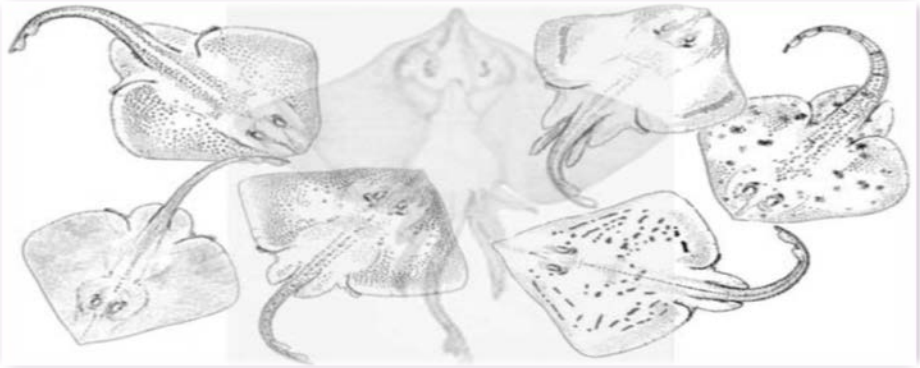
Northeast Skate Complex

Fishery Management Plan

2024 – 2025 Specifications



DRAFT Discussion Document

for March 22, 2023

AP and Committee meetings

Prepared by the

New England Fishery Management Council

In consultation with the

National Marine Fisheries Service

New England Fishery Management Council

NOAA

2022-2023 SPECIFICATIONS FOR THE NORTHEAST SKATE COMPLEX FISHERY MANAGEMENT PLAN

Proposed Action: Propose skate specifications for fishing years 2020 and 2021 and skate possession limits.

Responsible Agencies:

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National Oceanic and Atmospheric Administration
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Abstract: [to be completed]

1.0 EXECUTIVE SUMMARY

The New England Fishery Management Council (NEFMC) is charged with developing management plans that meet the requirements of the Magnuson-Stevens Act (MSA). The Northeast Skate Complex Fishery Management Plan (Skate FMP) contains the management measures for seven skate species (barndoor, clearnose, little, rosette, smooth, thorny, and winter skates) off the New England and Mid-Atlantic coasts. The FMP has been updated through a series of amendments, framework adjustments and specification packages. Amendment 3 to the FMP established a control rule for setting the skate acceptable biological catch (ABC) based on survey biomass indices and median exploitation ratios; the annual catch limit (ACL) is set to the ABC.

[to be completed]

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3.0 BACKGROUND

The Skate FMP specifies the management measures for seven skate species (barndoor, clearnose, little, rosette, smooth, thorny, and winter skate) off the New England and Mid-Atlantic coasts. The NEFMC sets specifications every two years for the skate complex using an established flowchart (Figure 2). including possession limits for the skate wing and bait fisheries. These fisheries have different seasonal management structures and are subject to effort controls and accountability measures (AM).

Principally due to problems with species identification in commercial catches, the Original Skate FMP (implemented in 2003) did not derive or propose an absolute maximum sustainable yield (MSY) estimate for skate species or for the skate complex. Catch histories for individual species were unreliable and probably underreported. Furthermore, the population dynamics of skates was largely unknown, so measures of carrying capacity or productivity were not available on which to base estimates of MSY. Likewise, an overfishing limit (OFL) is undetermined in the Skate FMP. In their February 11, 2009, report, the Scientific and Statistical Committee (SSC) recommended that an OFL "cannot be determined, because overfishing reference points are survey proxies, and estimates of fishing mortality or fishing mortality reference points are not available." These issues are largely why skate specifications apply to the entire complex and are not set for individual species.

Indices of relative abundance (stratified mean weight/tow) have been developed from Northeast Fisheries Science Center's (NEFSC) bottom trawl surveys for the seven species in the skate complex. These indices and their rates of change form the basis for all the conclusions about the status of the complex. The spring NEFSC survey data is used for little skate and the fall NEFSC survey data is used for the other managed skate species.

Regarding biomass (B), for all skate species except barndoor, $B_{MSYproxy} = B_{target}$ = the 75th percentile of its survey biomass index. For barndoor skate, $B_{MSYproxy} = B_{target}$ = the average of the first four years of its survey biomass index. The survey biomass index is measured in kg/tow during a specific set of years for each species (e.g., 1963-1966 for barndoor).

