



New England Fishery Management Council

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Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

MEMORANDUM

DATE: March 9, 2023
TO: Skate Committee
FROM: Skate Plan Development Team
SUBJECT: Overview of recreational skate catch

In September 2022, several questions about recreational catch of skate were raised by the Skate Committee (Committee) and the Council, specifically on which recreational fishing modes are catching skates and where, if recreational catch is targeted or incidental, and how reliable the catch data are. This memo provides more information than was presented by the Skate Plan Development Team (PDT) at that time.

INTRODUCTION

In 2022, the PDT was tasked with considering improvements to the methods used to update reference points, set specifications and to track catch in-season and in year-end catch accounting to better account for known sources of catch throughout the cycle of skate management. The PDT collaborated with NOAA Fisheries and, after review in September, the Committee and Council accepted the revised methods that were developed. The [Annual Monitoring Report for Fishing Year 2021](#) details this work. In this process, the PDT identified recreational catch as one source of skate catch that needed more consistent treatment and noted that a better understanding of the sources and nuances of recreational skate catch would be beneficial.

Issues: When the Skate FMP was first adopted (2003), recreational catch was considered non-existent. At that time, and ever since, recreational catch data have not been included in the catch data used to update reference points by the Northeast Fisheries Science Center (NEFSC) and set the acceptable biological catch (ABC), and there has been no specific deduction from the ABC in the specification-setting process by the Council for expected recreational catch. However, recreational catch has been included by the Greater Atlantic Regional Fisheries Office (GARFO) in the year-end Annual Catch Limit (ACL) accounting since at least FY 2015. For the skate fishery, if the ACL is exceeded, an accountability measure (AM) is triggered (a future ACL reduction). Thus, there is a source of catch that contributes to potentially triggering an AM that is not included in the original ACL setting. This is a known source of catch that should be treated consistently through the management cycle.

Solutions: During the 2023 skate management track assessment, the NEFSC plans to include recreational catch data when updating reference points, and GARFO will continue including it in ACL accounting. Because this is a known source of catch, a new deduction from the ACL for recreational catch is appropriate, rather than considering it to be within the uncertainty buffer. The PDT expects to make this deduction for the FY 2024-2025 specifications, set equal to the most recent three years of recreational catch used in the assessment.

HOW IS RECREATIONAL SKATE CATCH CALCULATED?

The Marine Recreational Information Program (MRIP) reports catch as harvest (sampled and reported catch) and catch released alive. For ACL accounting, the annual mean weight of sampled recreational catch is applied to unobserved recreational harvest and dead discards to achieve an estimate of the total weight of recreational (Table 1). Discard mortality is an important driver of recreational fishing mortality for the complex. A discard mortality rate is applied to catch released alive to calculate dead discards. The assumed discard mortality rate for the skate complex is 50% in the absence of research to inform revising that assumption. When the addition of recreational data is considered in the 2023 assessment, methods for calculating catch may be refined.

Skate catch estimates are uncertain because of low sampling rates to translate data on total number of skate caught into total weight. This is a common challenge with recreational data. From 1981 to 2022, 39% of annual catch estimates of each skate species in the complex (including a category for unidentified skates) had a percent standard error (PSE) of less than 50%, the threshold MRIP uses to prevent querying highly uncertain data. More granular data (by state, mode of fishing, or disposition) have higher PSEs. For comparison, the harvest estimates of Atlantic cod or haddock rarely exceeded 30% PSE during the same period. Estimates of less-targeted species in the complex are less certain. Despite the uncertainty, recreational skate catch estimates do provide insight into where, how, and when recreational fishing effort is occurring.

An added challenge for skates is speciation. Many skates are reported by the recreational fishery only to the genus level (Figure 1), because of challenges with species identification. Historically, unidentified skates have made up a large portion of the recreational skate catch, largely in the form of dead discards which could not be identified. Unidentified skates make up the largest single species category in most years, although the proportion of catch not identified to species has declined in recent years.

Due to small-sample sizes and imprecise estimates of weight, the annual mean sampled weight may be variable from year to year.

HOW MUCH SKATE CATCH CAN BE ATTRIBUTED TO THE RECREATIONAL SECTOR?

