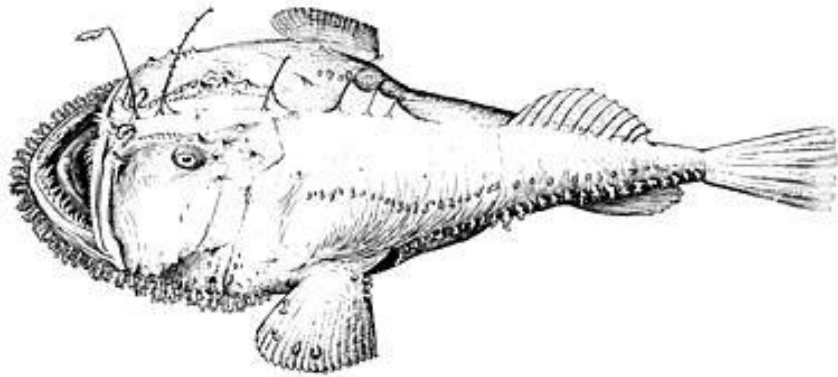


Monkfish Fishery Management Plan

Framework Adjustment 13



DRAFT Discussion Document

April 27, 2022

Prepared by the
New England Fishery Management Council
In consultation with the
National Marine Fisheries Service and the
Mid-Atlantic Fishery Management Council



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MONKFISH FISHERY MANAGEMENT PLAN
FRAMEWORK ADJUSTMENT 13

Proposed Action: Propose monkfish specifications for fishing years 2023 - 2025 and other measures.

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Abstract: [to be completed]

1.0 EXECUTIVE SUMMARY

[to be completed]

In April 2022, the Council initiated this action to include FY 2023-2025 specifications and consider: 1) revising Days-at-Sea allocations and possession limits, including the incidental limit; 2) requiring 12” mesh for monkfish gillnets; 3) requiring use of the Vessel Monitoring System across the monkfish fishery; and 4) management measures to reduce southern area discards.

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3.0 BACKGROUND AND PURPOSE

3.1 BACKGROUND

The monkfish fishery in the EEZ is jointly managed under the Monkfish Fishery Management Plan (FMP) by the New England Fishery Management Council (NEFMC) and the Mid-Atlantic Fishery Management Council (MAFMC), with the NEFMC having the administrative lead. The fishery extends from Maine to North Carolina out to the continental shelf margin. The fishery is managed as two stocks, northern and southern and in two management areas; the Northern Fishery Management Area (NFMA) covers the Gulf of Maine (GOM) and northern part of Georges Bank (GB), and the Southern Fishery Management Area (SFMA) extends from the southern flank of GB through the Mid-Atlantic Bight to North Carolina. The fishery is primarily managed with a yearly allocation of days-at-sea (DAS) and landing limits.

Overfishing Limit and stock status. An overfishing limit (OFL) for each the northern and southern monkfish stocks has been defined as the product of the fishing mortality threshold (F_{\max}) and the current estimate of exploitable biomass (B_{current}). The stock assessments in 2010 and 2013 concluded that the northern and southern monkfish stocks were not overfished and overfishing was not occurring but recognized significant uncertainty in this determination. After the 2013 assessment, the OFLs for FY 2014-2016 were lowered to 17,805 mt and 23,204 mt for the northern and southern stocks, respectively (NEFMC 2014).

The stock assessment in 2016 did not update the SCALE model that had been used since 2007 to assess the monkfish stocks after its use was invalidated by age validation research. Instead, the stock was assessed using the “Plan B smooth” method which is based solely on the trawl survey index (Richards 2016). This method is considered interim until a more analytical assessment is possible.

The 2016 assessment concluded that many of the biological reference points were no longer relevant due to invalidation of the growth model (e.g., F_{\max} could not be recalculated), and thus were not updated. The 2019 assessment continued use of the Plan B method due to ongoing uncertainties but determined that a strong recruitment event in 2015 led to an increase in biomass in 2016-2018, though abundance declined in 2019 as recruitment returned to average levels. The status of the stocks will be revisited with updated data in the 2022 Monkfish Management Track Assessment, which will be peer reviewed in September 2022. OFLs have remained at the levels set for FY 2014.

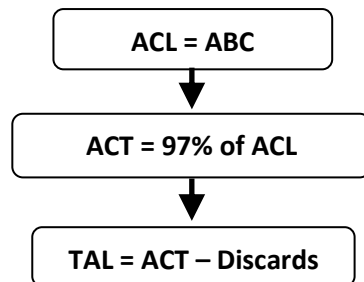
Under the Plan B method, fishery catch data are not used in the assessment of stock status. However, the assessment document updates the timeseries of fishery catch for each calendar year (CY). Discards are estimated by gear, half year and management area using observer data. For otter trawls and gillnets, the observed monkfish discard-per-kept-monkfish ratio is expanded to total monkfish discards. For scallop dredges and shrimp trawls, the observed monkfish discard-per-all-kept-catch ratio is expanded to total monkfish discards. Lack of observer data in recent years due to the pandemic is a challenge across all fisheries for calculating discards. The 2019 assessment updated fishery catch data through CY 2018 (NEFSC 2020); data through CY 2021 is expected to be updated in the 2022 assessment document.