The skate complex MSY_{proxy} is calculated by first calculating the MSY_{proxy} for each species, which is the median of catch/biomass over the entire time series multiplied by the $B_{MSYproxy}$. Here, "catch" is total landings from dealer data, vessel to vessel transfers from Vessel Trip Report (VTR) data and dead discards (kg), and "biomass" is the survey biomass index (kg/tow). The MSY_{proxy} for each species is then summed over all seven skate species to calculate the skate complex MSY_{proxy}.

The MSY_{proxy} has been 36,794 mt for FY 2018-2022 specifications, using a time series of data through 2016 (Table 1), resulting in a slight decrease relative to MSY_{proxy} was calculated in 2015 for the FY 2016 – 2017 specifications: 36,806 mt, due to an update in discard mortality rate assumptions that changed data in the time series. Adding a few more years of data to a 50+ year time series for most species is unlikely to substantially change the MSY_{proxy}.

2023 Assessment. Skates will have a management track assessment in 2023. The scope of the assessment will be set by the Assessment Oversight Panel meeting on May 22 and will also depend on the human resources available to conduct the assessment. Potential topics that may be considered in the assessment include (but not limited to):

- Adding recreational catch data to the catch time series. This would include examining species-level data and addressing any issues with species attribution.
- Examining methods for attributing fishery catch by species, particularly thorny skate. Currently, the species and length-frequency data in the survey are used to attribute fishery catch by species. Thorny skate has had a possession prohibition since the start of the FMP. There may be some work on using fishery compliance assumptions to reduce the landings attributed to thorny skate (could shift some thorny skate landings to discards and increase landings attributed to other species). Port sampling data may be informative.

- Updating the data time series used to calculate MSY_{proxy} and considering how frequently the MSY proxy should be updated.

Acceptable Biological Catch (ABC). The ABC control rule for the Northeast Skate Complex, established through Amendment 3 is:

> *The skate ABC is the median ratio of catch/biomass of each of the* seven *skate species multiplied by its three-year moving average stratified mean biomass (weight/tow) for skates, summed over the seven skate species in the management unit. This method is considered an interim proxy for an ABC until an OFL and its uncertainty can be quantified.*

For the FY 2020-2021 and 2022-2023 specifications, gaps in survey coverage precluded the exact application of this control rule (Table 1). In the 2017 fall survey, southern stations were missed resulting in no survey indices for rosette or clearnose skate that year. To a lesser degree, the missed stations in 2017 also impacted the time series for barndoor, thorny, smooth, and winter skate, and there were missed stations in the 2018 fall survey that impacted the time series for these species as well. For these species, the surveys were adjusted to account for the missing strata using an average of the ratio between the series with all strata and the series with the missing strata dropped. This was consistent with how missing data in the 2017 fall survey was handled for these species in the 2018 stock status update. The survey was missed entirely in 2020, so there will need to be adjustments to the data used for FY 2024-2025 specifications.

Table 1. Years of data used for the setting FY 2020-2023 specifications and data expected to be used for FY 2024-2025

			FY 2020-21	FY 2022-23	FY 2024-25	
			(implemented)	(implemented)	(control rule)	(expected)
Survey indices	Spring	Little	2017-2019	2019, 2021	2021-2023	2021-2023
	Fall	Rosette & clearnose	2016, 2018	2018-2019	2020-2022	2021-2022
		Barndoor, thorny, smooth, winter	2016-2018	2017-2019	2020-2022	2021-2022
Catch/biomass time series			Time series to 2016	Times series to 2016	Not always updated	May update to 2022
ABC			**32,715 mt**	**37,236 mt**	**tbd**	**tbd**
Deductions from ACT			2016-2018	2017-2019	2020-2022	2020-2022

Annual Catch Limit (ACL). The skate ACL is equal to the ABC. The ACL is a limit that will trigger accountability measures if catch exceeds this amount.