The conclusion at the time that the Skate FMP began that recreational skate catch was minimal was based on data for “Atlantic coast skates and rays” from the Marine Recreational Fishery Statistics Survey, a precursor to MRIP. As described in the *2001 Skate Stock Assessment and Fishery Evaluation Report*, between 1990 and 1999, recreational catch of “skates/rays” totaled 47K-92K fish or 26K-192K lb per year (12-87 mt; NEFMC 2001, Table 36). To contextualize, commercial skate landings during this time totaled 16M-31M lb per year (7K-14K; NEFMC 2001, Table 25). The MRIP database today contains recreational skate data back to 1981. For the same period of 1990 to 1999, recreational skate catch in New England and Mid-Atlantic states appears to be much higher than earlier understood, totaling between 1-1.7M fish. Several recalibrations of MRIP data over the years have changed the time series, altering our understanding of recreational catch of skates, and leading to inconsistency in reconciling historical data. Figure 1 represents the most recent MRIP recreational catch data, showing a substantial decline over time from a peak of 3.4M fish in 2006.

Within the past few years, the PDT has reported on the year-end ACL accounting by GARFO, including annual totals of recreational skate catch (Table 1), ranging from 1.0% to 4.9% of the ACL since fishing year (FY) 2015 (Table 1). While preparing this memo, the PDT realized that the recreational totals have only included skates identified to species. The PDT (including GARFO and NEFSC staff) are currently discussing if and how to include unidentified skates into estimates of total catch.

Table 1. Recreational catch, total catch, and annual catch limit of Northeast skate complex, FY 2015-2021.

Fishing Year	Recreational catch (mt)	Total catch (mt)	ACL (mt)	Recreational catch as a % of total catch	Recreational catch as % of ACL
2015	416	28,111	35,479	1.5%	1.2%
2016	307	24,549	31,081	1.3%	1.0%
2017	1,528	25,294	31,081	6.0%	4.9%
2018	1,088	24,128	31,327	4.5%	3.5%
2019	1,011	20,696	31,327	4.9%	3.2%
2020	314	22,461	32,715	1.4%	1.0%
2021	504	16,108	32,715	3.1%	1.5%

Source: GARFO year end ACL accounting as reported by the PDT in prior reports.

Note: Recreational catch excludes skates not identified by species.

WHO IS CATCHING SKATES RECREATIONALLY?

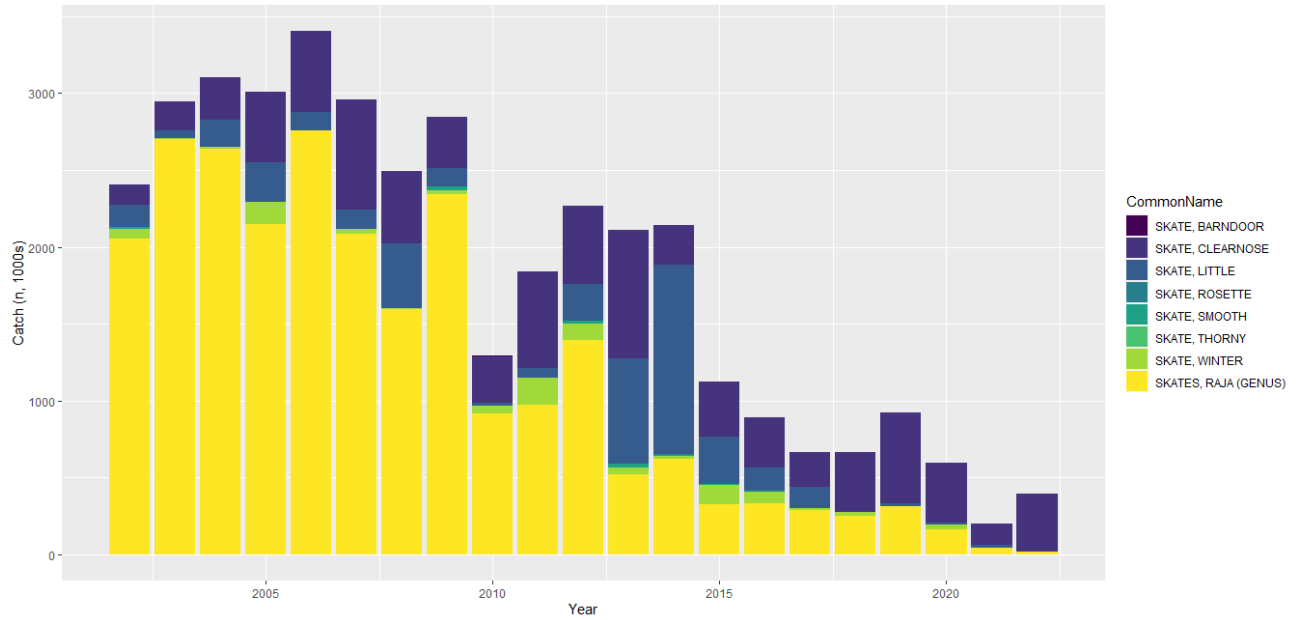
There is recreational skate catch from Maine to Virginia (Figure 3), but the recreational fishery in New Jersey and New York is the largest proportion of recreational skate catch (Figure 2). New Jersey consistently has the largest recreational skate catch over time, and along with Connecticut, New York, Virginia, and Massachusetts, make up the states with the largest annual catch. The proportion of the annual recreational skate catch attributed to Massachusetts and Connecticut fishers has declined over time. Most recreational catch is caught in May/June through July/August, although an increasing amount is caught in September/October recently.

