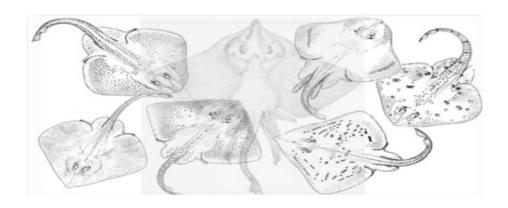
# Northeast Skate Complex Fishery Management Plan

# **Amendment 5 Discussion Document**



# DRAFT for September 2021 Skate Advisory Panel, Skate Committee, and Council meetings

Prepared by the

New England Fishery Management Council

In consultation with the

National Marine Fisheries Service





#### 1.0 PRELIMINARY NOTE

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 (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.

This Discussion Document encapsulates the work of the Council to date on Amendment 5 to the Northeast Skate Complex FMP, an amendment to consider measures related to limited access in the fishery. Though the Council has been discussing the potential development of a skate limited access for some time, the Skate Committee (Committee) has been specifically working to develop this action since the spring of 2019. More information is available at the Council's website.

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#### 2.3 ACRONYMS

ABC ACL	Acceptable Biological Catch Annual Catch Limit	NEFSC NEPA	Northeast Fisheries Science Center National Environmental Policy Act
AM	Accountability Measure	NMFS	National Marine Fisheries Service
AP	Advisory Panel	NOAA	National Oceanic and Atmospheric
			Administration
ASMFC	Atlantic States Marine Fisheries Commission		Observer database system
$\mathrm{B}_{\mathrm{MSY}}$	Biomass that would allow for catches equal to	OFL	Overfishing Limit
	Maximum Sustainable Yield when fished at		
	the overfishing threshold (F <sub>MSY</sub> )		
CPUE	Catch per unit of effort	OY	Optimum yield
DAS	Day(s)-at-sea	PDT	Plan Development Team
DMF	Division of Marine Fisheries (Massachusetts)	SA	Statistical Area
DMR	Department of Marine Resources (Maine)	SAFE	Stock Assessment and Fishery Evaluation
EA	Environmental Assessment	SNE	Southern New England
EEZ	Exclusive economic zone	SNE/MA	Southern New England-Mid-Atlantic
EFH	Essential fish habitat	SSB	Spawning stock biomass
EIS	Environmental Impact Statement	SSC	Scientific and Statistical Committee
F	Fishing mortality rate	TAL	Total allowable landings
FEIS	Final Environmental Impact Statement	TMS	Ten-minute square
FMP	Fishery management plan	USCG	United States Coast Guard
FW	Framework	VMS	Vessel monitoring system
FY	Fishing year	VEC	Valued ecosystem component
<b>GARFO</b>	Greater Atlantic Regional Fisheries Office	VTR	Vessel trip report
GB	Georges Bank	WGOM	Western Gulf of Maine
GOM	Gulf of Maine	YPR	Yield per recruit
IFQ	Individual fishing quota		
ITQ	Individual transferable quota		
LOA	Letter of authorization		
MAFMC	Mid-Atlantic Fishery Management Council		
MMPA	Marine Mammal Protection Act		
MRIP	Marine Recreational Information Program		
MSA	Magnuson-Stevens Fishery Conservation and		
	Management Act		
MSY	Maximum Sustainable Yield		
NEFMC	New England Fishery Management Council		
NEFOP	Northeast Fisheries Observer Program		

#### 3.0 INTRODUCTION

#### 3.1 GOAL AND OBJECTIVES OF NORTHEAST SKATE COMPLEX FMP

The goal and objectives of the Northeast Skate Complex Fishery Management Plan are unchanged since the original FMP was adopted in 2003. However, an update to Objectives 2 and 5 are being contemplated in this action.

#### 3.1.1 Existing FMP Goal and Objectives

*Goal:* Consistent with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act and other applicable laws, to develop a Fishery Management Plan to research and manage the Northeast Skate Complex at long-term sustainable levels.

<u>Objective 1:</u> Collect information critical for substantially improving knowledge of skate fisheries by species and for monitoring: (a) the status of skate fisheries, resources, and related markets and (b) the effectiveness of skate management approaches.

<u>Objective 2:</u> Implement measures to: protect the two currently overfished species of skates (barndoor and thorny) and increase their biomass to target levels, reduce fishing mortality on winter skate, and prevent overfishing of the other species in the Northeast skate complex – this may be accomplished through management measures in other FMPs (groundfish, monkfish, scallops), skate-specific management measures, or a combination of both as necessary.

<u>Objective 3:</u> Develop a skate permit system, coordinate data collection with appropriate state agencies for vessels fishing for skates or catching skates as bycatch only in state waters, and work with the fishing industry to establish a catch reporting system consistent with industry capabilities, including the use of study fleets.

<u>Objective 4:</u> Minimize the bycatch and discard mortality rates for skates caught in both directed and non-directed fisheries through the promotion and encouragement of experimentation, conservation engineering, and gear development.

<u>Objective 5:</u> Promote and encourage research for critical biological, ecological, and fishery information based on the research needs identified in the Skate SAFE Report and scoping document, including the development and dissemination of a skate species identification guide.

<u>Objective 6:</u> Minimize, to the extent possible, the impacts of skate management approaches on fisheries for other species on which New England and Mid-Atlantic fishermen depend (for example, groundfish, monkfish, scallops, and fluke), recognizing the interconnected nature of skate and other fisheries in the Northeast Region.

<u>Objective 7:</u> To the extent possible, manage clearnose and rosette skates separately from the other five species in the skate complex, recognizing that these two species are distributed primarily in the Mid-Atlantic and South Atlantic regions.

#### 3.1.2 Updates to FMP Objectives

<u>Objective 2 - UPDATE:</u> Implement measures to: protect any overfished species of skates and increase their biomass to target levels and prevent overfishing of the species in the Northeast skate complex – this may be accomplished through management measures in other FMPs (groundfish, monkfish, scallops), skate-specific management measures, or a combination, as necessary.

Rationale for Update: Objective 2 should be generalized to apply to any skate species. Barndoor skate was declared rebuilt in 2016, so the language is out of date. The skate stock assessment in 1999 (SAW 30) concluded that barndoor, thorny, smooth, and winter were overfished and overfishing was occurring on winter skate. After the fall 2001 survey, only barndoor and thorny skates were considered overfished. Likely, the degree of uncertainty about the condition of winter skate motivated the Council to include reducing fishing mortality on this stock as an FMP objective. Today, winter skate is one of the most abundant in the complex, according to the survey index. It is a target species for the fishery, particularly in the wing fishery. There is no longer a need to single out winter skate in Objective 2.

<u>Objective 5 - UPDATE:</u> Promote and encourage research for critical biological, ecological, and fishery information based on the research needs identified and updated by the Council.

Rationale for Update: Objective 5 should be consistent with how the Council currently sets research priorities. The scoping document referred to is the one for the original scoping for the FMP, now long out of date. Rather than list the research priorities in separate documents for each FMP (e.g., SAFE reports), the Council now maintains one list of priorities. Also, a species identification guide was created and disseminated to fishermen a few years ago and information is available on GARFO's website.

#### 3.2 EXISTING MANAGEMENT SYSTEM

The Northeast Skate Complex Fishery Management Plan (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 New England Fishery Management Council (Council) sets specifications every two years for the skate complex with possession limits for the skate wing and bait fisheries. Fishery-specific (skate wing and bait) Total Allowable Landings (TAL) and possession limits are set as part of specifications according to the formula set through Amendment 3 (NEFMC 2009). The fisheries have different seasonal management structures and are subject to possession limits and accountability measures (AMs). Recent fishery TALs, possession limits and catches are in Section 1.6.1.2.

More information on skate wing fishery regulations is at: <a href="https://www.fisheries.noaa.gov/species/northeast-skate-complex#commercial.">https://www.fisheries.noaa.gov/species/northeast-skate-complex#commercial.</a>

More information on skate bait fishery regulations is at: https://www.fisheries.noaa.gov/new-england-mid-atlantic/resources-fishing/skate-bait-fishery.

#### 3.3 STEPS OF AMENDMENT DEVELOPMENT/TIMELINE

The Council has been considering developing limited access in the skate fishery since at least 2009 (Table 1, March 2020 Skate PDT memo) but did not formally start developing Amendment 5 until early 2017.

Table 1. Council steps in developing Amendment 5.

Step	Amendment 5 timeline	Discussion Doc.
Identify a need, set an action as a priority,	July 2009: NMFS set bait control date	Sect. 3.4
potentially set control dates for developing	March 2014: NMFS set wing control date	
skate limited access	Dec. 2015: Council set amendment as a management priority	
Hold public scoping period	Early 2017	Sect. 3.5
Review public scoping comments	April 2017	Sect. 3.5
Develop alternatives	April 2017 – June 2019: AP developing	Sect. 4.0
	ideas, Cte tasking PDT with providing	
	background information, generally and	
	about AP ideas	
Set problem statement, goals, and objectives;	June 2019: Council set two objectives	Sect. 3.6
expanded scope beyond limited access	March-September 2020: Cte develops	
	problem statement, goals, and types of	
	measures	
	September 2020: Council approval	
Supplemental scoping	Early 2021	Sect. 3.7
Limited access no longer being developed	April 2021: Council decided to stop	Sect. 3.4
	developing limited access in this action	
Control dates rescinded	June 2021: Council asked NOAA to rescind	Sect. 3.4
	the existing control dates	
	August 2021: NOAA approved notice to	
	rescind	
Continue developing alternatives	Early 2021 - TBD	Sect. 4.0

#### **3.4 CONTROL DATES**

Bait Control Date. NOAA Fisheries published a control date for the bait fishery on July 30, 2009, at a request of the Council made during its April 2009 meeting. At the time, there was concern that potential new entrants into the skate bait fishery could have a negative impact on current participants. This was the same meeting in which final alternatives were recommended for Amendment 3, the action that implemented an annual catch limit framework with accountability measures to account for any excess catch, or overages, and prevent overfishing. Other measures recommended were intended to reduce landings and the total catch of skate and promote increased biomass to rebuild smooth and thorny skates, which were overfished.

Wing (non-bait) Control Date. NOAA Fisheries published a control date for uses other than bait (e.g., wing) on March 31, 2014, at a request of the Council made during its January 2014 meeting. The intent was not to change Council priorities or initiate an amendment for limited access but to take the first step towards achieving that priority. The intent was also to not revise the skate bait control date but cover all components of the skate fishery other than bait.

**Control Dates Rescinded.** In June 2021, the Council voted to recommend that NOAA Fisheries rescind the existing control dates for both the skate wing and skate bait fisheries. The Council recognized that if limited access is pursued at some point in the future, it can engage in a fresh discussion about control dates. The control dates were rescinded on August 31, 2021.

#### 3.5 ORIGINAL PUBLIC SCOPING

The Council approved the Amendment 5 <u>public scoping document</u> in November 2016, indicating that "limited access in the skate fisheries would prevent unrestrained increases in fishing effort by new entrants to the fishery." Additionally, there was a concern that an "increase in effort in the skate fishery could trigger reduced skate trip limits and have other negative economic impacts on current participants because skate markets are still developing and therefore an influx of product could reduce price."

The scoping hearings occurred in January-February 2017. The PDT summarized comments (see March 20, 2017, PDT meeting summary). There were 3 people who commented on behalf of an organization and 46 on behalf on themselves or a business through 48 comments. There was mixed support for limited access, with no discernable trend among bait and wing fishermen or by geography or other affiliation. The written comments suggested a slight preference for limited access; however, the spoken comments indicated more opposition to limited access. Stock status and abundance were a factor in several public comments. If the quota were to increase, then support for limited access may change for some participants. Some comments supported updating the bait control date. The scoping comments and a summary of comments are on the Council's website.

# 3.6 AMENDMENT 5 PROBLEM STATEMENT, GOALS AND TYPES OF MEASURES

In September 2020, the Council approved the following problem statement, goals, and types of measures to consider that may achieve the goals for this action (Goals 6 and 7 were also approved in June 2019; problem statement was clarified by the Council in December 2020).

#### **Problem Statement:**

There are two modes of the skate fishery, directed and non-directed fisheries. An incidental limit has been triggered five times since first implemented in July 2010, and when it gets triggered, there are negative impacts on the directed skate fishery and on the other fisheries that incidentally harvest skate.

There is a need to improve the reliability and accountability of catch reporting in the skate fishery (and other fisheries that catch skate) to ensure there is precise and accurate representation of catch (landings and discards). Accurate catch data are necessary to ensure that catch limits are set at levels that prevent overfishing and to determine when catch limits are exceeded.

Current and potential access to the skate resource make it difficult to achieve long term sustainable management in the skate fishery. It is more difficult to prevent overfishing and predict outcomes of management when participants in a fishery cannot be defined.

#### Goals:

- 1. Avoid tripping the skate incidental possession limit.
- 2. Improve skate data, leading to improved assessments (e.g., no longer be considered data-poor) and more precise and accurate understanding of the landings and discards in different segments of the fishery.
- 3. Minimize discards.
- 4. Better characterize the directed and non-directed fisheries.
- 5. Better understand the true potential for vessels to enter the fishery.
- 6. Minimize the impact on any other fisheries that have interactions with skates.
- 7. Preserve, to the extent possible, ongoing participation in the fishery consistent with how past utilization has occurred.

#### Types of measures to consider for achieving the goals:

- 1. An intermediate trigger to slow the wing and/or bait fishery.
- 2. Limited access for the wing and/or bait fishery, with or without tiers for different qualification criteria for permit categories.
- 3. Creating different TALs for the wing fishery segments (e.g., directed and non-directed TALs).
- 4. Monitoring requirements for the wing and/or bait fishery beyond NEFOP/SBRM requirements.
- 5. Restrict switching between state and federal fishing for the wing and/or bait fishery.
- 6. Gear modifications that could reduce bycatch for the wing and/or bait fishery (e.g., 12" mesh gillnet size).
- 7. Make the Federal skate permit a year-round permit for the wing and/or bait fishery.
- 8. Additional reporting requirements for the wing and/or bait fishery (e.g., VMS declarations, daily catch reports).

#### 3.7 SUPPLEMENTAL SCOPING

With expanding the types of measures being considered for this action beyond limited access, a supplemental scoping period was held in January-February 2021. There were 4 people who commented on behalf of an organization and 8 on behalf on themselves or a business through 13 comments. Combining comments from both scoping periods, 55 people commented on this action. During supplemental scoping, the comments on limited access were also split, also with a few less comments in support than opposed or concerned. Across both periods and within the skate fishery, there were 22 fishermen opposed or concerned and 14 in support. Of the skate fishermen that could be identified by disposition type, comments from bait fishermen were split on the issue and comments from wing fishermen were largely opposed. For those skate fishermen where home state could be identified, there was no strong geographic trend, but fishermen from northern states (NH – RI) had mixed support, while southern states (CT – NJ) were more opposed. Adding in the supplemental scoping, the general conclusion from initial scoping was largely unchanged. Also, there very few comments on the expanded range of measures. The scoping comments and a summary of comments are on the Council's website.

#### 4.0 ALTERNATIVES UNDER CONSIDERATION

#### 4.1 ACTION 1 - INTERMEDIATE POSSESSION LIMIT

The wing and bait fisheries are currently managed by separate wing and bait total allowable landing limits (TAL), with seasonal TALs, possession limits, and triggers for when an incidental limit may be implemented in-season. The incidental limits are 500 lb wing weight (1,135 lb whole weight) for the wing fishery, and 8,000 lb (whole weight) for the bait fishery.

Due to concerns that imposing an incidental limit effectively shuts down the skate wing and/or bait fishery and likely results in additional skate discarding, the Council is considering creating intermediate possession limit triggers with reduced possession limits to slow down fishing effort and extend the fishing season.

The Regional Administrator has some discretion to not implement an incidental limit, or to later lift it, if a seasonal or Annual TAL is unlikely to be reached.