When calculating monkfish discards, the discard mortality is assumed to be 100% across all gear types. Weissman et al. (2021) evaluated monkfish discard mortality in scallop dredge gear; the results suggested that discard mortality was between 18-54% rather than the assumed 100%. It is uncertain whether revisiting discard estimation methods will occur in the 2022 assessment. The Assessment Oversight Panel will determine the scope of this assessment when it meets on May 24, 2022. The monkfish assessment in 2025 will likely be a research track assessment, in which this issue could potentially be addressed.

Acceptable Biological Catch and fishery specifications. Specifications follow a hierarchy of an acceptable biological catch (ABC), and an annual catch limit (ACL) set equal to the ABC, an annual

catch target (ACT) set equal to 97% of the ACL, and total allowable landings (TAL) set equal to the difference between the ACT and expected discards. These specifications are set for each management area to reduce the likelihood of the ACL being exceeded.

Figure 1. Formula for monkfish specification setting.



Acceptable Biological Catch (ABC). For setting the northern and southern stock ABCs for FY 2020-2022, a multiplier from the 2019 assessment was applied to the existing ABC (rather than to recent average catch as described in the assessment, NEFSC 2020). The multiplier is the proportional rate of change in smoothed survey indices (average of fall and spring NEFSC surveys) over the most recent three years. Depending on the outcome of the 2022 assessment, the PDT may prepare ABCs with the survey multiplier applied to recent catch (the Plan B method) and to existing ABC (method for FY 2020-2022 specifications) for the Scientific and Statistical Committee (SSC) to make a recommendation.

Annual Catch Limit (ACL). The ACL for each stock is set equal to the ABC. The ACL is a limit that will trigger accountability measures if catch exceeds this amount (a pound-for-pound reduction in ACL in the second year following the overage).

Annual Catch Target (ACT). The ACT for each stock is 97% of the ACL, because the management uncertainty buffer between the ACL and ACT is currently set at 3%. This buffer was last changed through FW10 for FY 2017-2019, lowered from 13.5% for the northern stock and 6.5% for the southern. For the rationale, the [Final Rule](#) stated that: “The approach used to calculate discards has performed well in the past; an adequate amount of discards has been forecasted, reducing the likelihood of the ACL being exceeded. Further, as previously explained, the TALs have been consistently underharvested in both areas. As a result, there is little risk of exceeding the TALs and a more substantive management uncertainty buffer is no longer necessary.”

Total Allowable Landings (TAL). The TAL for each stock is set by subtracting expected discards from the ACT. The discard deduction has been set by applying a discard rate to the ACT. This rate is the latest 3-year moving average of calendar year discards divided by total catch, as calculated through the assessment. However, the PDT is considering revising the method for calculating the discard deduction based on the work of O’Keefe (2020; see below).

Note: the monkfish regulations indicate that “The ACTs established for each management area shall be the basis for setting management measures (DAS and trip limits), after accounting for incidental catch in non-directed fisheries and discards in all fisheries.” Landings by vessels with an open-access Category E federal monkfish permit or with other permits but not on a Monkfish DAS are typically considered incidental. All monkfish landings where the permit number >000000 are monitored in-season against the TALs.

3.2 PURPOSE AND NEED

[*Note:* This section will be written once the range of alternatives is finalized.]

4.0 ALTERNATIVES UNDER CONSIDERATION

This action includes FY 2023-2025 specifications and considers: 1) revising Days-at-Sea allocations and possession limits, including the incidental limit; 2) requiring 12” mesh for monkfish gillnets; 3) requiring use of the Vessel Monitoring System across the monkfish fishery; and 4) management measures to reduce southern area discards.

4.1 FY 2023-2025 SPECIFICATIONS

This action sets monkfish fishery specifications for fishing years 2023 - 2025.

4.1.1 Alternative 1 - No Action

Under Alternative 1 (No Action), the specifications for FY 2023-2025 would be unchanged from the specifications for FY 2020-2022.