The main fishing modes are private or for-hire vessels and shore-fishing (Figure 3). For most states, recreational skate catch is almost entirely coming from nearshore (within three 3 miles of shore) or inland waters (bays, estuaries, and sounds). New York and New Jersey have a small proportion of recreational catch from waters beyond three miles (Figure 4).

ARE SKATES TARGETED BY THE RECREATIONAL FISHERY?

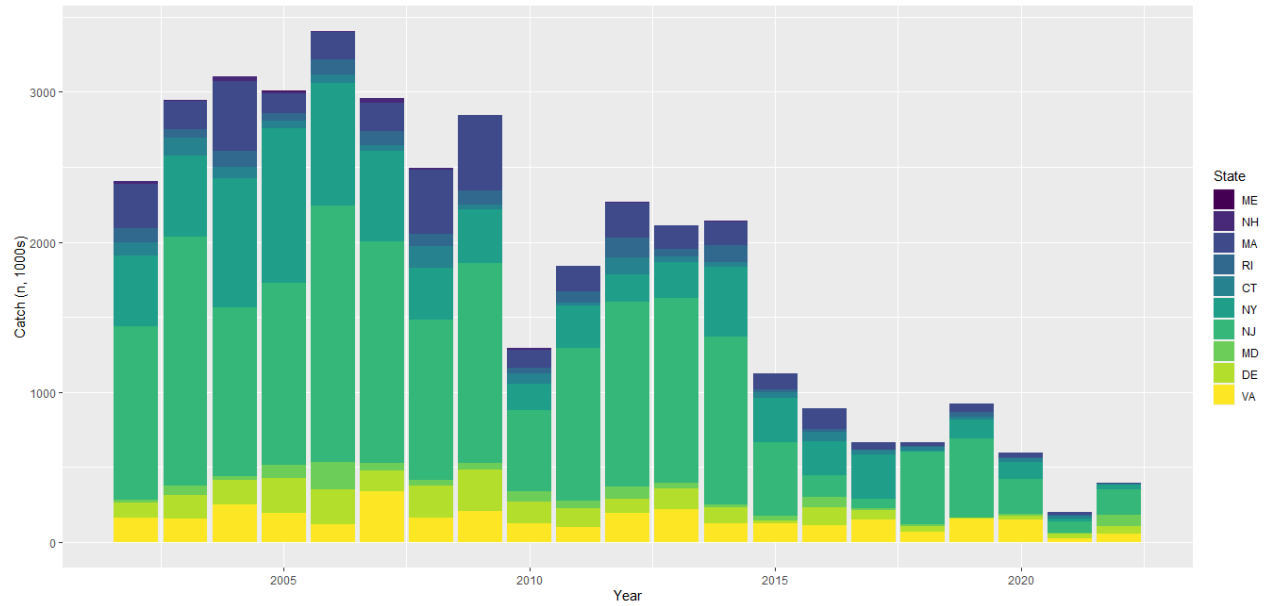
While no record exists of whether catch is targeted or incidental, estimated discards far outweigh estimated harvest. Thus, skate catch is most likely to be largely incidental to other recreational fisheries. Recreational harvest likely is occurring, but in such low numbers that it is difficult to precisely estimate.