- For the wing TALs:
  - o In Season 1 on or prior to August 17 (15 days before the end of Season 1), the RA shall implement the incidental limit if 85% of the seasonal TAL is projected to be landed. After August 17, the RA may implement the incidental limit if the 85% seasonal trigger is reached, unless the seasonal TAL is unlikely to be achieved.
  - In Season 2, when 85% of the annual wing TAL is projected to be landed, the RA may implement the incidental limit, unless the annual TAL is unlikely to be achieved.
- For the bait TALs, when 90% of the Seasons 1 or 2 bait TALs or 80% of annual bait TAL is projected to be landed, the RA shall implement the incidental limit. If it is determined that an inseason trip limit reduction to the incidental limit could prohibit the skate bait fishery from achieving its annual TAL, the RA may remove the reduction and restore the original bait trip limit.

An incidental limit has not been triggered since December 27, 2017 (see Section 1.6.4 in the Affected Environment document). Since then, Framework 4 set a separate incidental limit for the bait fishery (in 2018) and Framework 6 effectively increased the TAL by lowering the uncertainty buffer (in 2019). An intermediate possession limit could be another measure to help the wing and bait fisheries from tripping the skate incidental possession limits.

Should intermediate possession limits be implemented through this action, the current discretion to not implement an incidental limit would be mirrored for any intermediate possession limit.

#### Skate Committee:

In June, the Council passed the Committee motion: "that for all the intermediate possession limit alternatives, the Regional Administrator would have the discretion to not implement the intermediate possession limit, based on current landing rates and the timing relative to the end of the season, like the current discretion for implementing the incidental limit."

Is the AP/Committee clear that the "discretion to not implement" is only for wing Season 2? In wing Season 1 and the bait seasons, the RA must implement the incidental limit if a certain percentage of TAL is reached but has the discretion to later remove the limit (see above text). The PDT wanted to check that the intent really is to mirror all the current ways the incidental limit "shall" and "may" be implemented and later lifted. Rather, is the intent for the RA to have discretion in all cases?

• Currently, the RA has discretion to not implement a wing incidental possession limit within 15 days of the end of wing Season 1. The PDT recommends having a 30-day window for an incidental limit. Does the Committee support this?

Given the preliminary analysis of alternatives (Section 4.1.3), is the AP/Committee comfortable with the range of alternatives in Action 1 or should there be modifications? How and why?

#### 4.1.1 Wing Intermediate Limits

#### 4.1.1.1 Alternative 1 - No Action

Alternative 1 (No Action) would maintain the current approach, in each skate wing season, of having one possession limit followed by an incidental limit that may be implemented if necessary. In FY 2021, the possession limit is 3,000 lb in Season 1 (May 1 – Aug 31) and 5,000 lb in Season 2 (Sep 1 – Apr 30). The wing incidental possession limit triggers would also remain (85% during skate wing Season 1, 85% annual skate wing TAL). If an incidental limit is triggered, possession limits would reduce to 500 lb for wing (1,135 lb whole weight).

The wing fishery also has a barndoor skate wing possession limit, set at 25% of the wing fishery possession limit, which would remain in place under No Action. The barndoor skate possession limit is included within (not in addition to) the overall wing possession limit for any trip. However, the full barndoor limit may be retained even if the full wing possession limit has not been caught. In Season 1, for example, a vessel may possess 750 lb of barndoor skate wings even if the vessel has not caught the full 3,000 lb wing possession limit during a trip.

*Rationale:* This in-season measure is intended to prevent the overall skate fishery from exceeding the skate ACL and prevent overfishing from occurring while allowing the skate wing TAL to be attained.

## 4.1.1.2 Alternative 2 – Intermediate Skate Wing Possession Limit Trigger at 75% of Existing Limits

Alternative 2 would set an intermediate skate wing possession limit if 75% of either the Seasons 1 or 2 (annual) wing TAL is reached.

Rationale: Alternative 2 would provide the opportunity to achieve the skate wing Season 1 TAL and annual wing TAL while reducing the risk of triggering the incidental possession limit if additional effort enters the skate fishery from non-skate fisheries. This two-step possession limit is intended to slow down fishing effort earlier in the season than under No Action (85% seasonal incidental trigger limit), implement a lower intermediate possession limit trigger than Alternative 3 (80% seasonal trigger), and a lower incidental limit trigger than Alternative 4 (90% trigger) to potentially spread out the available skate wing quota longer before triggering the incidental limit, which effectively shuts down the wing fishery.

#### 4.1.1.2.1 Option A – Lower possession limit to 50% (50% reduction)

Option A would lower the possession limit to 50% (a 50% reduction) if 75% of either the Seasons 1 or Season 2 (annual) wing TAL is reached (Table 2).

*Rationale:* Option A would extend the length of the fishing season at a reduced limit, provide the opportunity to achieve but not exceed the annual skate wing TAL, and reduce the risk of exceeding the overall skate complex ACL. The 50% possession limit reduction is a greater reduction than Option B (25% possession limit reduction).

Table 2. Wing Alternative 2, Option A: intermediate wing possession limit trigger at 75% of existing limits, possession limit lowered by 50%.

Alternative 2,	Season 1	Season 2
Option A	(Sub-Option 1)	(Sub-Option 1 and 2)
STEP 1	Possession limit lowered to 50% (a 50%	Possession limit lowered to 50% (a
	reduction) at 75% Season 1 TAL (e.g.,	50% reduction) at 75% Annual TAL
	3,000 to 1,500 lb)	(e.g., 5,000 to 2,500 lb)
STEP 2 (incidental	500 lb possession limit at 85% Season 1	500 lb possession limit at 85% Annual
limit trigger)	TAL	TAL

*Note:* Tables in Action 1 are based on FY 2020 and 2021 TAL and possession limit specifications and are examples for intermediate possession limit triggers and possession limit reduction options. These values are subject to change based on future specifications.

#### 4.1.1.2.1.1 Sub-Option 1 - Apply lower possession limit to Season 1 and/or Season 2

Sub-Option 1 would lower the possession limit to 50% in either wing fishery season if 75% of either the Season 1 or annual wing TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in both seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.1.2.1.2 Sub-Option 2 – Apply lower possession limit to Season 2 only

Sub-Option 2 would lower the possession limit to 50% in only Season 2 if 75% of the annual wing TAL is reached.

*Rationale:* Sub-Option 2 would implement the intermediate possession limit only in the latter part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate wing TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

#### 4.1.1.2.2 Option B – Lower possession limit to 75% (25% reduction)

Option B would lower the possession limit to 75% (25% reduction) if 75% of either the Seasons 1 or 2 (annual) wing TAL is reached (Table 3).

*Rationale:* Option B would extend the length of the fishing season albeit at a reduced limit, provide the opportunity to achieve but not exceed the annual skate wing TAL, and reduce the risk of exceeding the overall skate complex ACL. The 75% possession limit reduction is a smaller reduction than Option A (50% possession limit reduction).

#### 4.1.1.2.2.1 Sub-Option 1 - Apply lower possession limit to Season 1 and/or Season 2

Sub-Option 1 would lower possession limit to 75% in either wing fishery seasons if 75% of either the Seasons 1 or annual wing TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in both seasons to maximize use of the TAL in each season while preventing overages by season.

4.1.1.2.2.2 Sub-Option 2 – Apply lower possession limit to Season 2 only

Sub-Option 2 would lower the possession limit to 75% only in Season 2 if 75% of the annual wing TAL is reached.

*Rationale:* Sub-Option 2 would implement the intermediate possession limit only in the latter part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate wing TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

Table 3. Wing Alternative 2, Option B: intermediate wing possession limit trigger at 75% of existing limits, possession limit lowered by 25%.

Alternative 2,	Season 1	Season 2	
Option B (Sub-Option 1)		(Sub-Option 1 and 2)	
STEP 1	Possession limit lowered to 75% (a 25% reduction) at 75% Season 1 TAL (e.g., 3,000 to 2,250 lb)	Possession limit lowered to 75% (a 25% reduction) at 75% Annual TAL (e.g., 5,000 lb to 3,750 lb)	
STEP 2 (incidental limit trigger)	500 lb possession limit at 85% Season 1 TAL	500 lb possession limit at 85% Annual TAL	

## 4.1.1.3 Alternative 3 – Intermediate Skate Wing Possession Limit Trigger at 80% of Existing Limits

Alternative 3 would set an intermediate skate wing possession limit if 80% of either the Seasons 1 or 2 (annual) wing TAL is reached.

Rationale: Alternative 3 would provide the opportunity to achieve the skate wing Season 1 TAL and annual TAL while reducing the risk of triggering the incidental possession limit in the future if additional effort enters the skate fishery from non-skate fisheries. This two-step possession limit is intended to slow down fishing effort earlier in the season than No Action (85% seasonal incidental trigger limit) and implement a higher intermediate possession limit trigger than Alternative 2 (75% seasonal trigger) and a lower incidental limit trigger than Alternative 4 (90% trigger) to potentially spread out the available skate wing quota longer before triggering the incidental limit, which effectively shuts down the wing fishery.

#### 4.1.1.3.1 Option A – Lower possession limit to 50% (a 50% reduction)

Option A would lower the possession limit to 50% (a 50% reduction) if 80% of either the Seasons 1 or 2 (annual) wing TAL is reached (Table 4).

*Rationale:* Option A would extend the length of the fishing season albeit at a reduced limit, provide the opportunity to achieve but not exceed the annual skate wing TAL, and reduce the risk of exceeding the overall skate complex ACL. The 50% possession limit reduction is a greater reduction than Option B (25% possession limit reduction).

#### 4.1.1.3.1.1 Sub-Option 1 - Apply lower possession limit to Season 1 and/or Season 2

Sub-Option 1 would lower the possession limit to 50% in either wing fishery season if 80% of either the Seasons 1 or annual wing TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in both seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.1.3.1.2 Sub-Option 2 - Apply lower possession limit to Season 2 only

Sub-Option 2 would lower the possession limit to 80% only in Season 2 if 80% of the annual wing TAL is reached.

Rationale: Sub-Option 2 would implement the intermediate possession limit only in the latter part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate wing TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

Table 4. Wing Alternative 3, Option A: intermediate wing possession limit trigger at 80% of existing limits, possession limit lowered by 50%.

Alternative 3,	Season 1	Season 2	
Option A	(Sub-Option 1)	(Sub-Option 1 and 2)	
STEP 1	Possession limit lowered to 50% (a 50%	Possession limit lowered to 50% (a	
	reduction) at 80% Season 1 TAL (e.g.,	50% reduction) at 80% Annual TAL	
	3,000 lb to 1,500 lb)	(e.g., 5,000 lb to 2,500 lb)	
STEP 2 (incidental	500 lb possession limit at 85% Season 1	500 lb possession limit at 85%	
limit trigger)	TAL	Annual TAL	

#### 4.1.1.3.2 Option B – Lower possession limit to 75% (a 25% reduction)

Option B would lower the possession limit to 75% (a 25% reduction) if 80% of either the Seasons 1 or 2 (annual) wing TAL is reached (Table 5).

*Rationale:* Option B would extend the length of the fishing season albeit at a reduced limit, provide the opportunity to achieve but not exceed the annual skate wing TAL, and reduce the risk of exceeding the overall skate complex ACL. The 25% possession limit reduction is a smaller reduction than Option A (50% possession limit reduction).

#### 4.1.1.3.2.1 Sub-Option 1 - Apply lower possession limit to Season 1 and/or Season 2

Sub-Option 1 would lower the possession limit to 50% in either wing fishery seasons if 80% of either the Seasons 1 or annual wing TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in both seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.1.3.2.2 Sub-Option 2 - Apply lower possession limit to Season 2 only

Sub-Option 2 would lower the possession limit to 50% in only Season 2 if 80% of the annual wing TAL is reached.

Rationale: Sub-Option 2 would implement the intermediate possession limit only in the latter part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate wing TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

Table 5. Wing Alternative 3, Option B: intermediate wing possession limit trigger at 80% of existing limits, possession limit lowered by 25%.

Alternative 3,	Season 1	Season 2	
Option B	(Sub-Option 1)	(Sub-Option 1 and 2)	
STEP 1	Possession limit lowered to 75% (a	Possession limit lowered to 75%	
	25% reduction) at 80% Season 1	(a 25% reduction) at 80% Annual	
	TAL (e.g., 3,000 lb to 2,250 lb)	TAL (e.g., 5,000 lb to 3,750 lb)	
STEP 2 (incidental	500 lb possession limit at 85%	500 lb possession limit at 85%	
limit trigger)	Season 1 TAL	Season 2 / Annual TAL	

# **4.1.1.4** Alternative 4 – Intermediate Skate Wing Possession Limit Trigger at 75% of Existing Limits, Incidental Limit Trigger at 90% of Existing Limits

Alternative 4 would set an intermediate skate wing possession limit of 75% (a 25% reduction) if 75% of either the Seasons 1 or 2 (annual) wing TAL is reached and would set the incidental limit of 500 lb if 90% of either the Seasons 1 or 2 (annual) wing TAL is reached (Table 6).

Rationale: Alternative 4 would provide the opportunity to achieve the skate wing Season 1 TAL and/or annual TAL while reducing the risk of triggering the incidental possession limit in the future if additional effort enters the skate fishery from non-skate fisheries. This two-step possession limit is intended to slow down fishing effort earlier in the season than No Action (85% seasonal incidental trigger limit), implement a lower intermediate possession limit trigger than Alternative 3 (80% seasonal trigger), and implement a higher incidental limit trigger than Alternative 2 (90% incidental trigger) to potentially spread out the available skate wing quota longer before triggering the incidental limit, which effectively shuts down the wing fishery.

#### 4.1.1.4.1 Option A – Apply lower possession limit to Season 1 and/or Season 2

Option A would lower the possession limit to 75% in either wing fishery seasons if 75% of either the Season 1 or annual wing TAL is reached. This option would apply the incidental limit of 500 lb if 90% of the Seasons 1 or 2 (annual) wing TAL is reached.

*Rationale:* Option A would implement the intermediate possession limit in both seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.1.4.2 Option B – Apply lower possession limit to Season 2 only

Option B would lower the possession limit to 75% in only Season 2 if 75% of the annual wing TAL is reached. This option would not change the current incidental limit trigger or reduction during Season 1.

*Rationale:* Option B would implement the intermediate possession limit only in the latter part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate wing TAL is not exceeded. This option could be more administratively simple and may maximize use of the annual TAL relative to Option A.

Table 6. Wing Alternative 4: intermediate wing possession limit trigger at 75% of existing limits, possession limit lowered by 25%; incidental trigger at 90% (500 lb).

Alternative 4	Season 1 (Option A)	Season 2 (Option A and B)
STEP 1	Possession limit lowered to 75%	Possession limit lowered to 75%
	(25% reduction) at 75% Season 1	(25% reduction) at 75% Annual
	TAL (e.g., 3,000 lb to 2,250 lb)	TAL (e.g., 5,000 lb to 3,750 lb)
STEP 2 (incidental limit trigger)	500 lb possession limit at 90%	500 lb possession limit at 90%
	Season 1 TAL	Annual TAL

#### 4.1.2 Bait Intermediate Limits

#### 4.1.2.1 Alternative 1 - No Action

Alternative 1 (No Action) would not modify the current approach, in each bait season, of having one possession limit followed by an incidental limit that may be implemented if necessary. In FY 2021, the possession limit is 25,000 lb in all three seasons. The bait incidental possession limit triggers would also remain (90% in skate bait Seasons 1 and 2, 80% in Season 3). If an incidental limit is triggered, possession limits would reduce to 8,000 lb for bait.

*Rationale:* This in-season measure is intended to prevent the overall skate fishery from exceeding the skate ACL and prevent overfishing from occurring while allowing the skate bait TAL to be attained.