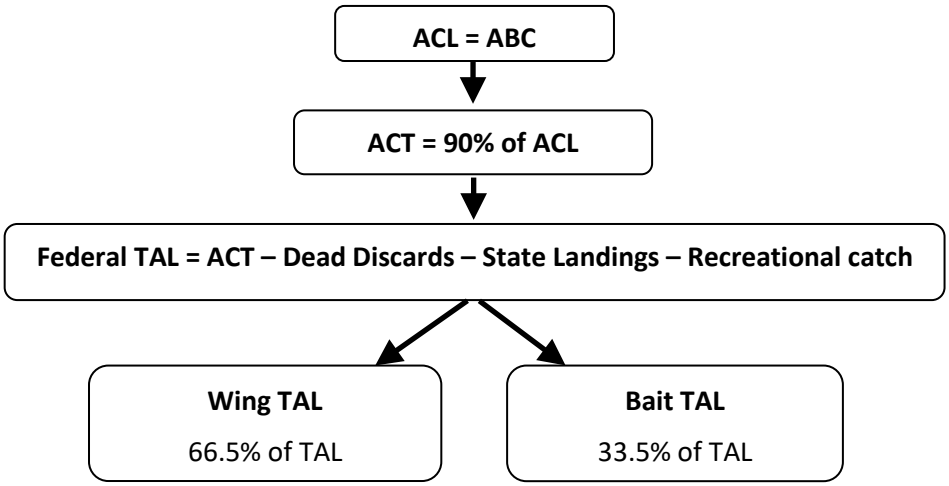
Annual Catch Target (ACT). The skate ACT is 90% of the ACL. There is a 10% uncertainty buffer between the ACL and ACT to account for scientific and management uncertainty (NEFMC 2018).

Total Allowable Landings (TAL). The skate federal TALs is set by subtracting deductions from the ACT for sources of catch outside of federal landings, using calendar year 2020-2022 data (Figure 1):

- Dead discards are calculated by applying the weighted discard mortality rate to the average discards from the most recent three calendar years (using observer and ASM data).
- State landings are equal to the most recent average of three calendar years of landings by vessels that did not have a federal skate permit on the day of landing (Table 5).[1]
- Recreational catch is equal to the most recent average of three calendar years of recreational catch used for ABC setting.[2]

Wing and Bait TALs. The Wing and Bait TALs are set at 66.5% and 33.5% of the TAL, respectively.

Figure 1. Formula for skate specifications setting.



[1] These are the "state landings" in year-end ACL accounting, except on a calendar year basis. The definition of state landings was revised in 2022 for FY 2021 ACL accounting, in the setting of FY 2024-2025 specifications, and going forward. The prior definition was landings by vessels that have never had a federal fishing permit (permit # = 000000)

[2] Recreational catch is a new deduction for the FY 2024-2025 specifications.

4.0 ALTERNATIVES UNDER CONSIDERATION

4.1 ACTION 1 – SPECIFICATIONS

This action sets fishery specifications for FY 2024 and 2023 according to the formula (Figure 1) established through Amendment 3 (NEFMC 2009).

4.1.1 Alternative 1 - No Action

Under Alternative 1 (No Action), the ABC specifications for FY 2024-2025 would be unchanged from that of FY 2022-2023, since specifications in the Skate FMP remain in place until replaced by a future action. The ABC would be 37,236 mt and an equivalent annual catch limit (ACL; Table 1). The Federal total allowable landings (TAL) would be 21,142 mt, the wing TAL would be 14,059 mt, and the bait TAL would be 7,082 mt. Deductions for expected dead discards and state landings would be 11,856 and 515 mt, respectively (35% and 1.5% of the annual catch target (ACT)).

These specifications were derived from the median catch/biomass exploitation ratio for the National Marine Fisheries Service (NMFS) bottom trawl time series up to 2016 and the three-year average stratified mean biomass for skates; using the 2017-2019 spring Northeast Fisheries Science Center (NEFSC) survey data for little skate; the 2018-2019 fall survey data for rosette and clearnose skate; and 2017-2019 fall survey data for barndoor, thorny, smooth, and winter skate (modifications due to some missed fall survey stations in 2017 and 2018).

Table 2. Specifications for FY 2020-2021 and FY 2022-2023.

		FY 2020-2021		FY 2022-2023	
		(mt)	(lb)	(mt)	(lb)
ABC = ACL	live weight	32,715	72,124,143	37,236	82,091,230
ACT (90% of ACL)	live weight	29,444	64,912,831	33,513	73,883,430
Expected Dead Discards	live weight	10,942	24,122,952	11,856	26,137,975
Expected State Landings	live weight	638	1,406,548	515	1,135,379
Federal TAL	live weight	17,864	39,383,332	21,142	46,610,076
Wing TAL (66.5% of TAL)	live weight	11,879	26,188,681	14,059	30,994,753
	wing weight	5,233	11,536,864	6,193	13,654,076
Bait TAL (33.5% of TAL)	live weight	5,984	13,192,446	7,082	15,613,119
Note: All values in whole weight.					