Figure 1. Annual recreational catch of skates by species from Maine to Virginia, 2002-2022.



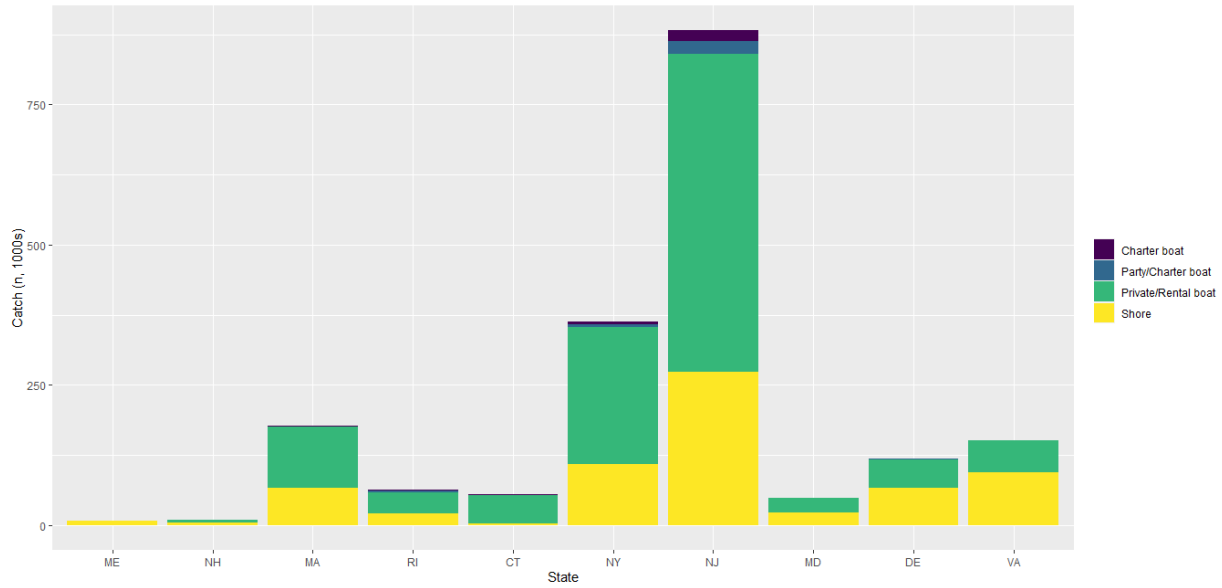
Source: MRIP data, queried March 2023. Includes sampled catch, reported catch, and dead discards.

Figure 2. Annual recreational catch of skates by state from Maine to Virginia, 2002-2022.



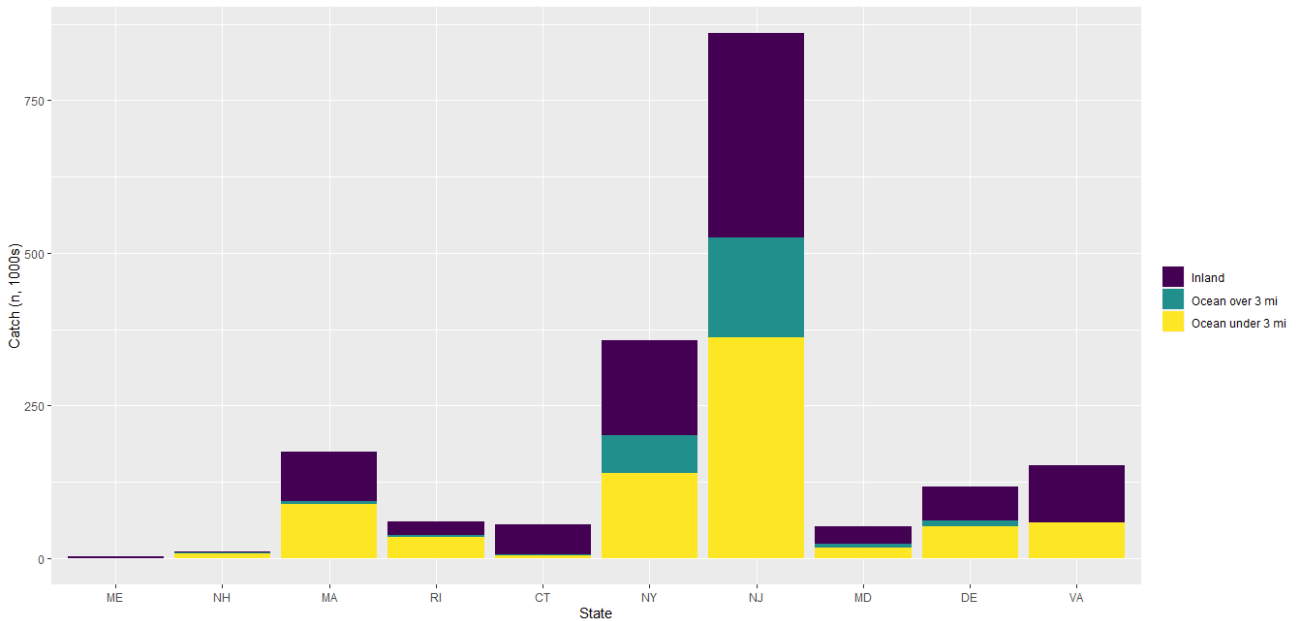
Source: MRIP data, queried March 2023. Includes sampled catch, reported catch, and dead discards.