# 4.1.2.2 Alternative 2 – Intermediate Skate Bait Possession Limit Trigger at 75% of Existing Limits

Alternative 2 would set a seasonal intermediate skate bait possession limit if 75% of either the Seasons 1, 2, or 3 (annual) bait TAL is reached.

Rationale: Alternative 2 would provide the opportunity to achieve the skate bait Seasons 1 and 2 and annual TAL while reducing the risk of triggering the incidental possession limit in the future if additional effort enters the skate fishery from non-skate fisheries. This two-step possession limit is intended to slow down fishing effort earlier in the season than No Action (90% Seasons 1 and 2, and 80% Season 3 incidental trigger), implement a lower intermediate possession limit trigger than Alternative 3 (85% in Seasons 1 and 2, 75% in Season 3), and a lower incidental limit trigger than Alternative 4 (90% trigger) to potentially spread out the available skate bait quota longer before triggering the incidental limit.

#### 4.1.2.2.1 Option A – Lower possession limit to 50% (50% reduction)

Option A would lower the possession limit to 50% (50% reduction) if 75% of either the Seasons 1, 2, or 3 (annual) bait TAL is reached (Table 7).

*Rationale:* Option A would extend the length of the fishing season at a reduced limit, provide the opportunity to achieve but not exceed the annual skate bait TAL, and reduce the risk of exceeding the overall skate complex ACL. The 50% possession limit reduction is a greater reduction than Option B (25% possession limit reduction).

**4.1.2.2.1.1** Sub-Option 1 - Apply lower possession limit to Season 1, Season 2, and/or Season 3 Sub-Option 1 would lower the possession limit to 50% in Seasons 1, 2, or 3 (annual) if 75% of either the Seasons 1, 2, or annual bait TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in all three seasons to maximize use of the TAL in each season while preventing overages by season.

4.1.2.2.1.2 Sub-Option 2 - Apply lower possession limit to Season 3 only

Sub-Option 2 would lower the possession limit to 50% only in Season 3 if 75% of the annual bait TAL is reached.

*Rationale:* Sub-Option 2 would implement the intermediate possession limit only in the last part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate bait TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

Table 7. Bait Alternative 2, Option A: intermediate bait possession limit trigger at 75% of existing limits, possession limit lowered by 50%.

Alternative 2, Option A	Season 1 (Sub-Option 1)	Season 2 (Sub-Option 1)	Season 3 (Sub-Option 1 and 2)
STEP 1	Possession limit lowered	Possession limit lowered to	50% reduction at 75%
	to 50% (a 50% reduction)	50% (a 50% reduction) at	Annual TAL (e.g., 25,000 lb
	at 75% Season 1 TAL (e.g.,	75% Season 2 TAL (e.g.,	to 12,500 lb)
	25,000 lb to 12,500 lb)	25,000 lb to 12,500 lb)	
STEP 2 (incidental	8,000 lb possession limit	8,000 lb possession limit at	8,000 lb possession limit at
limit trigger)	at 90% Season 1 TAL	90% Season 2 TAL	80% Annual TAL

*Note:* Seasons 1 and 2 are distinct and any remaining TAL is carried over into Season 3 (i.e., any remaining TAL from Season 1 is not rolled over into Season 2). This table assumes 100% of the seasonal TALs are harvested exactly, meaning this table does not show any rollover or any overages.

#### 4.1.2.2.2 Option B – Lower possession limit to 75% (a 25% reduction)

Option B would lower the possession limit to 75% (a 25% reduction) if 75% of either the Seasons 1, 2, or 3 (annual) bait TAL is reached (Table 8).

*Rationale:* Option B would extend the length of the fishing season at a reduced limit, provide the opportunity to achieve but not exceed the annual skate bait TAL, and reduce the risk of exceeding the overall skate complex ACL. The 25% possession limit reduction is a smaller reduction than Option A (50% possession limit reduction).

4.1.2.2.2.1 Sub-Option 1 - Apply lower possession limit to Season 1, Season 2, and/or Season 3 Sub-Option 1 would lower the possession limit to 75% in Seasons 1, 2, or 3 (annual) if 75% of either the Seasons 1, 2, or annual bait TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in all three seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.2.2.2.2 Sub-Option 2 - Apply lower possession limit to Season 3 only

Sub-Option 2 would lower the possession limit to 75% in only Season 3 if 75% of the annual bait TAL is reached.

*Rationale:* Sub-Option 2 would implement the intermediate possession limit only in the last part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate bait TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

Table 8. Bait Alternative 2, Option B: intermediate bait possession limit trigger at 75% of existing limits, possession limit lowered by 50%.

Alternative 2,	Season 1	Season 2	Season 3
Option B	(Sub-Option 1)	(Sub-Option 1)	(Sub-Option 1 and 2)
STEP 1	Possession limit lowered	Possession limit lowered to	Possession limit lowered to
	to 75% (a 25% reduction)	75% (a 25% reduction) at	75% (a 25% reduction) at
	at 75% Season 1 TAL (e.g.,	75% Season 2 TAL (e.g.,	75% Annual TAL (e.g.,
	25,000 lb to 18,750 lb)	25,000 lb to 18,750 lb)	25,000 lb to 18,750 lb)
STEP 2 (incidental	8,000 lb possession limit	8,000 lb possession limit at	8,000 lb possession limit at
limit trigger)	at 90% Season 1 TAL	90% Season 2 TAL	80% Annual TAL

### 4.1.2.3 Alternative 3 – Intermediate Skate Bait Possession Limit Trigger at 85% of Existing Limits for Seasons 1 and 2, 75% for Season 3

Alternative 3 would set an intermediate skate bait possession limit if 85% of either the Seasons 1 or 2 bait TALs are reached or 75% of the Season 3 (annual) bait TAL is reached.

Rationale: Alternative 3 would provide the opportunity to achieve the skate bait Season 1, Season 2, and annual TAL while reducing the risk of triggering the incidental possession limit in the future if additional effort enters the skate fishery from non-skate fisheries. This two-step possession limit is intended to slow down fishing effort earlier in the season than No Action (90% Seasons 1 and 2, 80% Season 3 incidental trigger), implement a higher intermediate possession limit trigger than Alternative 2 (75% in Seasons 1, 2, and 3), and a lower incidental limit trigger than Alternative 4 (90% trigger) to potentially spread out the available skate bait quota longer before triggering the incidental limit.

#### 4.1.2.3.1 Option A – Lower possession limit to 50% (a 50% reduction)

Option A would lower the possession limit to 50% (a 50% reduction) if 85% of either the Seasons 1 or 2 or 75% of the annual bait TAL is reached (Table 9).

*Rationale:* Option A would extend the length of the fishing season at a reduced limit, provide the opportunity to achieve but not exceed the annual skate bait TAL, and reduce the risk of exceeding the overall skate complex ACL. The 50% possession limit reduction is a greater reduction than Option B (25% possession limit reduction).

**4.1.2.3.1.1 Sub-Option 1 - Apply lower possession limit to Season 1, Season 2, and/or Season 3** Sub-Option 1 would lower the possession limit to 50% in Seasons 1, 2, or 3 (annual) if 85% of either the Seasons 1 or 2 TAL is reached or if 75% of the annual bait TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in all three seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.2.3.1.2 Sub-Option 2 - Apply lower possession limit to Season 3 only

Sub-Option 2 would lower the possession limit to 50% in only Season 3 if 75% of the annual bait TAL is reached.

*Rationale:* Sub-Option 2 would implement the intermediate possession limit only in the last part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate bait TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

Table 9. Bait Alternative 3, Option A: intermediate bait possession limit trigger at 85% Season 1 and 2, 75% Season 3 of existing limits, possession limit lowered by 50%.

Alternative 3,	Season 1	Season 2	Season 3		
Option A	(Sub-Option 1)	(Sub-Option 1)	(Sub-Option 1 and 2)		
STEP 1	Possession limit lowered	Possession limit lowered to	Possession limit lowered		
	to 50% (a 50% reduction)	50% (a 50% reduction) at	to 50% (a 50% reduction)		
	at 85% Season 1 TAL (e.g.,	85% Season 2 TAL (e.g.,	at 75% Annual TAL (e.g.,		
	25,000 lb to 12,500 lb)	25,000 lb to 12,500 lb)	25,000 lb to 12,500 lb)		
STEP 2 (incidental	8,000 lb possession limit	8,000 lb possession limit at	8,000 lb possession limit		
limit trigger)	at 90% Season 1 TAL	90% Season 2 TAL	at 80% Annual TAL		

#### 4.1.2.3.2 Option B – Lower possession limit to 75% (a 25% reduction)

Option B would lower the possession limit to 75% (a 25% reduction) if 85% of either the Seasons 1 or 2 or 75% of Season 3 (annual) bait TAL is reached (Table 10).

Rationale: Option B would extend the length of the fishing season at a reduced limit, provide the opportunity to achieve but not exceed the annual skate bait TAL, and reduce the risk of exceeding the overall skate complex ACL. The 25% possession limit reduction is a smaller reduction than Option A (50% possession limit reduction).

4.1.2.3.2.1 Sub-Option 1 - Apply lower possession limit to Season 1, Season 2, and/or Season 3 Sub-Option 1 would lower the possession limit to 75% in Seasons 1, 2, or Season 3 (annual) if 85% of either Seasons 1 or 2 TAL is reached or if 75% of the annual bait TAL is reached.

*Rationale:* Sub-Option 1 would implement the intermediate possession limit in all three seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.2.3.2.2 Sub-Option 2 - Apply lower possession limit to Season 3 only

Sub-Option 2 would lower the possession limit to 75% in only Season 3 if 75% of the annual bait TAL is reached.

Rationale: Sub-Option 2 would implement the intermediate possession limit only in the last part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate bait TAL is not exceeded. This sub-option could be more administratively simple and may maximize use of the annual TAL relative to Sub-Option 1.

Table 10. Bait Alternative 3, Option B: intermediate bait possession limit trigger at 85% Season 1 and 2, 75% Season 3 of existing limits, possession limit lowered by 25%.

Alternative 3,	Season 1	Season 2	Season 3	
Option B	(Sub-Option 1)	(Sub-Option 1)	(Sub-Option 1 and 2)	
STEP 1	Possession limit lowered	Possession limit lowered	Possession limit lowered	
	to 75% (a 25% reduction)	to 75% (a 25%reduction)	to 75% (a 25% reduction)	
	at 85% Season 1 TAL (e.g.,	at 85% Season 2 TAL (e.g.,	at 75% Annual TAL (e.g.,	
	25,000 lb to 18,750 lb)	25,000 lb to 18,750 lb)	25,000 lb to 12,500 lb)	
STEP 2 (incidental	8,000 lb possession limit	8,000 lb possession limit at	8,000 lb possession limit at	
limit trigger)	at 90% Season 1 TAL	90% Season 2 TAL	80% Annual TAL	

# **4.1.2.4** Alternative 4 – Intermediate Skate Bait Possession Limit Trigger at 75% of Existing Limits, Incidental Limit Trigger at 90% of Existing Limits

Alternative 4 would set an intermediate skate bait possession limit if 75% of either the Seasons 1 or 2 bait TALs are reached or 75% of Season 3 (annual) bait TAL is reached and would set the incidental limit of 8,000 lb if 90% of Seasons 1, 2, or 3 (annual) bait TAL is reached (Table 11).

Rationale: Alternative 4 would provide the opportunity to achieve the skate bait Season 1, Season 2, and Season 3 (annual) TAL while reducing the risk of triggering the incidental possession limit in the future if additional effort enters the skate fishery from non-skate fisheries. This two-step possession limit is intended to slow down fishing effort earlier in the season than No Action (90% Seasons 1 and 2 and 80% Season 3 incidental trigger), a lower incidental limit trigger than Alternative 2 (85% incidental trigger) and implement a lower intermediate possession limit trigger than Alternative 3 (85% in Seasons 1 and 2, 75% in Season 3) to potentially spread out the available skate bait quota longer before triggering the incidental limit.

#### 4.1.2.4.1 Option A – Apply lower possession limit to Season 1, Season 2, and/or Season 3

Option A would lower the possession limit to 75% in Seasons 1, 2, 3 (annual) if 85% of either the Seasons 1 or 2 is reached or if 75% of the annual bait TAL is reached. This option would apply the incidental limit of 8,000 lb if 90% of Seasons 1, 2, or 3 (annual) bait TAL is reached.

*Rationale:* Option A would implement the intermediate possession limit in all three seasons to maximize use of the TAL in each season while preventing overages by season.

#### 4.1.2.4.2 Option B – Apply lower possession limit to Season 3 only

Option B would lower the possession limit to 75% in only Season 3 if 75% of the annual bait TAL is reached. This option would not change the current incidental limit trigger or reduction during Seasons 1 and 2.

Rationale: Option B would implement the intermediate possession limit only in the last part of the fishing year to strike a balance between maximizing use of the TAL and allowing the fishery to operate while ensuring the annual skate bait TAL is not exceeded. This option could be more administratively simple and may maximize use of the annual TAL relative to Option B.

Table 11. Bait Alternative 4: intermediate bait possession limit trigger at 75% of existing limits, possession limit lowered by 25%; incidental trigger at 90% (8,000 lb).

Alternative 4	Season 1	Season 2	Season 3
Alternative 4	(Sub-Option 1)	(Sub-Option 1)	(Sub-Option 1 and 2)
STEP 1	Possession limit lowered	Possession limit lowered to	Possession limit lowered
	to 75% (25% reduction) at	75% (25% reduction) at	to 75% (25% reduction) at
	75% Season 1 TAL (e.g.,	75% Season 1 TAL (e.g.,	75% Season 1 TAL (e.g.,
	25,000 lb to 18,750 lb)	25,000 lb to 18,750 lb)	25,000 lb to 18,750 lb)
STEP 2 (incidental	8,000 lb possession limit	8,000 lb possession limit at	8,000 lb possession limit at
limit trigger)	at 90% Season 1 TAL	90% Season 2 TAL	90% Annual TAL

#### 4.1.3 Preliminary Analysis of Alternatives

The PDT has reviewed the fishing data from recent years to determine if an intermediate possession limit may have been triggered if the above alternatives had been in place at the time. Two approaches were taken: 1) using in-season quota monitoring data (QM) and 2) using CFDETS Area Allocation (AA) data, which are considered the final year-end data used in stock assessments and contain trip-level information.

There are several caveats concerning the likelihood of the intermediate limit being triggered, for both wing and bait. For example, QM reports are made weekly, and the trigger may have been reached fully seven days before it is reported. Additionally, the time it takes to administer an intermediate limit (based on experience implementing the incidental limits in the past) is about two weeks. Thus, an intermediate limit may not be implemented for as many as three weeks after the trigger has been realized. However, this is unlikely to occur because the RA makes the decision to trigger an intermediate possession limit based on a projection, not actual QM landings.

### Examining when an intermediate possession limit may have been triggered in the recent past – using quota monitoring data

Weekly QM data can clarify when an intermediate possession limit might have been triggered in the past if an alternative considered here had been in place. QM data are used in-season to monitor landings against the TAL and to determine if/when an incidental limit may have been triggered in FY 2015-2020.

Examining the seasonal wing (non-bait) landings relative to TALs from QM reports, and the percent of TAL achieved for FY 2015-2020 (Table 12), had a 75% trigger been in place during these six fishing years, the intermediate limit may have been implemented in 10 of the 12 wing seasons (although three of those seasons were so close to 75% of TAL that the RA might not have implemented the intermediate trigger because it was too close to the end of the season). Similarly, had an 80% trigger been in place, seven of 12 seasons may have implemented the intermediate wing limit.

Similarly for the bait fishery, had a 75% trigger been in place, the bait intermediate limit may have been implemented in nine of the 18 seasons from FY 2015-2020 (Table 12). Likewise, had an 85% trigger been in place, eight of the 18 seasons may have implemented the intermediate limit.