4.1.2 Alternative 2 - ???

Under Alternative 2, …

[NOTE: The PDT will develop ABCs with updated data from the assessment and following the control rule to be reviewed by the Scientific and Statistical Committee in October 2023.]

4.2 ACTION 2 – SKATE POSSESSION LIMITS

The Wing TAL is managed in two seasons and the Bait TAL is managed in three seasons (Table 3). Season 1 for the wing fishery (May 1 – August 31) receives 57% of the Wing TAL and the remainder is allocated to Season 2. Season 1 for the bait fishery (May 1 – July 31) receives 30.8% of the Bait TAL, Season 2 (August 1 – October 31) receives 37.1% and the remainder is allocated to Season 3.

The wing and bait fisheries have different seasonal possession limits and triggers for when an incidental limit may be implemented under the discretion of the Regional Administrator (Table 3). If for either skate fishery, at the end of a fishing year, it is calculated that the TAL was exceeded by more than 5%, an automatic adjustment to that fishery's TAL trigger would occur for the next fishing year. A straight one-for-one percent reduction in a TAL trigger for prior overages reduces the likelihood that future landings would exceed that TAL. This increases the buffer between the TAL and trigger to account for incidental landings in a skate fishery when the skate possession limit declines to the incidental limit. An overage of less than 5% would not be alarming and might be offset by reductions in skate discards.

Table 3. Skate seasonal management with FY 2020-2023 possession limits.

Fishery	Season	Dates	% of TAL	Possession Limit	Trigger	Incidental Limit
Wing	1	May 1 – Aug 31	57%	3,000 lb wing weight (6,810 lb whole weight)	85% of seasonal TAL	500 lb wing weight (1,135 lb whole weight)
	2	Sept 1 – Apr 30	remainder	5,000 lb wing weight (11,350 lb whole weight)	85% of annual TAL	
Bait	1	May 1 – Jul 31	30.8%	25,000 lb whole weight	90% of seasonal TAL	8,000 lb whole weight
	2	Aug 1 - Oct 31	37.1%		90% of seasonal TAL	
	3	Nov 1 – Apr 30	remainder		80% of annual TAL	

Skate Wing Possession Limits

For FY 2020-2023, the skate wing possession limits have been 3,000 lb for Season 1 (May 1 to August 31) and 5,000 lb for Season 2 (September 1 to April 30). The barndoor skate possession limit has been 750 lb in Season 1 and 1,250 lb in Season 2 (set proportional at 25% of the limits). There is a seasonal incidental possession limit trigger of 85% of the Wing TAL. The incidental possession limit is 500 lb and the wing fishery closes once 100% of the TAL is reached.

Skate Bait Possession Limits

For FY 2020-2023, the skate bait possession limits have been 25,000 lb in all three seasons. There is a seasonal incidental possession limit trigger of 90% in Seasons 1 and 2 and 80% in Season 3. Vessels that obtain a Skate Bait Letter of Authorization (LOA) from GARFO can retain whole skates up to the possession limit in all three seasons if they comply with related rules and size limits. No possession of barndoor skate is permitted for vessels fishing with a Skate Bait LOA. The incidental possession limit is 8,000 lb, and when 100% of the bait TAL is reached, the bait LOAs are voided to slow landings.

Barndoor and Smooth Skate

NOAA Fisheries declared that barndoor and smooth skates were overfished after the skate stock assessment in 1999 (NEFSC 2000). Barndoor skate was declared rebuilt in 2016 and possession has been allowed since FY 2018 (through Framework Adjustment 5), as up to 25% of the skate wing possession limit. At the time, the intent was to potentially adjust this in the future as barndoor becomes part of the fishery. Smooth skate has been considered rebuilt since 2018, yet possession is still prohibited in the

Gulf of Maine. The Council could consider expanding the possession limit for barndoor skate and allowing possession of smooth skate.

5.0 AFFECTED ENVIRONMENT

[See 2021 Annual Monitoring Report, the FY 2022-2023 Specifications document and Framework 8 for additional details on the Affected Environment. Information will be updated and provided in future versions of this document as the year progresses.]

