the ABC recommended by the SSC for FY 2024-2025. The rationale for the increased recommended ABC is that 1) it is consistent with the established control rule, and 2) the data update appears to show improvements in the skate complex indices. The skate complex indices have improved overall since the previous SSC review in 2023, when two species were experiencing overfishing. There are now no species in the skate complex undergoing overfishing and there are two species indexed at greater than B_{target}. The SSC believes that this ABC will not lead to overfishing, noting that previous ABCs have never been exceeded by the fishery and the recommended ABC for FY 2026-2027 is not anticipated to be met based on current fishery capacity.

The SSC recommendation of an ABC of 37,154 mt for FY 2028-2030 was calculated as 10% less than that of FY 2026-2027. The rationale for this more conservative future catch recommendation was based on index, fishery, and environmental uncertainty, as well as socioeconomic concerns related to higher-variance in catch advice and principles of risk management in their recommendation. The comparatively higher control rule-based recommendations for FY 2026-2027 were driven by recent increases in the skate complex index. These were driven primarily by increases in the index of winter skate, and the winter skate increase was primarily driven by a single annual survey observation in 2023 that had considerable uncertainty. The SSC discussed concerns for setting catch recommendations for FY 2028-2030 at levels that seemed to implicitly assume the recent increases in winter skate would persist. Additionally, the SSC discussed uncertainty related to the discard mortality rate used to estimate dead discards, ecosystem changes that may occur over the next three to five years, and the accuracy of speciation in the commercial fishery data. The SSC also discussed that as of yet the Risk Policy Statement has not been applied to provide guidance for making recommendations up to five years into the future. Further, the SSC discussed socioeconomic concerns with more variable catch advice, and believed that the slightly lower recommendation for FY 2028-2030 was more likely to avoid future scenarios in which catch advice might change abruptly. The 37,154 mt recommended for FY 2028-2030 represents an ABC within the typical or recent range (since 2012) of skate complex ABCs recommended (31,081 to 37,236 mt) and is still at the upper end of the contemporary range. Finally, the SSC described their expectation that the skate complex ABCs and OFLs would be revisited prior to FY 2028, and that their setting of catch advice for these outyears would enhance flexibility in the science and management process without preventing subsequent updated recommendations prior to FY 2030. While not put forth as a recommendation, the PDT also discussed similar reduction options for ABCs in FY 2028-2030 as a precautionary approach given the uncertainty in these outyears. The SSC acknowledged that the 10% reduction reflected in their FY 2028-2030 recommendation was not explicitly linked to an established control role or prescriptive policy, but that it was the most transparent and explicit quantitative approach to incorporate the concerns discussed.

ADDITIONAL COMMENTS AND RESEARCH RECOMMENDATIONS

The SSC strongly recommends that the skate complex ABCs be revisited within two years (i.e. continue the current ABC setting periodicity for the skate complex). In line with previous SSC recommendations, the SSC again recommended that the reference points used in this assessment be reevaluated. Further, the SSC recommended research that evaluates the possibility of an analytical model-based assessment that can directly estimate reference points. Previous Skate PDT responses to the SSC state that these recommendations could be considered in a future research track assessment, which the SSC supports. The SSC also recommended that more survey data be considered in the skate species indices, such as state surveys and the NorthEast Area Monitoring and Assessment Program (NEAMAP) survey. The skate complex analysts could also consider using tools like Vector-Autoregressive Spatio-Temporal (VAST) models to help standardize survey indices.

Data uncertainties are largely not propagated into calculating the ABC in the assessment method or control rule. Aligned with previous recommendations, the SSC again recommended that research focuses on how to propagate uncertainty of observations and other sources into estimated ABCs. The risk associated with making recommendations over a longer period than normal should be discussed by the Risk Policy Working Group, as it would be helpful to have standardized guidance for the SSC as more stocks or complexes are likely to request advice for longer than normal. Finally, the SSC noted that other Councils and their corresponding SSC's, as well as the broader fisheries management field, have developed more prescriptive approaches for providing catch advice that accounts for limitations in data and/or analytic assessments, as well as risk policies. The SSC recommended that these approaches be reviewed and considered to provide improved rationale for outyear catch advice.

SUMMARY OF RECOMMENDATIONS

1. The SSC recommends that the OFL for the Northeast skate complex is unknown.
2. The SSC recommends ABCs of 41,282 mt for FY 2026-2027 and 37,154 mt for FY 2028-2030 for skates.
3. The SSC strongly recommends that the skate complex ABCs are revisited within two years.
4. The SSC recommends revisiting overfished and overfishing definitions for the Northeast skate complex, and this may also be done in conjunction with development of an analytical, model-based approach that can estimate reference points directly.
5. The SSC recommends that the Risk Policy Working Group is consulted on how best to handle uncertainty associated with setting ABCs over longer periods.

Fishing Year	OFL (mt)	ABC (mt)
2026-2027	unknown	41,282 mt
2028-2030	unknown	37,154 mt