A more detailed look evaluating how many trips would be affected by an intermediate possession limit trigger is included below for FY2018 for both wing and bait fisheries.

Table 12. Seasonal skate wing and bait TAL and landings, FY2015-2020.

FY	Season	TAL (lb)	Landings (lb)	% TAL achieved	
	Win	g TAL and Landings	(wing weight, lb)		
2015	1	6,031,956	4,093,533	68%	
2013	annual	10,582,379	8,398,857	79%	
2016	1	4,634,602	4,045,596	87%	
2010	annual	8,130,881	7,954,784	98%	
2017	1	4,634,602	3,968,470	86%	
2017	annual	8,130,881	8,183,726	101%	
2010	1*	4,634,602	4,360,246	94%	
2018	annual**	10,196,622	8,957,889	88%	
2010	1	5,812,075	3,719,421	64%	
2019	annual	10,196,622	8,378,734	82%	
2020	1	6,575,983	5,020,246	76%	
2020	annual	11,536,864	8,991,185	78%	
	BAIT	TAL and Landings (	whole weight, lb)		
	1	4,489,000	2,000	0%	
2015	2	4,489,000	3,156,786	70%	
			11,434,945	94%	
	1	2,864,122	2,977,716	104%	
2016	2	3,449,965	3,370,507	98%	
	annual	9,299,098	9,379,919	101%	
	1	2,864,122	2,086,455	73%	
2017	2	3,449,965	2,110,057	61%	
	annual	9,299,098	8,417,876	91%	
	1	2,864,122	2,488,241	87%	
2018	2	3,604,558	3,086,922	86%	
	annual	11,660,249	8,992,742	77%	
	1	2,993,137	2,653,425	89%	
2019	2	4,325,470	2,029,470	47%	
	annual	11,660,249	8,424,659	72%	
	1	4,063,115	1,557,512	38%	
2020	2	4,894,256	1,780,756	36%	
	annual	13,192,446	7,329,043	56%	

*Note:* Light grey rows note seasons in which the landings exceeded 75% of TAL; dark grey rows note exceeding 80% of TAL.

Source: GARFO Quota Monitoring Reports, accessed August 2021.

<sup>\*</sup> Based on previous FY's TAL (until SEP 28)

<sup>\*\*</sup> TAL increased in FEB 15 (uncertainty buffer decreased from 25% to 10%)

Examining when an intermediate possession limit may have been triggered in FY 2018 – using quota monitoring data for trigger date and AA data to calculate the number of trips with landings < intermediate possession limit

In addition to examining when an intermediate possession limit might have been triggered in the recent past if an alternative considered here had been in place, it is helpful to estimate loss of landings and revenue if such a possession limit reduction had occurred. Trip level data is required for such analysis, which are not included in QM data. Thus, the CFDETS Area Allocation (AA) data were queried.

First, weekly quota monitoring reports were used to evaluate the dates in which intermediate possession limits would be triggered. These trigger dates are more realistic, given QM data are used for in-season monitoring (i.e., not AA data). However, due to the lack of trip-level data in the QM dataset, AA data were then used to count the number and percent of trips with landings greater than the intermediate possession limit (i.e., trips affected by the possession limit reduction). FY 2018 data are used for this analysis, because this is the latest year in which AA data are available.

Using this approach, 75% and 80% wing intermediate possession limit triggers were likely to be achieved within the last two to three weeks of wing Season 1. If applied only in the last season, these triggers are likely to be achieved after Season 1, about halfway through the fishing year, based off the annual wing TAL (Table 13 and Table 14). For bait, the 75% and 85% intermediate possession limit triggers were achieved within 11 days before the end of Seasons 1 and 2 and only 77% of the annual bait TAL was achieved by the very end of the fishing year. This suggests that an intermediate possession limit likely would not have been triggered in FY 2018. Thus, the number of trips affected by the triggers were not calculated (Table 15 and Table 16).

It is important to note that QM and AA data are not comparable: unlike AA data, QM data do not include 1) landings from vessels without any federal fishing permits on day of landing and 2) research landings. As a result, AA data include an additional 1.38 million lb landed wing weight in FY 2018.

Additionally, because the QM reports do not include trip-level information, any subsequent reduction in possession limit from an intermediate possession limit trigger cannot be simulated with this approach (i.e., using QM data for trigger date and AA data to count number of trips < intermediate possession limit). Thus, this approach cannot be used to evaluate the application of an incidental limit once an intermediate limit is triggered and can only evaluate intermediate possession limits either for the first season or the last season (i.e., not all seasons as landings are carried over from one season to the next). As a result, Alternatives 2 and 4 (75% intermediate possession limit trigger with 85% and 90% incidental limit triggers, respectively) have the same results given the difference between these alternatives is the incidental trigger limit, which cannot be evaluated with this approach.

Table 13. Date of and number of trips affected by\* a 75% wing intermediate possession limit (PL) trigger with options for 50% and 75% possession limits (wing Alternatives 2 and 4).

Description	QM date of intermediate trigger	# of trips with landings > intermed. PL	Total # of trips	% of trips w/ landings > intermed. PL
50% PL, Wing Season 1 Performance	~8/8/2018	276	5,129	5%
50% PL, Wing Annual Performance	~10/24/2018	399	12,040	3%
75% PL, Wing Season 1 Performance	~8/8/2018	249	5,129	5%
75% PL, Wing Annual Performance	~10/24/2018	245	12,040	2%

Source: FY18 Weekly GARFO Quota Monitoring Reports (to determine date of intermediate trigger) and FY18 AA data (to determine number of trips with landings > intermediate possession limit based on QM trigger date).

Table 14. Date of and number of trips affected\* by an 80% wing intermediate possession limit (PL) trigger with options for 50% and 75% possession limits, Alternative 3.

Description	QM date of intermediate trigger	# of trips with landings > intermed. PL	Total # of trips	% of trips w/ landings > intermed. PL
50% PL, Wing Season 1 Performance	~8/15/2018	201	5,129	4%
50% PL, Wing Annual Performance	~11/21/2018	317	12,040	3%
75% PL, Wing Season 1 Performance	~8/15/2018	180	5,129	4%
75% PL, Wing Annual Performance	~11/21/2018	200	12,040	2%

Source: FY18 Weekly GARFO Quota Monitoring Reports (to determine date of intermediate trigger) and FY18 AA data (to determine number of trips with landings > intermediate possession limit based on QM trigger date).

Table 15. Date of a 75% bait intermediate possession limit (PL) trigger; 50% and 75% possession limit options have the same trigger date, Alternatives 2 and 4.

Description	QM date of intermediate trigger
50% & 75% PL, Bait Season 1 Performance	~ 7/21/2018 (78% TAL)
50% & 75% PL, Bait Season 2 Performance	~10/20/2018 (78% TAL)
50% & 75% PL, Bait Annual Performance	~4/20/2018 (76% TAL)
Source: EV18 Weekly GAREO Ougta Monitoring Pa	enorts (to determine date of

Source: FY18 Weekly GARFO Quota Monitoring Reports (to determine date of intermediate trigger) and FY18 AA data (to determine number of trips with landings > intermediate possession limit based on QM trigger date).

Table 16. Date of an 85% bait intermediate possession limit (PL) trigger; 50% and 75% possession limit options have the same trigger date, Alternative 3.

Description	QM date of intermediate trigger
50% & 75% PL, Bait Season 1 Performance	~7/31/2018 (87% TAL)
50% & 75% PL, Bait Season 2 Performance	~10/31/2018 (86% TAL)
50% & 75% PL, Bait Annual Performance	NA*

Source: FY18 Weekly GARFO Quota Monitoring Reports (to determine date of intermediate trigger) and FY18 AA data (to determine number of trips with landings > intermediate possession limit based on QM trigger date).

\*Skate bait fishery did not achieve 85% of TAL in FY18; max TAL achieved was 77% by end of FY.

### Examining when intermediate and incidental possession limits may have been triggered in FY 2018 – using AA trip-level data

This section examines the application of intermediate and incidental possession limit triggers using only AA data to simulate when the triggers would occur and the resulting reductions in possession limit by trip. This is used to compare the estimated total and loss of landings and revenue for one alternative and two options in the wing fishery (other alternatives could be analyzed in future). Total landings and revenue by season in FY 2018 were calculated by adjusting landings and revenue to the intermediate and incidental possession limits when the triggers are in effect.

One wing intermediate possession limit trigger (75%) and two possession limit options (50% and 75%) in Seasons 1 and 2 are included as examples in Table 17, each with an 85% incidental limit trigger and 500 lb incidental possession limit. The incidental possession limit is triggered about a month after the intermediate possession limit trigger and results in a greater loss of landings relative to the intermediate possession limit trigger. Table 18 provides a fishing year-end summary of total and percentage of loss of landings and revenue relative to realized landings and revenue in FY 2018. Figure 1 visually shows projected wing landings and revenue relative to actual landings and revenue observed in the wing fishery in FY 2018.

This approach, using only AA data, is likely less representative than using QM data of what would occur should an intermediate possession limit be triggered during the fishing year. This is because there are an additional 1.38 million lb landed wing weight in the AA data compared to the QM data, so dates that triggers are reached are artificially early.

Table 17. Date of wing 75% intermediate and 85% incidental limit triggers with 50% and 75% possession limit options and resulting loss of landings and revenue, FY 2018.

Alternative #	Iternative # Steps	Possession Limit Triggers	Wing Season	Trigger Date	Cumulative Landings at Time of Trigger	Loss of Landings from Intermed Trigger  Total landings within Step 2 time period > intermediate PL (landings that would have occurred if intermediate PL wasn't triggered)	Loss of Revenue from Intermed Trigger  Total revenue that would have occurred if intermediate PL wasn't triggered	Loss of Landings from Incidental Trigger  Total landings within Step 3 time period > incidental PL (landings that would have occurred if incidental PL wasn't triggered)	Loss of Revenue from Incidental Trigger  Total revenue that would have occurred if incidental PL wasn't triggered
Alt. 2 Option A,	1	Regular PL							
Sub-Option 1*:	2	Intermediate Trigger	1	7/16/2018	3,438,202	516,948	323,275		
75% intermed	3	Incidental Limit		8/7/2018	3,896,784			683,850	395,622
trigger/50% <b>PL,</b>									
85% incidental/500	1	Regular PL							
PL, Both Seasons	2	Intermediate Trigger	2	11/2/2021	6,369,963	210,231	126,138		
	3	Incidental Limit		12/27/2018	7,221,836			922,546	533,342
Alt. 2 Option B,	1	Regular PL							
Sub-Option 1*:	2	Intermediate Trigger	1	7/16/2018	3,438,202	222,914	148,622		
75% intermed	3	Incidental Limit		8/1/2018	3,896,840			917,935	534,385
trigger/75% <b>PL,</b> 85%									
incidental/500	1	Regular PL							
PL, Both seasons	2	Intermediate Trigger	2	10/31/2018	6,372,522	92,696	56,506		_
,	3	Incidental Limit		12/14/2018	7,221,872			1,008,040	579,755

Table 18. Summary of total and percentage of loss of wing landings and revenue by season and fishing year after the 75% intermediate and 85% incidental limits are triggered with 50% and 75% possession limit options, FY 2018.

Alternative Description	Season	Total Loss of Landings from intermediate & incidental limit triggers (lb)	Seasonal Total Loss of Revenue from Intermediate (\$)	End of FY Loss of Landings (lb) (Season 1 + Season 2)	End of FY Loss of Revenue (\$) (Season 1 + Season 2)	End of FY Projected Landings (lb)	End of FY Projected Revenue (\$)	2018 Landings (i.e., Projected Landings + Loss of Landings)	2018 Revenue (i.e., Projected Revenue + Loss of Revenue)	% Loss of Landings at End of FY	% Loss of Revenue at End of FY
Alt. 2 Option A, Sub-Option 1*: 75% intermed. trigger/ <b>50% PL</b> ,	1	1,200,798	718,897	2,333,575	1,378,377	7,971,358	4,543,674	10,304,933	5,880,828	23%	23%
85% incidental/500 PL, Both Seasons	2	1,132,777	659,480								
4/1.2.2.11.2		T		T	T						
Alt. 2 Option B, Sub-Option 1*: 75% intermed. trigger/ <b>75% PL</b> , 85%	1	1,140,849	683,007	2,241,585	1,319,268	8,063,348	4,596,108	10,304,933	5,880,828	22%	22%
incidental/500 PL, Both seasons	2	1,100,736	636,261								

*Notes:* Loss of landings and revenue based on reduction in possession limits from 75% intermediate possession limit trigger (with 50% and 75% possession limit options) and 85% incidental possession limit trigger and resulting 500 lb possession limit.

Source: AA FY2018 data, accessed July 2021.

Seasonal

Actual FY

Actual FY

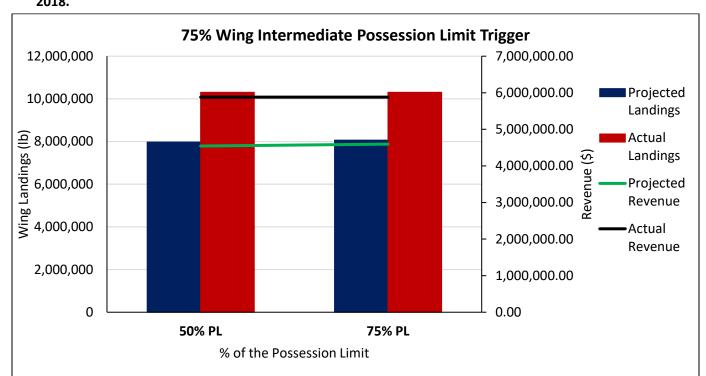


Figure 1. Wing fishery projected and actual landings and revenue for 75% intermediate possession limit trigger with 50% and 75% possession limit options and 85% incidental possession limit, FY 2018.

#### 4.1.4 Background Information

The following background information is largely from the March 10, 2021, PDT memo on Amendment 5.

#### When have incidental limits been triggered in the past?

Here is a brief history of when the skate incidental limits have been triggered; additional detail is in the Affected Environment Document (Section 1.6.4). An incidental limit has been triggered five times (two for bait, three for wing) since first implemented July 2010, out of over 50 seasons of the wing and bait fisheries. The first time was in September 2010, when the 500 lb (wing weight) incidental limit was triggered for the wing fishery for about eight months. The second time was in October 2016 for the bait fishery in Bait Season 2 for the remainder of that season (about two weeks). Then later in fishing year (FY) 2016 (January 2017), the incidental limit was triggered for the third and fourth times when both fisheries were limited to the wing incidental limit until March 14, 2017. The fifth (and latest) time was for the wing fishery in December 2017 (in place for ~3.5 months). Except for the first in-season reduction in 2010, none of these trigger events maintained the reduced incidental limit through the complete end of the fishing year. In the last three cases that the incidental limit was triggered, the Council immediately initiated actions to try to prevent exceeding possession limits (Frameworks 4 and 6).

#### Have intermediate possession limits already been considered?

Yes. The Council recently considered but rejected alternatives in Framework Adjustment 6 that would have created an intermediate possession limit for the skate fishery. A summary of that action and the rationale for the decision are provided here. Framework 6 was initiated in January 2018 due to concerns with triggering incidental limits (see above) and a desire to prolong the wing and bait fisheries and support their shoreside infrastructure. Alternatives for a wing intermediate possession limit were

developed in February-May 2018, but the Council rejected these alternatives in June (NEFMC 2018, Section 5) prior to approving the range of alternatives and taking final action. The Council opted rather to lower the uncertainty buffer to 10%, effectively increasing the Annual Catch Target and bait and wing TALs (implemented February 2019). The PDT had also done preliminary work on bait fishery intermediate possession limits, but this concept was never formally included in Framework 6.