5.1 TARGET SPECIES

The fishing mortality reference points are based on changes in survey biomass indices. If the three-year moving average of the survey biomass index for a skate species declines by more than the average CV of the survey time series, then fishing mortality is assumed to be greater than F_{MSY} and overfishing is occurring for that skate species. The average CVs of the indices are given (as percent change for overfishing status determination in FMP) by species in Table 3.

Barndoor skate: The 2019 and 2021 average NEFSC fall survey biomass index of 1.52 kg/tow is above the biomass threshold reference point (0.78 kg/tow) but slightly below the B_{MSY} proxy (1.57 kg/tow). The 2019 and 2021 average index is below the 2017-2019 average index by 24.8%, which is less than the threshold percent change of 30%. It is recommended that this stock is not overfished and overfishing is not occurring.

Clearnose skate: The 2019 and 2021 average NEFSC fall biomass index of 1.10 kg/tow is above the biomass threshold reference point (0.33 kg/tow) and the B_{MSY} proxy (0.66 kg/tow). The 2019 and 2021 average index is above the 2018 and 2019 average index by 4.4%. It is recommended that this stock is not overfished and overfishing is not occurring.

Little skate: the 2021-2022 NEFSC spring average biomass index of 4.07 kg/tow is above the biomass threshold reference point (3.07 kg/tow) but below the B_{MSY} proxy (6.15 kg/tow). The 2021-2022 average index is below the 2019 and 2021 average by 15.8%, which is less than the threshold percent change of 20%. It is recommended that this stock is not overfished and overfishing is not occurring.

Rosette skate: The 2019 and 2021 average NEFSC fall biomass index of 0.054 kg/tow was above the biomass threshold reference point (0.024 kg/tow) and above the B_{MSY} proxy (0.048 kg/tow). The 2019 and 2021 average index is above the 2018 and 2019 average index by 7.6%. It is recommended that this stock is not overfished and overfishing is not occurring.

Smooth skate: The 2019 and 2021 average NEFSC fall biomass index of 0.20 kg/tow is above the biomass threshold reference point (0.134 kg/tow) but below the B_{MSY} proxy (0.27 kg/tow). The 2019 and 2021 average index is below the 2017-2019 average index by 26.2%, which is less than the threshold percent change of 30%. It is recommended that this stock is not overfished and overfishing is not occurring.

Thorny skate: The 2019 and 2021 average NEFSC fall biomass index of 0.15 kg/tow is well below the biomass threshold reference point (2.06 kg/tow). The 2019 and 2021 average index is below the 2017-2019 average index by 19.0%, which is less than the threshold percent change of 20%. It is recommended that this stock is overfished but overfishing is not occurring.

Winter skate: The 2019 and 2021 average NEFSC fall biomass index of 9.70 kg/tow is above the biomass threshold reference point (2.83 kg/tow) and above the B_{MSY} proxy (5.66 kg/tow). The 2019 and 2021 average index is above the 2017-2019 average index by 12.7%. It is recommended that this stock is not overfished and overfishing is not occurring.

Table 4. Recent survey indices, survey strata used, and biomass reference points of skate species