For FY 2020-2022, the ABC had a 10% increase in the Northern Fishery Management Area (NFMA) and was status quo in the Southern Fishery Management Area (SFMA) relative to FY 2017-2019 (Table 1). For the NFMA, this was more conservative than the adjustment factor coming from the 2019 assessment (a 20% increase) because of uncertainty about how long the 2015-year class would influence biomass in the next three fishing years, the recent trends in the survey indices (increasing in the north, steady in the south), and the recent performance of the fishery, which has only been achieving the TAL since FY 2016. For the SFMA, status quo ABC was consistent with the adjustment factor coming from the assessment, which supported no change in the ABC.

Relative to the FY 2017-2019 specifications, the discard deduction as a percent of ABC increased for FY 2020-2022. The discards for the NFMA increased from 13.9% to 18.2% of the ABC; the SFMA discards increased from 24.6% to 50.8% over the same timeframe. The large increase in SFMA discards was likely due to the large 2015-year class, predominantly in dredge gear (NEFSC 2020, Figure D8, p. 119).

Table 1. Specifications for FY 2020-2022 (Framework 12).

	Northern FMA	Southern FMA
	(mt)	(mt)
ABC = ACL	8,351	12,316
ACT (97% of ACL)	8,101	11,947
Expected Discards	(-18.2%) 1,477	(-50.8%) 6,065
Federal TAL (ACT – discards)	6,624	5,882

4.1.2 Alternative 2 - ???

Under Alternative 2, ...

Rationale:

[Note: Specification alternatives will be developed after the 2020 monkfish assessment is peer reviewed in September 2022.]

4.1.3 Analyses to support setting the discard deduction from TALs

In 2020 and 2021, Dr. Cate O’Keefe worked with the Monkfish PDT to analyze alternative methods for setting the discard deduction from TALs (O’Keefe 2020; 2021). This work was prompted by concerns that as the 2015-year class entered the fishery, discards increased, causing the discard deduction for FY2020-2022 (based on average discards in 2017-2019) to be higher than expected.

The Committee reviewed the ideas for alternate methods in September 2021 and decided to not adjust the deduction for FY 2022 specifications, mid-specifications cycle. This was consistent with the PDT recommendation. It was noted that the range of estimates of discards as a percent of catch among all approaches was similar, and it was preferable to consider changing methods when specifications are being set rather than mid-cycle.

The PDT is now developing a recommendation on whether and how to revise the discard deduction method to be used for the FY 2023-2025 specifications and going forward. Per request of the PDT, the Monkfish Committee provided in March 2022 its vision for the management goal, or intended outcome, of the discard deduction:

“The Committee feels that a monkfish discard deduction approach should provide as much stability to the directed fishery as possible (minimizing change between specification cycles), while considering recent recruitment (potentially diverging based on a trigger).”

In April 2022, the NEFMC reviewed this goal and agreed that recent recruitment would not be considered for setting the deduction in these specifications due to the uncertainty about monkfish aging, growth and recruitment, and that using recruitment as a predictor of discards is a more complex research project than time allows for this year. However, the PDT expects to prepare a few alternate methods for consideration, such as the latest 10 year mean and median discard/catch (may balance stability with recent trends) and the latest 10 year mean and median of discards (discards are largely not in directed fishery).

The Committee will be briefed on the PDT’s progress at the Committee meeting later this spring. Since it is still uncertain when the discard updates will be available, the PDT is uncertain when its recommendation will be finalized. The PDT expects that the SSC will review the methods and PDT recommendation, either in the summer or when the SSC recommends ABCs in October.

What is the current method used within the Monkfish FMP?

For both management areas, the discard deduction from TAL has been calculated from fishery catch data using the most recent three-year discard percentage of total catch. This approach has been used since FY 2014. O’Keefe (2020) found that this approach performed relatively well (projected and realized discards were similar) when landings and discards were stable but did not perform well after the strong 2015 recruitment event.

If the method for calculating the discard deduction is unchanged, the FY 2023-2025 specifications would likely use the average discard percentage from CY 2019-2021. Again, the PDT is waiting for the discards from CY 2020-2021 to be calculated by the NEFSC. The NEFSC will need to factor how to treat the recent gaps in observer data.

4.2 EFFORT CONTROLS

On March 24, 2022, the Monkfish Committee tasked the PDT to analyze a few adjustments in Days-At-Sea allocations and possession limits, including incidental limits, to see if there may be better ways to optimize landings. This section provides background information for the Committee to consider when deciding how to proceed with developing alternatives. This background information is intended to provide a sense of the current conditions, possible approaches, and issues to consider when developing the path forward for this action. This information does not signal PDT endorsement of any approach, nor is it an exhaustive review of possible approaches or the pros and cons of the ideas herein. The aim is to help identify specific issues these measures would help resolve and prompt the development of alternatives.