<u>What was the rationale for considering an intermediate limit?</u> The following rationale is in Framework 6 for considering an intermediate possession limit:

"This alternative would help to prolong the fishery for as long as possible... The incidental possession limit of 500 lb was intended to allow the fishery to continue to operate at a low level, and to reduce negative impacts on other fisheries, e.g., groundfish and monkfish, that experience high interactions with skate. However, the incidental possession limit can result in an effective closure in the fishery, especially for vessels that target skate, which can negatively impact shoreside infrastructure. The intermediate skate wing possession limits would be expected to slow landings of skate sufficiently, when needed, to minimize negative impacts on fishermen and shoreside infrastructure."

What were the alternatives developed through Framework 6? Framework 6 Section 5.1 (Considered but Rejected Alternatives) included three options for skate wing TAL triggers, at 60%, 75%, and 80% of the seasonal TAL to be combined with two options for an intermediate skate wing possession limit, at 50% and 75% of existing limits<sup>1</sup>. Under all options, the incidental limit trigger would increase from 85% to 90%, but the limit would remain at 500 lb wing weight.

Other intermediate limit ideas analyzed but not forwarded on to the Council, and thus not formally included in Framework 6 included: a trigger at 95% of a seasonal TAL, reducing the possession limit to 50% or 75% of the current possession limit; reducing the intermediate limit four times successively as 25%, 20%, 15%, and 10% of the wing TAL is reached; and a bait intermediate limit of 8,000 lb with four trigger alternatives. The PDT analyzed all options with FY 2015 data, results of which can be provided upon request.

Why did the Council not purse this approach? The idea of setting an intermediate possession limit, to be implemented when a specified trigger point was reached, was not ultimately pursued. This was the original focus of Framework 6, but once lowering the uncertainty buffer became an alternative (which increased the TAL), these limits were thought to be counterproductive. The TAL for FY 2018 and 2019 was expected to slightly increase over FY 2017 levels through Framework 5 (implemented September 2018) and would increase further if lowering the uncertainty buffer (from 25% to 10%) was approved through Framework 6. It was thought that the expected TAL increases would sufficiently meet the purpose and need of the action, to prolong the skate wing fishery, and that adding an intermediate limit would unnecessarily hamper the fishery (See Table 20 of the Affected Environment Document for recent landings relative to TALs).

#### Are there intermediate possession limits in other fisheries?

Yes. Of the other fisheries managed by the New England or Mid-Atlantic Fishery Management Councils, just the Atlantic mackerel fishery is managed with an intermediate possession limit. However, the NEFMC just approved one for the herring fishery.

<u>Atlantic mackerel</u>. An intermediate ("two-step") possession limit was created for the Atlantic Mackerel FMP through the mackerel rebuilding plan framework, implemented on November 29, 2019. When 90% of the mackerel ACL is estimated to be caught, a 40,000 lb mackerel possession limit is implemented (initial possession limits are none, 135,000 or 100,000 lb depending on the permit category). Then when

<sup>&</sup>lt;sup>1</sup> At the time, the wing possession limits were 2,600 lb in Season 1 and 4,100 lb in Season 2. These are now 3,000 lb and 5,000 lb, respectively, as of FY 2020.

98% is estimated to be caught, a 5,000 lb incidental limit is implemented (MAFMC 2019). This two-step approach has yet to be triggered.

<u>Atlantic herring.</u> A two-step possession limit was created for the Atlantic Herring FMP through Framework Adjustment 8, implemented on March 29, 2021. It was created for the herring fishery to improve access to the mackerel fishery by vessels that participate in both fisheries (there is no initial possession limit for this fishery). This applies only in Herring Management Areas 2 and 3 and is designed to be like the two-step approach of the mackerel plan (step 1: at 90% of the sub-ACL, a 40,000 lb limit; step 2: at 98% of the sub-ACL or 95% of ACL, a 2,000 lb limit).

#### 4.2 ACTION 2 - YEAR-ROUND FEDERAL SKATE PERMIT

#### Skate Committee:

For Alternative 2 in this section (Sect. 4.2.2), the Skate PDT had recommended that the federal skate permit be obtained within 45 days prior to the start of a fishing year. In researching other fisheries more closely, the PDT now recommends 30 days to be consistent with the groundfish and scallop permit application deadlines (below). Does the Committee support this revision?

- Groundfish (at 50 CFR 648.4(a)(1)(i)(B)): Applications for permits/renewals are due 30 days before the last day of the permit year, so April 1 for a May 1 start date.
- Scallops (at § 648.4(a)(2)(i)(B) and § 648.4(a)(2)(ii)(H)): Applications for permits/renewals due 30 days before the last day of the permit year, so March 2 for an April 1 start date.
- Monkfish (at § 648.4(a)(9)): No specific restriction on the timing of permit applications/renewals, just as long as it is received before the start of the fishing year, May 1.

#### 4.2.1 Alternative 1 - No Action

Under No Action, anyone with a valid vessel operator permit can obtain and drop a federal skate permit at any point in the fishing year.

#### 4.2.2 Alternative 2 – Year-round Federal Skate Permit

Under Alternative 2, an application for the federal skate permit must be submitted 45 days prior to the start of each fishing year and must be retained with the vessel for the entire year.

Rationale: This alternative would be consistent with that of the Northeast multispecies fishing permit. This would prevent vessels from entering and leaving the federal fishery mid-year and more landings would be monitored in-season against the bait and wing TALs. If vessels had to commit to either state or federal fishing on an annual basis, the total number of potential federal vessels would be known at the beginning of the year. This would also make state and federal fishing more distinct.

# 4.2.3 Alternative 3 – Retain Federal Skate Permit for Remainder of Fishing Year Once Obtained

Under Alternative 3, the federal skate permit may be obtained at any point in the fishing year and must be retained for the remainder of the fishing year.

*Rationale*: This alternative would allow for improved tracking of participation and allow for flexibility for entering the federal fishery. Switching between federal and state fishing especially when an incidental limit is in place would not be permitted.

#### 4.2.4 Background Information

#### 4.2.4.1 Permits Issued and Cancelled

This analysis was conducted as a preliminary investigation of trends in the issuing and cancelling of federal skate permits over time specifically for the reason of fishing in state waters. This analysis also aims to understand patterns in permit trends in response to the triggering of incidental possession limits.

#### Data source

Federal skate permit data (PERMIT.VPS\_VESSEL) were queried on April 24, 2021, for any plan code indicating "SKT". The data presented here are from calendar years (CY) 2015-2019. The number of permits issued is based on the "date issued" variable, such that a vessel could add and drop a permit multiple times within a year and would be counted towards the total number/percent of the total permits issued. The number of federal skate permit cancelations is based on the cancelation date of an individual permit application. To isolate possible add/drop behavior related to fishing in state waters, only the reasons highlighted in Table 19 are included in the count of permit cancelations.

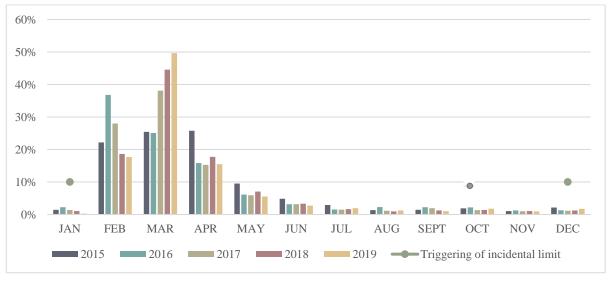
#### **Summary**

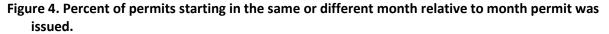
There were over 11,000 federal skate permit applications submitted and only 772 plausible state-fishing related cancelations over 2015 to 2019 (7% of total permit applications). Overall, there are many more federal skate permits issued in February, March, and April relative to other months (Figure 2, Figure 3). Most permits issued in these early months can start being fished on in May of that year (Figure 4). There are three instances where the incidental possession limits were triggered in this analysis: October 2016 (bait only), January-March 2017 (wing and bait), and December-April 2017 (wing only; the Affected Environment document, Section 1.6.1.3). As such, changes in permits before and after incidental limit triggers might be somewhat masked if only one fishery segment is operating at full capacity, while the other fishery is operating under the incidental limit. It is difficult to discern if cancelations increase as incidental triggering becomes more likely. Specifically, there is no notable uptick in permit cancelations prior or after the January (bait and wing) and December 2017 (wing only) events when triggering of the incidental limit occurred, however, there is a relatively high number of cancelations in September and October of 2017 which might be attributed to the triggering which occurs in the coming months (Figure 5 and Figure 6). The incidental limit was also triggered briefly in October 2016 (bait only) and there are large numbers/percentages of cancelations in September and October of 2016, however, there are relatively few cancelations in July and August which would suggest that there are inconsistencies in cancelation behavior leading up to trigger events. From this analysis, it is difficult to determine if cancellation tendencies are impacted by the anticipation of triggering events or other factors such as vessels following the skate resource, market factors, etc.

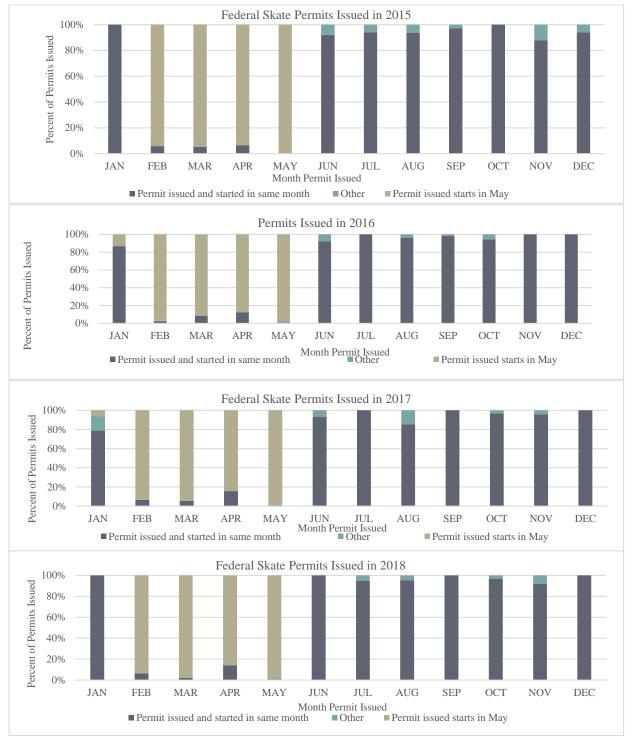
Figure 2. Number of skate permits issued by month and calendar year. 1200

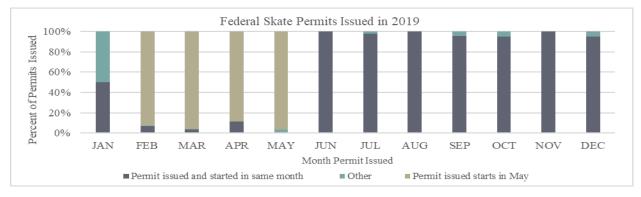


Figure 3. Percent of total annual skate permits issued by month and calendar year.









*Note:* A permit's start month is the month the permit holder is authorized to start federal skate fishing, whereas the month issued is when the permit application was processed and approved.

45 40 35 30 25 20 15 10 5 JAN FEB MAR APR AUG SEPT DEC 2016 2017 2018 2019 — Triggering of incidental limit

Figure 5. Number of skate permit cancelations by calendar month and year.

*Note:* Incidental limit was triggered October 18, 2016, and possession limit was lowered until October 31 of that same year.

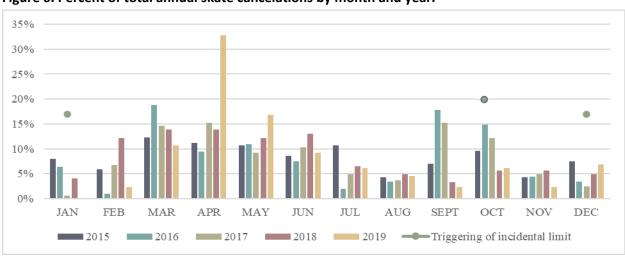


Figure 6. Percent of total annual skate cancelations by month and year.

*Note:* Incidental limit was triggered October 18, 2016, for the bait fishery, and the bait possession limit was lowered until October 31 of that same year.

Table 19. Federal permit cancelation codes, including those used in this analysis (highlighted).

Code	Cancelation Description	Code	<b>Cancelation Description</b>
1	Permit Sanction	11	Annual Permit Renewal
2	Vessel Sunk	12	Duplicate Hull Number
3	Vessel Destroyed	13	Change in Address
4	Cancelled by Owner or NMFS	14	Permit Expired
5	Vessel Characteristics Changed	15	Bad Check
			HMS 3-year Permit
6	Vessel Name Changed	16	Renewal
			Renewal with Compliance
7	Vessel Owner Changed	17	Issues
8	Permitted Fisheries Changed	19	Black Sea Bass Cancelled
9	Documentation Number Issued	20	Transfer
10	State Registration Number Issued	_	

#### 4.2.4.2 Other Background

The following background information is largely from the March 10, 2021, PDT memo on Amendment 5.

Though the federal Skate FMP aims to manage the entire skate resource, since skates do not have an interstate FMP, the ability of the Skate FMP to control skate fishing in state waters is more limited than for some other fisheries that do. Thus, the Skate FMP specifies state landings by deducting expected state landings from the ACL/ACT. The Skate FMP cannot impose restrictions specific to state fishing such as an accountability measure for exceeding this level. State permit fishing is not monitored in-season against the TALs but is accounted for against the ACL at the end of the year if the landings data are provided to NMFS (required if the dealer has a federal dealer permit).

There are several types of skate landings that are considered state landings depending on the circumstances (various combinations of if the vessel has a federal fishing permit that day or at some point in the year, sells to a federal or state dealer, has a federal permit number ending in #998, etc.). This section aims to: 1) explain the complicated nature of state versus federal fishing for skates and some of the uncertainties thus created, and 2) offer ideas for improving the system, some of which may not need Council action. There is no common approach across FMPs for what is considered state landing.

#### How are federal and state landings of skates identified?

<u>Federal skate fishing</u>. Generally, the federal skate fishery is defined as landings under a federal skate fishing permit. All landings under a federal fishing permit must be sold to a federal dealer. Vessels with federal fishing permits can fish in state waters if federal requirements are followed. If a vessel wants to hold and activate a federal skate fishing permit, it can do so for the entire year or for part of a year. Open access permits may be added/dropped as often as desired throughout the fishing year (the vessel must be enrolled for a minimum period of 7 days), but there is natural processing time for the permit office in between.

<u>State skate fishing</u>. Amendment 3 set the current specifications method (i.e., ACL flowchart), but there are two definitions therein of the ACL deduction for state landings. Section 5.1.2 indicates it is for "skate landings from state waters" and Section 5.1.7 indicates it is for "landings from state vessels fishing in state waters." The skate regulations are silent on how this deduction is defined. In practice, GARFO has been defining it as landings by vessels that had a permit number equal to zero. These are vessels that have

never been assigned a federal (6-digit) permit number. Landings from vessels with a federal permit number that may be fishing in state waters are not included in that deduction.

In fact, there are several types (Table 20) of skate landings that are considered state landings depending on the circumstances. Some are included in the state landings deduction, most are not monitored inseason against the TALs, some are put into the "commercial landings" bin vs the "state-permitted only vessel landings" bin during year-end ACL accounting, and some (likely minor) are not included in ACL accounting. The subset included in year-end "state-only permitted landings" bin form the basis of future specification setting (the state landings deduction is latest three-year average of this number).

### How are federal and state landings of skates accounted for (in-season and year-end)?

The Skate FMP is designed to monitor federal landings in-season against the TAL, but this is not a full measure of skate landings.

<u>In-season</u>. During the fishing year, the only skate landings that are monitored in-season against the wing and bait TALs (and thus contribute towards triggering incidental possession limits) are those made by vessels with a federal fishing permit on the day of landing. These must be sold to a federal dealer or reported solely via VTRs (i.e., vessel-to-vessel transfers). Skate landings excluded from TAL monitoring are those by vessels that do not have any federal fishing permits on the day of landing, landings from research, and recreational landings.