		BARNDOOR	CLEARNOSE	LITTLE	ROSETTE	SMOOTH	THORNY	WINTER
Annual survey		**Autumn**	**Autumn**	**Spring**	**Autumn**	**Autumn**	**Autumn**	**Autumn**
Time Series Basis		**1963-1966**	**1975-2007**	**1982-2008**	**1967-2007**	**1963-2007**	**1963-2007**	**1967-2007**
Strata Set		**Offshore 1-30, 34-40**	**Offshore 61-76, Inshore 17,20,23,26, 29,32,35,38, 41,44**	**Offshore 1-30, 34-40, 61-76, Inshore 2,5,8,11,14,17 ,20,23,26,29,3 2,35,38,41,44 -46,56,59-61,64-66**	**Offshore 61-76**	**Offshore 1-30, 34-40**	**Offshore 1-30, 34-40**	**Offshore 1-30, 34-40, 61-76**
Biomass Target		1.57	0.66	6.15	0.048	0.27	4.13	5.66
Biomass Threshold		0.78	0.33	3.07	0.024	0.13	2.06	2.83
Survey Indices (kg/tow)	**2014**	1.62	0.61	6.54[a]	0.053	0.22	0.21	6.95
	2015	2.08	0.82	6.82	0.045	0.25	0.19	6.15
	2016	1.09	0.34	3.56[b]	0.044	0.27	0.13	6.84
	2017	1.54[c]	[c]	6.09	[c]	0.34[c]	0.21[c]	8.40[c]
	2018	2.80[e]	0.88	4.41	0.051	0.25[e]	0.14[e]	6.41[e]
	2019	1.71	1.23	5.45	0.050	0.24	0.18	11.00
	2021	1.33	0.97	4.21	0.058	0.17	0.11	8.40
	2022			3.92				
OVERFISHED METRIC (If 3-year moving average of survey biomass index < Bthreshold then overfished)								
2015-2017 3-year average		1.57[c]	[c]	5.49[b]	[c]	0.27[c]	0.18[c]	7.13[c]
2016-2018 3-year average		1.81[c,e]	0.61[d]	4.69[b]	0.047[d]	0.27[c,e]	0.16[c,e]	7.22[c,e]
2017-2019 3-year average		2.02[c,e]	1.05[d]	5.32	0.050[d]	0.27[c,e]	0.18[c,e]	8.61[c,e]
2019,21 2-year average		1.52[f]	1.10[f]	4.83[f]	0.054[f]	0.20[f]	0.15[f]	9.70[f]
2021-22 2-year average				4.07[f]				
OVERFISHING METRIC (If % change in 3-year moving average of survey biomass index > average coefficient of variation (CV) of the survey time series then overfishing is occurring.)								
% change 2016-2018 vs. 2015-2017		+15.3[c,e]	+3.1[d]	-14.6[b]	+0.1[d]	-0.2[c,e]	-8.4[c,e]	+1.2[c,e]
% change 2017-2019 vs. 2016-2018		+11.4[c,e]	+73.1[d]	+13.4[b]	+6.4[d]	+1.7[c,e]	+11.4[c,e]	+19.2[c,e]
% change 2019-2021 vs. 2017-2019		-24.8[f]	+4.4[f]	-9.1[f]	+7.6[f]	-26.2[f]	-19.0[f]	+12.7[f]
% change 2021-2022 vs. 2019-2021				-15.8[f]				
% change for overfishing status determination in FMP		-30	-40	-20	-60	-30	-20	-20

a. No survey tows completed south of Delaware in spring 2014. Values for 2014 were adjusted for missing strata (Offshore 61-68, Inshore 32, 35, 38, 41, 44) but may not be fully comparable to other surveys which sampled all strata.
b. The 2016 spring survey was later than usual. c. No survey tows completed south of Georges Bank in fall 2017. Values either missing or adjusted for missing strata (Offshore 1-12, 61-76).
d. Two-year average due to missing 2017 survey. e. Values were adjusted for missing Offshore strata 30, 34 and 35.
f. Spring and fall surveys not completed due to COVID 19 restrictions.
Grey shading indicates an overfished species.

5.2 HUMAN COMMUNITIES

In-season Quota Monitoring

Table 5. FY 2019-2021 in-season monitoring of Northeast skate wing and bait landings (live weights).

	TAL		Landings		
	lb	mt	lb	mt	%
FY 2019					
Wing	23,146,333	10,499	18,620,780	8,446,	80%
Bait	11,660,249	5,289	8,537,124	3,872	73%
Total	**34,806,582**	**15,788**	**27,157,904**	**12,319**	**78%**
FY 2020					
Wing	26,188,712	11,879	20,2000,770	9,163	77%
Bait	13,192,462	5,984	7,496,802	3,400	57%
Total	**39,381,174**	**17,863**	**27,697,572**	**12,563**	**70%**
FY 2021					
Wing	26,188,712	11,879	10,762,565	4,882	41%
Bait	13,192,462	5,984	6,361,527	2,886	48%
Total	**39,381,174**	**17,864**	**17,124,092**	**7,768**	**44%**
FY 2022 (as of March 4, 2023, ~85% of year complete)					
Wing	30,994,753	14,059	11,132,288	5,050	36%
Bait	15,613,119	7,082	7,488,547	3,397	48%
Total	**46,610,076**	**21,142**	**18,620,835**	**8,447**	**40%**

Source: cfders2021 and cfders2022, Vessel Trip Reports, and permit databases, accessed 7/08/2022. FY 2022 data from in-season quota monitoring reports.

Notes:

- Data aggregates landings from the weekly, in-season quota monitoring reports.
- Landing are the subset of landings with a Federal skate permit on the day of landing.

Year-End ACL Accounting

Table 6. FY 2019-2021 year-end Northeast skate complex ACL accounting.