Figure 3. Mean annual catch of skates by state (Maine to Virginia) and mode of fishing, 2002-2022.



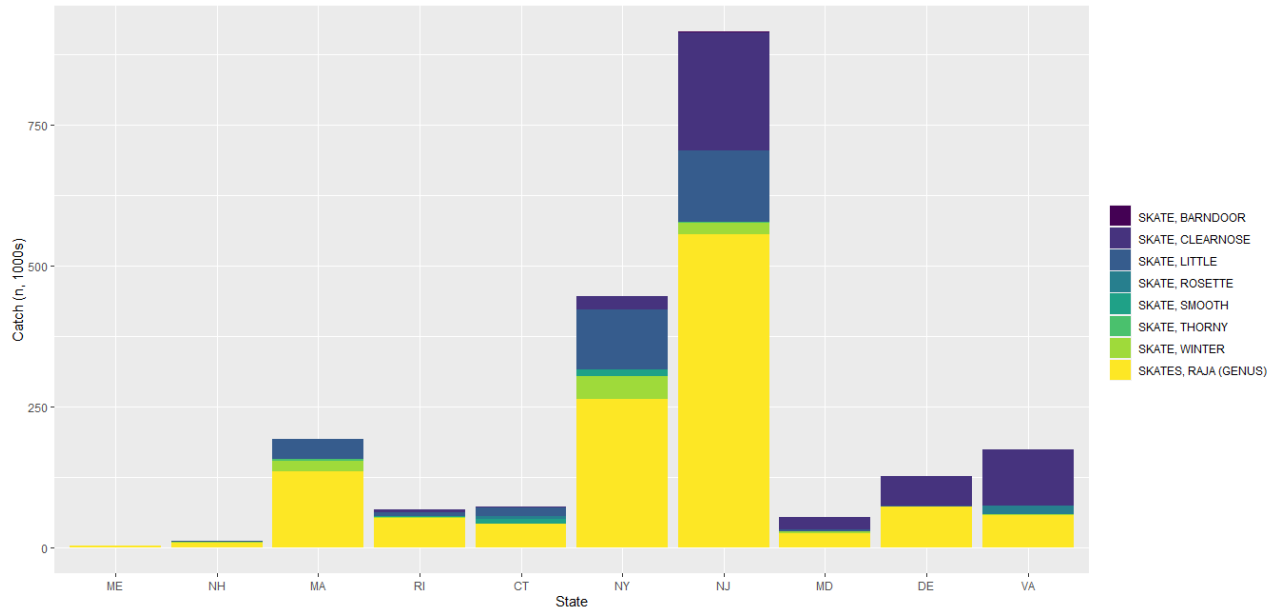
Source: MRIP data, queried March 2023. Includes sampled catch, reported catch, and dead discards.

Figure 4. Mean annual catch of skates by state (Maine to Virginia) and distance from shore, 2002 - 2022.



Source: MRIP data, queried March 2023. Includes sampled catch, reported catch, and dead discards.

Figure 5. Mean annual catch of skates by state (Maine to Virginia) and species, 2002-2022.



Source: MRIP data, queried March 2023. Includes sampled catch, reported catch, and dead discards.

REFERENCES

NEFMC (2001). Skate Stock Assessment and Fishery Evaluation Report: 179.