<u>Year-end.</u> At the end of each fishing year, GARFO tabulates skate catches into a few bins and compares the total to the ACL. The "commercial landings" bin includes all skate landings by vessels with a permit number greater than zero. This includes landings by 1) vessels with a federal fishing permit on the day of landing, 2) vessels with a federal fishing permit at any time of the year, and 3) vessels without a federal fishing permit that year but had one in the past. The "state-permitted only vessel landings" bin includes landings from vessels that never had a federal fishing permit (so the permit # = 0) that were reported to the federal database; the "recreational catch" bin includes landings from private angler and party/charter and dead discards from MRIP; and the "estimated dead discards" bin is based on landings of all species and skate discards on observed trips (See Discussion Document, Table 19 for further explanation).

Excluded from the year-end ACL accounting are the vessel-to-vessel skate transfers reported via VTRs (though included in TAL monitoring), skate for personal use/home consumption, and any skate landings by state-only permitted vessels not reported to the federal database but reported by state dealers to the Atlantic Coastal Cooperative Statistics Program (ACCSP) at varying frequencies, updated daily (likely minor, but possible).

Note that the 2020 Annual Monitoring Report indicated that the "state-permitted only vessel landings" are "landings sold to a federal dealer by vessels without a federal fishing permit at any time during the year...this may include state permitted landings from state-only dealers provided to GARFO from states". The PDT now understands that this is not accurate. As above, it is the landings from vessels that have never had a federal fishing permit. This clarification will be made going forward.

Table 20. How state landings are defined, specified, and accounted for in the Skate FMP.

	Included in	How landings a	re accounted for
Types of state landings	"state" specifications?	In-season against TAL?	Year-end against ACL?
Landings sold to a federal dealer by vessels that never had a federal fishing permit that year (permit # = 0); State permitted landings from state-only dealers provided to GARFO from ACCSP. (permit=0)	Yes. "State landings" in flow chart = the latest 3-year average of year-end landings.	No	Yes, equals "state- permitted only vessel landings" (Column F in Table 21).
Landings sold to a federal dealer by vessels without a federal fishing permit at any time in the year, but with a federal permit # tied to the vessel and likely fishing in state waters (permit = # all year; Column C in Table 5).	No	No	Yes, part of "commercial landings."
Landings sold to a federal or state dealer by vessels without a federal fishing permit on the day of landing, but at some point in the year (permit = # by end of year if it is the first year with a federal permit; Column E in Table 5).	No	No	Yes, part of "commercial landings." Not included in "state-permitted only vessel landings" if the federal permit number is added to its landings in federal database.
Some landings with a federal fishing permit ending in #998, those that are aggregate landing reports of state landings, and some are individual vessels that may or may not have federal fishing permits (mostly a past occurrence).	No	Some, if a federal fishing permit is valid on the day of landing.	Yes, part of "commercial landings."
Landings not sold to a federal dealer by vessels with a state permit and no federal permit number, if data not provided to GARFO.	No	No	No

### What are the differences between in-season and year-end tallies?

Landings data from the federal database for FY 2010-2019 are in Table 21. Landings where permit number is zero are not included in Columns A-E, nor are bait landings reported solely via VTR. This table shows the magnitude of differences between in-season (Columns D and E) and year-end (Columns B and C) tallies and may help explain the accounting process. Landings are in live weight to make the data comparable (that is how year-end accounting is done).

The landings that are monitored in-season (against the TALs) are federal landings by vessels with a federal fishing permit on the day of landing (Column D). In FY 2019, this value was 28M live lb of landings. Column E is the difference between Columns D and A, or 1.2M live lb of landings, not monitored against the TAL, by vessels with a federal permit number but no federal fishing permit on the day of landing. In other words, these vessels fish without a federal fishing permit for some portion of the year but then obtain a federal fishing permit for the first time at some point in the year, triggering ACCSP to change the permit number from zero to a federal fishing permit number that is non-zero (i.e., a subset of Column E).

Subtracting the landings in Column B from Column A is the landings (Column C) by vessels that never had a federal fishing permit during the current fishing year but had a federal permit number from having a federal fishing permit in a prior year, or 605K in FY 2019. These landings are accounted for within the "commercial landings" bin in year-end ACL accounting (rather than state-only), even though a federal fishing permit was never active during that fishing year. Note that Column B is always larger than Column D. Landings by vessels with a federal fishing permit any time during FY will always be larger than those with a federal permit on day of landing. These landings are also distinct from the "state-permitted only vessel landings" in year-end ACL accounting (Column F), defined as those reported to the federal dealer database with a permit number of zero, or 384K in FY2019.

Unfortunately, there are landings in the federal dealer database by vessels that have a non-zero federal permit number ending in 998. Some of these are state-only permit landings by multiple vessels submitted by a state in aggregate (mostly a historic occurrence). Some are submitted by single vessels, but it is unclear whether these are from state or federal waters.

As an aside, another source of catch not tracked in-season is from recreational fishing. While recreational catches were low historically, recent levels have been higher than the state-only landings levels (3-5% of ACL vs. 0.6-3%, respectively, in FY 2017-19; see Table 19 in A5 Discussion Document).

### Are state regulations aligned with the federal FMP?

In general, cooperation with states and consistency across state and federal plans (e.g., consistency in possession limits) would help improve management. Thus far, the PDT has examined just the Rhode Island skate fishery, but could look at other states as well. State-only permitted fishermen in Rhode Island are well defined and the skate regulations are somewhat aligned with the federal FMP. However, Rhode Island does see an influx of vessels when an incidental limit is imposed in the federal fishery and does not currently have regulations that react to that, i.e., no proactive plan in place to prevent an influx of state landings. Almost all dealers in Rhode Island have federal dealer permits.

Table 21. Skate landings (live lb) from the federal database, 2010-2019.

		Da	ta excludes permi	t # = 0			
		End	of year	In-s	State-permit		
Fishing Year	Landings reported to federal database	Federal fishing permit during FY	No federal fishing permit during current FY but in a previous FY	Federal fishing permit on day of landing	No federal fishing permit on day of landing	only landings (permit=0, official year-end ACL accounting)	
	A = B+C = D+E	В	С	D	E	F	
2010	33,513,658	30,519,485	2,994,173	30,505,342	3,008,316	not available	
2011	41,590,300	37,557,278	4,033,022	37,406,163	4,184,137	not available	
2012	33,246,583	31,329,486	1,917,097	31,255,321	1,991,262	1,616,819	
2013	31,530,991	30,312,596	1,218,395	30,034,832	1,496,159	418,878	
2014	34,980,103	34,559,809	420,294	33,481,839	1,498,264	725,321	
2015	33,243,583	32,247,453	996,130	32,022,300	1,221,283	2,073,641	
2016	30,227,576	29,446,436	781,140	27,733,400	2,494,176	1,200,363	
2017	31,414,837	29,429,964	1,984,873	27,631,495	3,783,342	1,752,206	
2018	30,982,849	29,641,840	1,341,009	29,567,298	1,415,551	1,268,820	
2019	29,164,770	28,560,061	604,709	27,966,466	1,198,304	383,529	

Source: data in Columns A – E are from CFDERS\_All Years and the permit database. Data in Column F (permit=0, official year-end ACL accounting) are calculated by APSD at the end of each fishing year and are independent from data in columns A – E.

*Notes:* Columns A – E exclude all landings where permit #=0.

Column A = Total skate landings reported to the federal database.

Column B = Total skate landings by vessels with a federal fishing permit any time of year.

Column C = Column A-Column B, no valid federal fishing permit that year but had one in the past.

Column D = Total skate landings by vessels with a federal fishing permit on day of landing.

Column E = Column A-Column D.

Column F = The "state-permit only landings" by vessels with permit #=0, from the year-end ACL accounting tables used in official fishery statistics and calculated by NMFS.

### How do federal and state dealer data enter the federal dealer database?

NMFS does not receive data directly from dealers or states. Dealer data, both federal and state, are collected and compiled by ACCSP. ACCSP then passes the data to the Northeast Fisheries Science Center (NEFSC) where the ACCSP data are compiled into CFDERS (NEFSC may add a few species that ACCSP does not cover and may make some other tweaks). GARFO then pulls CFDERS data off the NEFSCs server and compiles it into "cfders\_all\_years", which lives on the GARFO server. GARFO adds some attribute columns (e.g., species name) but does not add any new data. How frequently dealer data get added to the ACCSP dataset varies by state (and probably species) and is inconsistent across years even from the same state. Each state has its own data system and format and does not send data to ACCSP on the same schedule as other states. If NMFS received state-only dealer landings data in-season, like under the Monkfish FMP, in a more regular fashion, these data could be better tracked year-round.

### Could catch accounting improve?

Yes. Relying on the current method of tracking a portion of landings in-season (TAL monitoring) to ensure that the ACL is not exceeded is not fail-safe. There is catch excluded from in-season monitoring, that when only brought into the tally at the end of the year, could result in exceeding the ACL.

A reason to drop the federal skate permit and fish with a state permit is when a federal skate incidental limit is imposed. If allowed by the state, a vessel may then exceed the federal incidental limit (if state regulations are less strict), until the entire fishery is closed once the TAL is achieved, though a portion of these state landings are not necessarily reported to NMFS in-season (those sold to state-only dealers). Because the permit number is retained, these landings, if reported to federal database, still get tracked against the TAL, but because there is no federal fishing permit, the landings may be over the incidental limit. At the end of the year, those landings would be counted against the ACL depending on if they were reported to the federal database. There is evidence in the federal data and reinforced by comments by Skate Advisory Panel (AP) members and the public, that when a federal skate incidental possession limit has been imposed due to nearing a TAL, some vessels have dropped their federal skate permits and kept fishing in state waters with state permits at levels above the federal incidental limit.

Certainly, forcing fishermen to commit to using either a federal or state permit year-round would help clarify what is state versus federal fishing and potentially simplify catch accounting. However, there are clarifications and modifications to the specification and catch accounting processes that may also achieve that end, without needing to constrain fishermen. It is important to note that the federal Skate FMP cannot impinge on state regulations or control skate fishing in state waters (vessels with a federal fishing permit must abide by the most restrictive regulation, regardless of state or federal); the FMP can only attempt to account for state landings when setting specifications.

### Take home points:

- There is no common approach to defining and accounting for state versus federal fishing in the Northeast.
- There are landings by vessels with a federal permit number but without a federal fishing permit at any point in the year (e.g., 605K lb in FY2019). These landings are not monitored in-season. They are included in the "commercial landings" bin in ACL accounting rather than the "state-only permitted landings." When setting specifications, these landings do not have a specific home within the ACL flow chart (other than within the uncertainty buffer).
- Though a deduction for recreational catch is not included in the skate specifications flow chart, recreational landings are increasing and becoming higher than the state-only permitted landings.
- Skate catches that are not counted against the ACL include:
- Landings via vessel-to-vessel transfer (though monitored in-season against the TAL),<sup>2</sup>
- Landings for personal use/home consumption, and
- Landings not reported to the federal database.

### Potential approaches (besides Alternatives 2 and 3 above):

### A. Include more landings in in-season monitoring and in year-end ACL accounting

The in-season accountability measure for nearing a TAL (i.e., the incidental possession limit) can only apply to vessels fishing under a federal fishing permit. Landings from state-only permits and from vessels with a federal permit number, but no federal fishing permit, are not monitored in-season. However, these landings could be tracked and reported on in-season separately. Also, landings that are known and currently excluded from ACL accounting (i.e., vessel-to-vessel transfer and personal use/home

<sup>&</sup>lt;sup>2</sup> Vessel-to-vessel transfer data are included in the fishery catch data used to set the Acceptable Biological Catch.

consumption) could be included. All skate landings reported to the federal database would be monitored in-season and included in year-end ACL accounting. Including all skate landings would be the same approach as that taken during periodic skate assessments.

### B. Revise the specifications setting method (ABC/ACL flowchart)

The specification setting method (ABC/ACL flowchart) could be revised. The current method subtracts projected discards and state-permitted only landings from the ACL prior to setting a federal TAL, under which the wing and bait sub-TALs are specified. Ways the method could be revised include:

- To the state landings deduction, add landings with a permit number but without a federal fishing permit in the TAL. This may change the year-end ACL accounting. Currently, landings with a permit number but without a federal fishing permit at any point in the year are accounted within the "commercial landings". These may shift to the "state-only permitted landings", as it is a three-year average of that number that is used to set the "state landings" in specifications.
- Keep the state landings deduction as-is and add a separate deduction for landings with a federal permit number but without a federal fishing permit on the day of landing.

When setting specifications, the landings by vessels with a federal permit number but without a federal fishing permit at any point in the year would have a specific home within the ACL flow chart. This could bring the Skate FMP more in-line with how other FMPs account for all sources of catch within the specification flowchart. Importantly, the Skate FMP cannot shut down a state fishery or implement state AMs. In state waters, skates are more available in the summer. Adding more state-water landings to the federal TAL monitoring could impact the duration of the federal fishery. The federal and state data time series could be altered with a revision on what is considered state versus federal landings.

### C. Increase cooperation with the states

When federal incidental limits are imposed, some fishermen can switch to state-only permit fishing to fish at higher state possession limits, depending on the possession limits of the state. More cooperation from states through a joint action to reduce state possession limits when federal limits are imposed would help prevent exceeding the ACL. While more dialogue may help, a joint management plan with the Atlantic States Marine Fisheries Commission (ASMFC) could increase coordination and consistency with state measures. Doing so would require Council action as well as action by the ASMFC.

This approach could increase coordination and consistency of measures and may reduce incentives to fish with state permits at higher landing levels when federal AMs are imposed. There would be increased administrative effort to skates by the NEFMC and ASMFC (e.g., more meetings, more staff time). States may then have more authority to control federal fishing (e.g., the ASMFC imposes limits on Area 1A landings in the herring federal fishery). This may require the development of an ASMFC FMP for skates.

# D. Prevent switching from federal to state fishing when incidental limits are imposed

There could be a restriction to switching from federal to state fishing when federal incidental limits are imposed. This would help ensure ACL is not exceeded but adds further restrictions on fishing business operations that rely on both state and federal fishing. May not be enforceable; once a vessel drops federal fishing permits, the potential for fishing in a state fishery cannot be controlled under the federal FMP.

### E. Create a skate trip declaration

A skate trip declaration (likely through PTNS) for federal landings (similar approach to increasing monitoring) could be used to help monitor federal fishing. Thus, it could be required to declare a federal skate trip independent of federal DAS declarations (which, by definition, are federal trips/landings). If all federal vessels are required to declare, trips without such declaration could be a state trip by default, given there is no state declaration. Currently, state landings are classified as permit # =0 so if a vessel had a federal fishing permit at any point, its landings would be considered federal (for ACL accounting), irrespective of a skate trip declaration. This could cause a discrepancy in the federal versus state data.

This approach would more clearly identify skate trips which could better characterize the skate fishery (directed or not), and better characterize state water landings. Note, the Skate FMP cannot require a skate trip declaration when fishing with state permits in state waters (though vessels without a federal declaration could be considered state by default). This does not address accounting for skate landings on a timely basis and could create discards if the vessel ended up catching skates but not being able to land them. Overall, this approach would change the specifications process because all landings from federally declared trips would be considered federal landings and by default, state landings from state trips. State allotment would likely increase as a result.

# 4.3 ACTION 3 - AT-SEA MONITORING

### Skate Committee:

Section 4.3.3, page 46 includes results of Committee tasking from May 2021 to estimate the realized NEFOP observer coverage rates for two components of the skate fishery: trips with declaration code 'MNK' for the wing fishery and declaration code 'DOF' for the bait fishery. The PDT provides all coverage rates for trips landing skate (all declarations).

Should alternatives be developed in this section? Why? What?