	Live weight		Percent of ACL
	(lb)	(mt)	
FY 2019 (ACL = 31,327 mt)			
Northeast skate federal commercial landings	27,807,878	12,613	40.3%
Northeast skate state-permitted only vessel landings	2,532,286	1,149	3.7%
Northeast skate non-landed bait	463,069	210	0.6%
Northeast skate estimated dead discards	13,144,115	5,962	19.0%
Northeast skate recreational catch	2,229,125	1,011	3.2%
Total Northeast skate catch	**46,176,472**	**20,945**	**66.9%**
FY 2020 (ACL = 32,715 mt)			
Northeast skate federal commercial landings	28,223,460	12,802	39.1%
Northeast skate state-permitted only vessel landings	1,880,350	853	2.6%
Northeast skate non-landed bait	485,421	220	0.7%
Northeast skate estimated dead discards	18,791,428	8,524	26.1%
Northeast skate recreational catch	692,135	314	1.0%
Total Northeast skate catch	**50,072,794**	**22,713**	**69.4%**
FY 2021 (ACL = 32,715 mt)			
Northeast skate federal commercial landings	17,806,964	8,077	24.7%
Northeast skate state-permitted only vessel landings	1,655,445	751	2.3%
Northeast skate non-landed bait	382,062	173	0.5%
Northeast skate estimated dead discards	14,556,155	6,603	20.2%
Northeast skate recreational catch	1,111,664	504	1.5%
Total Northeast skate catch	**35,512,289**	**16,108**	**49.2%**

Source of FY 2019 data: Commercial fisheries dealer database accessed 8/9/2022; Northeast Fishery Observer Program database, accessed 7/01/2020; Marine Recreational Information Program reports, accessed 7/06/2020; and VTR database accessed 8/2022 (new method only).
Source of FY 2020 data: Commercial fisheries dealer database accessed 8/9/2022; Northeast Fishery Observer Program database, accessed 6/30/2021; Marine Recreational Information Program reports, accessed 7/07/2022; and VTR database accessed 8/2022 (new method only).

Notes:

- "Northeast skate federal commercial landings" are landings by vessels that had a federal skate permit on the day of landing (include research landings reported to federal dealers).
- "Northeast skate state-permitted only vessel landings" are landings with no federal skate permit on the day of landing. May include state permitted landings reported by state-only dealers provided to GARFO from states.
- "Northeast skate non-landed bait" is catch not reported only in VTRs (not by federal dealers).
- "Northeast skate estimated dead discards" is based on landings of all species and skate discards on observed trips extrapolated to all commercial landings of all species (weighted by area, gear, etc.) to calculate total skate discards. Then, a discard mortality rate is applied to the calculated total skate discards (discard estimation method differs from how discards are estimated during specifications setting, which uses the NEFSC method).
- "Northeast skate recreational catch" is private angler and party/charter landings and dead discards.

6.0 DISCUSSION QUESTIONS

Discussion questions/starters

- Should the Council make any recommendations to the Northeast Fisheries Science Center regarding the 2023 management track assessment for skates?
- Is there additional information that the PDT can provide about recreational catch of skates that could be helpful (beyond what is in separate memo)?
- Should the possession limits in place for FY 2022-2023 be maintained in FY 2023-2024 or should adjustments be considered? How so?
- Should the Council consider allowing increased possession of barndoor skate and allow possession of smooth skate? Before the development of alternatives for expanding possession of smooth and/or barndoor skate, a goal(s) should be identified? Is the Committee ready to identify a goal? What additional information would be helpful?

7.0 REFERENCES

NEFMC. (2009). *Final Amendment 3 to the Fishery Management Plan for the Northeast Skate Complex and Final Environmental Impact Statement*. Newburyport, MA: New England Fishery Management Council and National Marine Fisheries Service. 459 p. https://www.nefmc.org/library/amendment-3-3.

NEFMC. (2018). *Framework Adjustment 6 to the Northeast Skate Complex Fishery Management Plan*. Newburyport, MA: New England Fishery Management Council in cooperation with the National Marine Fisheries Service. 150 p. https://www.nefmc.org/library/framework-6.

NEFSC. (2000). *30th Northeast Regional Stock Assessment Workshop (30th SAW) Assessment Summary Report*. Woods Hole, MA: U.S. Department of Commerce. NEFSC Reference Document 00-04. 58 p. https://repository.library.noaa.gov/view/noaa/3123.