## 4.3.1 Alternative 1 – No Action

Under Alternative 1 (No Action), vessels fishing with a federal skate permit would continue to not have specific observer requirements beyond the coverage required under the Northeast Fishery Observer Program (NEFOP). Observer requirements for vessels landing skate depend on the fishery that each trip is declared into.

# 4.3.2 Alternative 2 – TBD

Potential Approaches (ideas from the March 10, 2021, PDT memo):

### A. Create a Skate DAS

The Skate FMP could create a skate DAS where a skate declaration triggers additional observer coverage beyond NEFOP, like ASM requirements. In this case, different limits could be set for the various DAS fisheries in which skate operates, with a higher possession limit for skate DAS, followed by lower limit for NE multispecies, monkfish, and scallop DAS, and the lowest limit for skate bycatch/incidental catch, for example. This approach is not likely to affect other fisheries' business operations if the skate DAS works in combination with existing DAS like monkfish.

## B. Create a Skate Trip Declaration

The Skate FMP could require skate trip declarations (using the current system for making trip declarations: VMS/PTNS) when vessels intend to land skates, thereby triggering any additional observer coverage. This could apply to all trips where skates are landed or just on trips where skates are expected to comprise a certain proportion of total catch (analogous to defining directed vs incidental skate fishing), otherwise all trips would equally be selected for observer coverage, whether harvesting skate incidentally or directed.

### C. Create a Skate IFM Program

The Skate FMP could create an IFM program. IFM could provide observer coverage on trips where skates are targeted versus caught more incidentally. What is considered "targeted" (or directed) would need to be defined and should be consistent with how defined throughout Amendment 5. The fishery could develop a monitoring set-aside program to help offset observer costs, though costs could still prove prohibitive in this low revenue fishery. The IFM program would not impact other fisheries if IFM is only applied on skate directed trips and not applied to any trips where a DAS is used.

Note, directed skate trips are a tiny percentage of overall skate landings/trips, and the chances of this type of program 1) not impacting any other fisheries, and 2) being sustained in any realistic way by funds generated solely by the directed skate fishery are incredibly small.

### **D.** Electronic Monitoring

The Skate FMP could develop an electronic monitoring program. Again, it would need to be determined what portion of the fishery would be subject to this and how this would harmonize with existing monitoring programs.

# 4.3.3 Background Information

The following background information is largely from the March 10, 2021 PDT memo on Amendment 5.

### What are the current monitoring requirements?

Fisheries can be subject to one or a combination of the following monitoring/observer programs: Northeast Fisheries Observer Program (NEFOP), At-Sea Monitoring (ASM), and Industry-Funded Monitoring (IFM) programs. Each observer program has a unique set of goals, fisheries the program covers, methods for determining target observer coverage, and data collected. NEFOP was created to estimate bycatch of all federally managed fisheries from Maine to North Carolina through observer coverage. NEFOP coverage rates are not determined by the FMP, but at the fleet level based on geographic region, gear type, mesh category, access area, and trip category variables. In addition to NEFOP, individual fisheries can have specific observer requirements (e.g., ASM, IFM). NE multispecies commercial sector vessels must also participate in the ASM program to achieve the necessary *total* coverage level specific to sectors. Unlike NEFOP and ASM, IFM is designed to reduce catch uncertainty in specific fisheries (currently sea scallop and Atlantic herring) by better assessing the amount and type of catch (both kept and discarded) for target and incidental species, which may be very useful for the skate fishery discard measurement. The Skate FMP does not have specific observer requirements in addition to NEFOP; observer requirements for vessels landing skate depend on the fishery declared.

If a trip is declared into the monkfish, Northeast multispecies, or scallop fisheries, the vessel is subject to the requirements of those fisheries. The Monkfish FMP alone does not have additional observer requirements and there are monkfish-only DAS for fishing exclusively in an exemption area, which do

not have observer coverage requirements beyond NEFOP. However, a monkfish-permitted vessel that also holds a NE multispecies or limited access scallop permit must also use those respective DAS whenever using a monkfish DAS, which could have additional observer coverage if the vessel is selected through ASM or IFM. NE multispecies sector vessels must participate in the ASM program to achieve the necessary total coverage level (NEFOP + ASM), which include vessels that are fishing under both a monkfish DAS and a NE Multispecies A DAS (i.e., not in exempted fishery), for example, because all catch of allocated groundfish stocks on that trip count against the Annual Catch Entitlement of the sector that the vessel is enrolled in. For the Atlantic sea scallop fishery, scallop vessels are required to carry an IFM observer if selected.

If a trip is Declared out of Fishery (DOF), it is subject to NEFOP coverage because these are landings made by federally permitted vessels submitting VTRs, which is a requirement of the NEFOP sample frame determination (sea day schedule/selection process).

If a trip is undeclared (Table 22), vessels that have a federal skate permit are subject to NEFOP. There are some federal skate landings from trips not typically required to carry a federal observer, trips by vessels who fish in state waters without any federal fishing permit (no federal declaration required) but sell to a federal dealer. A federal FMP cannot require federal observers on such trips, however, NEFOP does require observer coverage for vessels operating in state-water fisheries if there is a high likelihood of interacting with marine mammals.

Table 22. Possible "undeclared" scenarios when fishing for skate and their observer requirements.

Undeclared scenario	Observer coverage				
Vessel has a federal skate permit, is landing (wing or bait) under the incidental limit and has no limited access permit.	NEFOP/SBRM observer coverage because landings are made by a federally permitted				
Vessel has a federal skate permit and a skate bait LOA, but no limited access permit(s) with DAS; and will be fishing only in specified exemption areas.	vessel submitting VTRs.				
Vessel does not have a federal skate permit, is fishing in state waters only, and does not have any VMS-required permits; but sells to a federal dealer.	NO NEFOP/SBRM observer coverage, because the landings are made without a federal permit (no VTR) unless interactions with marine mammals is expected.				

### What is the realized CV standard?

National priorities for endangered and protected species, fishery management priorities through NEFMC and MAFMC, and scientific priorities for stock assessments and the Standardized Bycatch Reporting Methodology (SBRM) determine the allocation of NEFOP coverage to fishing trips. More specifically, the number of NEFOP sea-days (observed trips) is determined by the SBRM (for fish and turtles) and Marine Mammal Protection Act to achieve 30% coefficient of variation (30CV) for each fishing mode and species/species group combination, which is a measure of how far off the trip bycatch observations are from the predicted value. Thus, NEFOP observer coverage is primarily driven by the variability of discards of federally managed fish species within each fleet. The 30CV is calculated for 15 species groups including the skate complex.

Based on the <u>Standardized Bycatch Reporting Methodology 3-year Review Report for 2020</u>, the skate complex was one of four most frequently encountered species groups on observed trips (along with large mesh groundfish, monkfish, and fluke/scup/black sea bass), where observed discards accounted for a

major component of observed catch in many fleets. More specifically, there were 2.48 M lb of skate kept in SBRM 2020 while 3.30 M lb were discarded (3.33 M lb kept and 4.44 M lb skate discarded in SBRM 2019; Table 9, SBRM report). The skate complex had the highest percentage of discards of the 14 SBRM species groups (31-40% of total observed discards). The SBRM performance standards (30% CV) were met for the skate complex: 5.5% in SBRM 2018 and SBRM 2019 and 7.7% in SBRM 2020 (Table 15, SBRM report). In calculating the CVs, 82% of fleets (51 out of 62 fleets) were excluded for various reasons including fleets not considered in annual SBRM analyses, insufficient observer coverage (pilot fleets), and filtered out of the analyses because of the importance filter (Table 21, SBRM report). The remaining 18% of fleets (11 out of 62 fleets) account for 95% of the total skate discards. CVs of total discards of the skate complex could not be calculated because the time period was not applicable based on the 2008 Data Poor Workshop. SBRM years are from July to June.

Skates were the determining species group for otter trawl gear type in SBRM 2020 and for 'Gillnet, Sink, Anchor, Drift' for SBRM 2018 and SBRM 2019 for number of standard trips needed to achieve a 30% CV (SBRM 2020 Report, Table 24, page 111).

### What are the realized NEFOP coverage rates?

The Committee tasked the PDT to further examine realized NEFOP observer coverage rates for two components of the skate fishery: declaration code 'MNK' for the wing fishery and declaration code 'DOF' for the bait fishery (Table 23 and Table 24, green highlights). The average estimated realized NEFOP observer coverage for declaration code 'MNK' for the wing (non-bait) fishery is ~7% (FY 2016-2019) and is ~12% for declaration code 'DOF' for the bait fishery (FY 2016-2019). Estimated realized observer coverage for additional declaration codes and for At Sea Monitoring (ASM) are included as well (Table 25 and Table 26).

Note that matching between the observer database and the skate landings declaration data was not an exact match. 9% of the skate landings data (subset of DMIS) records did not have a match with the linking variable needed to merge with the observer database (NEFOP, ASM). Also, 6% of the observer records (NEFOP and ASM) did not have a match with the linking variable needed to merge with the skate landings database (subset of DMIS). These results represent a lower bound of observer coverage because records that did not have links to the respective databases were included (i.e., the 9% of skate landings records previously mentioned that did not have linking variables are retained in the databases, which may or may not have been observed).

Table 23. Non-bait fishery realized NEFOP observer coverage in terms of percentage of dealer landings, revenue, and trips by declaration code, FY 2016-2019.

Plan Code	FY	% of Dealer Landings	% of Revenue	% of Trips
DOF	2016	12%	9%	9%
DOF	2017	14%	13%	12%
DOF	2018	13%	12%	13%
DOF	2019	7%	7%	11%
HER	2016	0%	0%	0%
HER	2017	0%	0%	0%
HER	2019	0%	0%	0%
MNK	2016	7%	6%	7%
MNK	2017	10%	10%	10%
MNK	2018	6%	6%	5%
MNK	2019	6%	6%	7%
NMS	2016	4%	4%	5%
NMS	2017	8%	8%	9%
NMS	2018	3%	3%	4%
NMS	2019	6%	5%	6%
SES	2016	4%	7%	5%
SES	2017	1%	3%	3%
SES	2018	3%	3%	4%
SES	2019	9%	9%	4%
SMB	2016	14%	9%	9%
SMB	2017	10%	8%	13%
SMB	2018	11%	10%	9%
SMB	2019	8%	8%	9%
Missing	2016	2%	3%	4%
Missing	2017	4%	5%	6%
Missing	2018	7%	8%	7%
Missing	2019	8%	8%	6%

*Notes*: Green shading represents Committee task. NEFOP limited trips for gillnet gear trips were excluded from data as these observed trips focus on marine mammal interactions and do not record or sample discarded catch.

Table 24. Bait fishery realized NEFOP observer coverage in terms of percentage of dealer landings, revenue, and trips by declaration code, FY 2016-2019.

Plan Code	FY	% of Dealer Landings	% of Revenue	% of Trips
DOF	2016	10%	10%	10%
DOF	2017	9%	10%	11%
DOF	2018	13%	14%	13%
DOF	2019	14%	14%	13%
HER	2019	0%	0%	0%
MNK	2016	9%	10%	5%
MNK	2017	19%	18%	12%
MNK	2018	7%	6%	3%
MNK	2019	1%	1%	3%
NMS	2016	6%	6%	6%
NMS	2017	15%	15%	13%
NMS	2018	6%	6%	7%
NMS	2019	13%	13%	12%
SES	2017	0%	0%	0%
SES	2019	0%	0%	0%
SMB	2016	0%	0%	0%
SMB	2017	7%	7%	3%
SMB	2018	26%	37%	14%
SMB	2019	0%	0%	0%
Missing	2016	3%	3%	5%
Missing	2017	1%	1%	2%
Missing	2018	2%	1%	2%
Missing	2019	7%	5%	4%

Notes: Missing plan codes mean no declaration codes provided, DOF plan code is declared out of fishery, HER plan code is herring, MNK plan code is monkfish, NMS plan code is Northeast Multispecies, SES plan code is scallops, SMB plan code is squid, mackerel, butterfish. Green shading represents Committee task. NEFOP limited trips for gillnet gear trips were excluded from data as these observed trips focus on marine mammal interactions and do not record or sample discarded catch. Source: Skate\_Landings\_2007\_2019 (DMIS subset) and OBDBS, accessed July and August 2021.

Table 25. Non-bait fishery realized ASM observer coverage in terms of percentage of dealer landings, revenue, and trips by declaration code, FY 2016-2019.

Plan Code	FY	% of Dealer Landings	% of Revenue	% of Trips	
MNK	2016	0%	1%	1%	
MNK	2017	0%	0%	1%	
MNK	2018	0%	0%	0%	
MNK	2019	0%	0%	0%	
NMS	2016	3%	3%	5%	
NMS	2017	2%	2%	3%	
NMS	2018	1%	1%	4%	
NMS	2019	4%	3%	6%	

Notes: MNK plan code is monkfish, NMS plan code is Northeast

Multispecies.

Source: Skate\_Landings\_2007\_2019 (DMIS subset) and OBDBS,

accessed July and August 2021.

Table 26. Bait fishery realized ASM observer coverage in terms of percentage of dealer landings, revenue, and trips by declaration code, FY 2016-2019.

Plan Code	FY	% of Dealer Landings	% of Revenue	% of Trips
NMS	2016	5%	5%	5%
NMS	2017	3%	3%	3%
NMS	2018	6%	7%	7%
NMS	2019	8%	8%	8%

Note: NMS plan code is Northeast Multispecies.

Source: Skate Landings 2007 2019 (DMIS subset) and OBDBS,

accessed July and August 2021.

### What portion of skate landings fall within each of the different observer coverage requirements?

FY 2018 skate landings are in Table 27 as an example of the proportion of landings subject to the different monitoring programs. That year, about half of the wing and bait landings were from Northeast multispecies trips, primarily sector trips with NEFOP and ASM coverage. Trips declared out of fishery (DOF) were 17% of wing trips and subject to NEFOP coverage. Undeclared trips were 19% of wing trips, but a subset was not subject to NEFOP observer coverage (i.e., if a vessel does not have a federal fishing permit; Table 22). This subset is not a separate line item in Table 27 and is minor (a few hundred thousand lb or ~3% of wing and bait trips in FY 2018).

Similarly, for FY 2018 bait landings, 18% of bait trips were DOF, and thus, subject to NEFOP observer coverage for the same reason as wing DOF trips (Table 27). A vessel can DOF to either fish in an exemption area, transit from the NAFO area, or land under the 500 lb incidental limit. Given the number of landings and trips in FY 2018 in Table 27, it is not likely many of these bait trips are declaring DOF to land under the wing incidental limit. It is more likely most of the DOF bait trips were from the Southern

New England Skate Bait Trawl Exemption Area. In FY 2018, 36% of bait trips were undeclared and subject to observer coverage even under a bait Letter of Authorization (LOA) unless only fishing in state waters and do not possess a federal fishing permit and thus, do not submit VTRs.

Table 27. FY 2018 skate declarations by declaration code and observer program requirement(s).

Trip	Observ	er Pro	gram	الميال		Landed lb		Trips (#)		Vessels (#) <sup>A</sup>	
Declaration	<b>NEFOP</b>	ASM	IFM	Live lb		Landed ib		Trips (#)		vessels (#)	
	WING landings by declaration (plan) code										
SES	х		Х	6,832	0%	3,009	0%	54	1%	14	2%
SMB	Х			371,279	2%	168,815	2%	722	7%	75	12%
DOF	Х			892,153	4%	415,506	4%	1,791	17%	115	19%
Undeclared	$\mathbf{x}^{B}$			1,167,012	6%	550,717	6%	1,952	19%	176	28%
MNK	Х			8,027,842	39%	3,781,546	40%	2,582	25%	100	16%
NMS	Х	x <sup>C</sup>		10,128,637	49%	4,496,040	48%	3,208	31%	139	22%
TOTAL				20,593,755	100%	9,415,633	100%	10,309	100%	370ª	100%
				BAIT landings	by dec	laration (pla	an) code				
SMB	х			36,270	0%	36,270	0%	14	1%	7	7%
MNK	х			411,532	4%	411,532	4%	126	6%	9	8%
Undeclared	$\mathbf{x}^{B}$			2,014,406	20%	2,012,566	20%	719	36%	35	33%
DOF	х			2,747,799	28%	2,747,799	28%	365	18%	22	21%
NMS	Х	x <sup>C</sup>		4,672,338	47%	4,672,133	47%	789	39%	34	32%
TOTAL				9,882,345	100%	9,880,300	100%	2,013	100%	<b>74</b> ª	100%

Source: commercial fisheries dealer database (CFDERS) and data matching imputation system (DMIS), accessed December 2019.

## What changes to observer requirements are pending?

Amendment 23 to the Northeast Multispecies FMP (pending NMFS review) is expected to increase monitoring coverage levels to at least 40% for groundfish sector trips (in FY 2019 target coverage was 31%), potentially up to 100% if there is sufficient federal funding. The current goals and objectives of the groundfish monitoring program would remain but A23 considers measures to further improve documentation of catch while minimizing costs for the fishing industry when possible. The increased coverage could be achieved through use of ASM and/or NEFOP.

A The number of unique vessels, not the column total.

<sup>&</sup>lt;sup>B</sup> Only a subset of the undeclared trips subject to observer coverage (must have a federal permit, and thus submit VTRs).

<sup>&</sup>lt;sup>c</sup> ASM is only required for sector trips; 2% of the NMS wing landings (~94,000 landed lb) are from the common pool only subject to NEFOP. Extra-large mesh gillnet exemption (separate from the monkfish SNE gillnet exemption area) removes ASM requirements when fishing with >10" mesh in SNE/MA and Inshore GB Broad Stock Area (would still be under NMS trip and not use monkfish DAS).

# 4.4 ACTION 4 – OTHER ALTERNATIVES?

### Skate Committee:

Of the types of measures that the Council scoped for in early 2020, there has been no Committee work to date on the following. Should the Committee develop any of these ideas? Why or why not?

- Creating different TALs for the wing fishery segments (e.g., directed and non-directed TALs).
- Restrict switching between state and federal fishing for the wing and/or bait fishery. [Note: the alternatives in Action 2 may accomplish this, though other ideas could be developed.]
- Gear modifications that could reduce bycatch for the wing and/or bait fishery (e.g., 12" mesh gillnet size).
- Additional reporting requirements for the wing and/or bait fishery (e.g., VMS declarations, daily catch reports). [Note: the PDT provided information on this topic in March, which is copied here for reference.

# 4.4.1 Ideas about reporting requirements

Current VMS requirements. Currently, vessels fishing with a federal skate permit do not have specific VMS requirements. Vessels need to abide by Northeast multispecies, scallop, or monkfish regulations if fishing on a day-at-sea (DAS) for one of those fisheries. Unless fishing on a Northeast multispecies sector trip, a vessel holding a federal fishing permit that requires an operating VMS must declare 'out of fishery' (DOF) through their VMS before starting a trip to fish for, possess, or land skates in an exempted area or when participating in a fishery not requiring a DAS.

Potential ideas about reporting requirements (originally from March 2021 PDT memo):

### A. Create a Skate Trip Declaration

A skate trip declaration via VMS could be created by modifying existing codes for use when intending to land skates perhaps above the incidental limit (directed versus incidental fishing) by disposition code (potentially using PTNS). This would better identify more directed federal skate fishing, and thus, improve identification and characterization of skate directed and incidental fishery participants, which has been a challenge in this open access fishery.

### **B.** Require Daily Catch Reports

Daily catch reports would improve skate quota monitoring by making it more real-time but diverges from the pending eVTR 48-hour requirement. Additionally, this could allow for possession limits based on trip length, like the first wing trip limits in 2003.

### C. Create a Skate DAS

A skate DAS could be created which would help identify skate trips through this required reporting. DAS are mostly used as an effort control rather than an accounting measure. If a skate DAS is created for other purposes such as requiring certain gear modifications and/or identifying federal versus state trips, but especially as a fishing effort control, then this approach could also help with skate reporting by improving identification and characterization of skate fishery participants, which the Committee is currently grappling with. The use of skate DAS is a simpler approach than a VMS declaration, because the skate DAS would be a new, separate code in the data infrastructure (i.e., would not modify existing codes which is more challenging). When fishing under a skate DAS, it may be possible to develop exemptions from needing to use a groundfish DAS (e.g., when targeting skate and fluke).

A skate DAS would need to be defined. For example, would it only apply to vessels targeting skate fishing use DAS and allow a higher possession limit? Would there be a limit on the number of total DAS allowed? Could vessels lease skate DAS? Note that the monkfish fishery has an excess of total DAS, so the value of a monkfish DAS is low. It would not necessarily be cost prohibitive for vessels to obtain a skate DAS.

*Background information (originally from March 2021 PDT memo).* The following background information is largely from the March 10, 2021, PDT memo on Amendment 5.

### What are the current reporting requirements?

Any vessel with a federal permit must submit Vessel Trip Reports (VTR) with a record of all fishing activity to NMFS, either electronically or by postal mail. VTR submission deadlines are not consistent across MAFMC and NEFMC managed permits, with some plans reporting weekly (e.g., groundfish, squid) and others reporting monthly (e.g., skates, monkfish, scallops). For the monthly report, VTRs must be submitted within 15 days after the end of the month. Vessels with multiple permits are held to the permit with the strictest reporting requirements.

A VTR must be submitted for every commercial, party, or charter trip taken, regardless of whether the vessel fishes in state or federal waters or what they harvest. Vessels must submit a separate VTR for each chart area, gear type, and/or mesh size fished, potentially requiring multiple VTRs for a single trip. In a VTR, skate landings must be identified by species according to the following categories: winter skate; little skate; little/winter skate; barndoor skate; smooth skate; thorny skate; clearnose skate; or rosette skate. As of September 2014 (through FW2), vessels may no longer report landings as 'unclassified' skate. All skate discards must be reported according to two size classes: large skates (whole skates greater than or equal to 23" total length) and small skates (whole skates under 23" total length).

Any seafood dealer with a Northeast federal dealer permit must submit trip-level reports on at least a weekly basis using an approved electronic system. Skate landings must be identified by species and disposition (wing or bait).

### What changes to vessel reporting are pending?

Early in 2020, the NEFMC and MAFMC took final action on a joint, omnibus eVTR Framework Adjustment that would require only electronic VTR submissions and within 48 hours after completion of a trip across all MAFMC FMPs and commercial NEFMC FMPs. The final rule was published November 10, 2020, with an expected implementation date of November 10, 2021. This extended timeframe before implementation is designed to help get fishermen up to speed with the various eVTR apps.

# Does the Skate FMP have scope to change reporting requirements?

Yes. Because both Councils, just one year ago, recommended a unified approach to reporting (electronic, 48-hour submissions for all except for recreational trips under New England FMPs), there would likely need to be substantial justification to make skate-specific reporting requirements. Because this change is not yet implemented, should the Committee wait to see how reporting may improve before adding in additional reporting requirements? There will likely be fewer transcription errors with electronic reporting. A 48-hour reporting system will likely reduce delays, particularly on skate bait transfers at sea.

# 4.5 CONSIDERED BUT REJECTED ALTERNATIVES

Limited access for bait and wing fisheries. Upon review of the supplemental scoping comments in March 2021, the Skate Advisory Panel and Skate Committee approved motions for developing limited access alternatives for the wing and bait fisheries. However, at its April meeting, the Council decided to not move forward on limited access through this action. The rationale included: 1) that there is insufficient biological need to control capacity through limited access, 2) there needs to be a stronger link between alternatives and the problem statement for this action, and 3) there has been declining effort in the skate fishery without a limited access program in place.

# 5.0 REFERENCES

- ASMFC. (2015). American Lobster Stock Assessment for Peer Review Report. Alexandria, VA: Atlantic States Marine Fisheries Commission. 463 p. <a href="http://www.asmfc.org/uploads/file/55d61d73AmLobsterStockAssmt\_PeerReviewReport\_Aug2015">http://www.asmfc.org/uploads/file/55d61d73AmLobsterStockAssmt\_PeerReviewReport\_Aug2015</a> red2.pdf.
- ASMFC. (2018). Addendum 26 to amendment 3 to the American lobster fishery management plan; draft addendum 3 to the jonah crab fishery management plan for public comment. Arlington, VA: Atlantic States Marine Fisheries Commission. 30 p. <a href="http://www.asmfc.org/uploads/file/5a9438ccAmLobsterAddXXVI\_JonahCrabAddIII\_Feb2018.p">http://www.asmfc.org/uploads/file/5a9438ccAmLobsterAddXXVI\_JonahCrabAddIII\_Feb2018.p</a> df.
- Benoit HP. (2006). *Estimated discards of winter skate (Leucoraja ocellata) in the southern Gulf of St. Lawrence*, 1971-2004. Canadian Science Advisory Secretariat Research Document 2006/002. 42 p.
- Bigelow HB & Schroeder WC. (1953). Fishes of the Gulf of Maine. In: *Fishery Bulletin of the Fish and Wildlife Service*. Washington, DC: Government Printing Office.
- Clay PM, Colburn LL, Olson JA, Pinto da Silva P, Smith SL, Westwood A & Ekstrom J. (2007). Community Profiles for the Northeast U.S. Fisheries. Woods Hole, MA: U.S. Department of Commerce; <a href="http://www.nefsc.noaa.gov/read/socialsci/communityProfiles.html">http://www.nefsc.noaa.gov/read/socialsci/communityProfiles.html</a>.
- Dayton A, Sun JC & Larabee J. (2014). *Understanding Opportunities and Barriers to Profitability in the New England Lobster Industry*. Portland, ME: Gulf of Maine Research Institute. 19 p. <a href="http://www.gmri.org/sites/default/files/resource/gmri">http://www.gmri.org/sites/default/files/resource/gmri</a> 2014 lobster survey.pdf.
- GARFO. Greater Atlantic Region Permit Data. Gloucester, MA: NMFS Greater Atlantic Regional Fisheries Office; https://www.greateratlantic.fisheries.noaa.gov/aps/permits/data/index.html.
- Jepson M & Colburn LL. (2013). *Development of Social Indicators of Fishing Community Vulnerability* and Resiliance in the U.S. Southeast and Northeast Regions. Silver Spring, MD: U.S. Department of Commerce. NOAA Technical Memorandum NMFS-F/SPO-129. 64 p.
- Knotek RJ, Rudders DB, Mandelman JW, Benoît HP & Sulikowski JA. (2018). The survival of rajids discarded in the New England scallop dredge fisheries. *Fisheries Research*. 198: 50-62.
- Mandelman JW, Cicia AM, Ingram GW, Driggers WB, Coutre KM & Sulikowski JA. (2013). Short-term post-release mortality of skates (family Rajidae) discarded in a western North Atlantic commercial otter trawl fishery. *Fisheries Research*. *139*: 76-84.
- Murphy TM, Kitts AW, Demarest C & Walden JB. (2015). 2013 Final Report on the Performance of the Northeast Multispecies (Groundfish) Fishery (May 2013 April 2014). Woods Hole, MA: NOAA Fisheries Northeast Fisheries Science Center. 111 p.
- 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.
- NEFMC. (2017a). Framework Adjustment 56 to the Northeast Multispecies Fishery Management Plan. Newburyport, MA: New England Fishery Management Council in consultation with the NMFS. 309 p.

- NEFMC. (2017b). Monkfish Fishery Management Plan Framework Adjustment 10 Including Specifications for Fishing Years 2017-2019. Newburyport, MA: New England Fishery Management Council and Mid-Atlantic Fishery Management Council in consultation with National Marine Fisheries Service. 218 p.
- NEFMC. (2018a). Framework Adjustment 5 to the Northeast Skate Complex Fishery Management Plan and 2018-2019 Specifications. Newburyport, MA: New England Fishery Management Council in cooperation with the National Marine Fisheries Service. 161 p. http://www.nefmc.org/skates/planamen/amend3/final/Skate%20Amendment%203%20FEIS.pdf.
- NEFMC. (2018b). 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. <a href="https://www.nefmc.org/library/framework-6">https://www.nefmc.org/library/framework-6</a>.
- NEFMC. (2019). Framework Adjustment 58 to the Northeast Multispecies Fishery Management Plan. Newburyport, MA: New England Fishery Management Council in consultation with the National Marine Fisheries Service. 346 p.
- NEFMC. (2020a). *Draft Amendment 23 to the Northeast Multispecies Fishery Management Plan*. Newburyport, MA: New England Fishery Management Council in consultation with the National Marine Fisheries Service. 616 p.
- NEFMC. (2020b). Framework Adjustment 59 to the Northeast Multispecies Fishery Management Plan. Newburyport, MA: New England Fishery Management Council in consultation with the National Marine Fisheries Service. 323 p.
- NEFMC. (2020c). *Northeast Multispecies (Groundfish) Catch Share Review, draft presented to the NEFMC*. April 2020. Newburyport MA: New England Fishery Management Council. 230 p.
- NEFMC. (2020d). *Northeast Skate Complex Fishery Management Plan Framework Adjustment* 8. Newburyport, MA: New England Fishery Management Council in cooperation with the National Marine Fisheries Service. 131 p. <a href="https://www.nefmc.org/library/framework-6">https://www.nefmc.org/library/framework-6</a>.
- NEFMC & MAFMC. (1998). *Monkfish Fishery Management Plan*. Saugus, MA: New England and Mid-Atlantic Fishery Management Councils. 480 p.
- NEFSC. (2000). 30th Northeast Regional Stock Assessment Workshop (30<sup>th</sup> 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.
- NEFSC. (2007a). 44th Northeast Regional Stock Assessment Workshop (44<sup>th</sup> SAW) 44<sup>th</sup> SAW Assessment Summary Report. Woods Hole, MA: U.S. Department of Commerce. NEFSC Reference Document 07-03. 58 p. https://www.nefsc.noaa.gov/publications/crd/crd0703/.
- NEFSC. (2007b). 44th Northeast Regional Stock Assessment Workshop (44<sup>th</sup> SAW) Assessment Report. Woods Hole, MA: U.S. Department of Commerce. NEFSC Reference Document 07-10. 661 p. https://www.nefsc.noaa.gov/nefsc/publications/crd/crd0710/.
- NEFSC. (2011). EFH Source Documents: Life History and Habitat Characteristics. Woods Hole, MA: U.S. Department of Commerce; <a href="http://www.nefsc.noaa.gov/nefsc/habitat/efh/">http://www.nefsc.noaa.gov/nefsc/habitat/efh/</a>.
- NEFSC. (2013). 2013 Monkfish Operational Assessment. Woods Hole, MA: U.S. Department of Commerce. NEFSC Reference Document 13-23. 116 p.
- NEFSC. Social Sciences Branch. Woods Hole, MA: NMFS Northeast Fisheries Science Center; <a href="http://www.nefsc.noaa.gov/read/socialsci/index.html">http://www.nefsc.noaa.gov/read/socialsci/index.html</a>.
- NEFSC. (2020). Operational Assessment of the Black Sea Bass, Scup, Bluefish, and Monkfish Stocks, Updated through 2018. Woods Hole, MA: U.S. Department of Commerce. NEFSC Reference Document 20-01. 160 p.
- Richards RA. (2016). 2016 Monkfish Operational Assessment. Woods Hole, MA: U.S. Department of Commerce. NEFSC Reference Document 16-09. 109 p.
- Sulikowski JA, Benoît HP, Capizzano CW, Knotek RJ, Mandelman JW, Platz T & Rudders DB. (2018). Evaluating the condition and discard mortality of winter skate, Leucoraja ocellata, following capture and handling in the Atlantic monkfish (Lophius americanus) sink gillnet fishery. *Fisheries Research.* 198: 159-164.