Questions/Considerations for the AP and Committee:

- *Should alternatives for the DAS allocation for limited access permits be developed? If so, which? Note: only a small subset of vessels has used most of its DAS allocation recently.*
- *Should alternatives for the possession limits should be developed? If so, which?*
 - o *Note: only a small subset of vessels has landed monkfish close to the possession limits recently.*
 - o *There are several different incidental limits depending on if the vessel is fishing in the north or south, the monkfish permit category, the gear type, and if and what sort of DAS is used on the trip. Should adjustments to any of these incidental limits be considered? If so, which?*

4.2.1 Days-At-Sea Allocations

To land more than incidental amounts of monkfish, vessels must be fishing under one or a combination of the following: a monkfish DAS, a Northeast (NE) multispecies day-at-sea (DAS), and/or an Atlantic sea scallop DAS. Monkfish permit categories C and D vessels (i.e., those also issued a limited access NE multispecies DAS permit) can declare a monkfish DAS while at sea in the NFMA if they are fishing on a NE multispecies DAS and declare the “monkfish option” prior to leaving port at the start of its trip. Permit Category C and D vessels fishing in the NFMA on both a NE multispecies and monkfish DAS do not have a monkfish trip limit.

Monkfish-only trips in the southern management area account for the greatest number of trips and monkfish landings in FY2018 (Table 2). A few hundred sector vessel trips were taken in both the northern and southern management areas by about ~25 vessels. Monkfish vessels participating in the Northeast Multispecies common pool fishery accounted for the least amount of monkfish landings, caught by <10 vessels. Note the PDT plans to evaluate other declaration codes for which monkfish is landed.

DAS allocations have remained the same since FY 2017 ([FW10](#)). Limited access vessels are allocated 46 monkfish DAS per vessel per fishing year (45.2 with RSA DAS deduction), 37 of which can be used in the Southern Fishery Management Area. An average of 575 permits were allocated DAS between FY 2019 – FY 2021, where permit categories C and D account for the greatest number of allocated DAS with about 10-11,000 DAS allocated for each (Table 3). There is a substantial amount of latent effort in the monkfish fishery as evidenced by the number of DAS used being far below the DAS allocated. Furthermore, the number of active vessels, where vessels used at least one monkfish DAS, is also less than the total number of monkfish permits issued. More specifically, in FY 2021 between 4 – 38% of

vessels used at least one monkfish DAS (range varies based on permit category), FY 2020 and FY 2019 show a similar trend of between 6-62% and 9-64% of active vessels, respectively.

Table 2. FY 2018 Monkfish landings and total number of vessels and trips by activity program code.

Note: These data are preliminary and are subject to change.

Program Code	Program Code Description	Whole (live) weight (lb)	Tail weight (lb)	Number of Vessels	Number of Trips
MNK-NAC	<i>Monkfish Northern Management Area Common Pool Vessel Trip</i>	36,982	12,709	3	9
MNK-NAM	<i>Monkfish Northern Management Area Monkfish-Only Vessel Trip</i>	45,094	15,496	8	26
MNK-NAS	<i>Monkfish Northern Management Area Sector Vessel Trip</i>	2,117,005	727,493	25	235
MNK-SAC	<i>Monkfish Southern Management Area Common Pool Vessel Trip</i>	193,147	66,374	8	82
MNK-SAM	<i>Monkfish Southern Management Area Monkfish-Only Vessel Trip</i>	6,547,748	2,250,085	72	2,050
MNK-SAS	<i>Monkfish Southern Management Area Sector Vessel Trip</i>	1,297,201	445,774	24	401
TOTAL ^a		10,237,177	3,517,930	111	2,802

Source: DMIS and AMS Trip and Charge databases. Accessed April 2022.

Note: ^a Represents total number of unique vessels and trips so the total does not equal the sum of the individual program codes.

Table 3. Monkfish DAS usage, combined management areas, FY 2019 – FY 2021.

Permit Category	All Vessels			# of Active Vessels
	Total # of Permits	DAS Allocated	DAS Used	
FY 2019				
A	21	909	385	11
B	39	1,689	750	25
C	273	11,821	583	24
D	238	10,305	850	42
FY 2020				
A	15	650	193	9
B	37	1,602	444	23
C	268	11,604	334	17
D	229	9,916	490	32
FY 2021				
A	18	779	130	5
B	37	1,602	280	14
C	255	11,042	177	11
D	223	9,656	397	24
<p><i>Source:</i> NMFS Vessel Permits and Allocation Management System (AMS) databases, accessed March 2022.</p> <p><i>Notes:</i> *Active = vessels that used >0 monkfish DAS. Permit categories F and H account for a minor number of permits, DAS allocated, and DAS used, thus, are not included in table.</p>				

4.2.2 Possession Limits

Limited access possession limits by monkfish permit category

The possession limits by management area have remained relatively stable since FY 2016 (Table 4, Table 5).

Table 4. Northern Fishery Management Area current monkfish limited access possession limits by permit category.

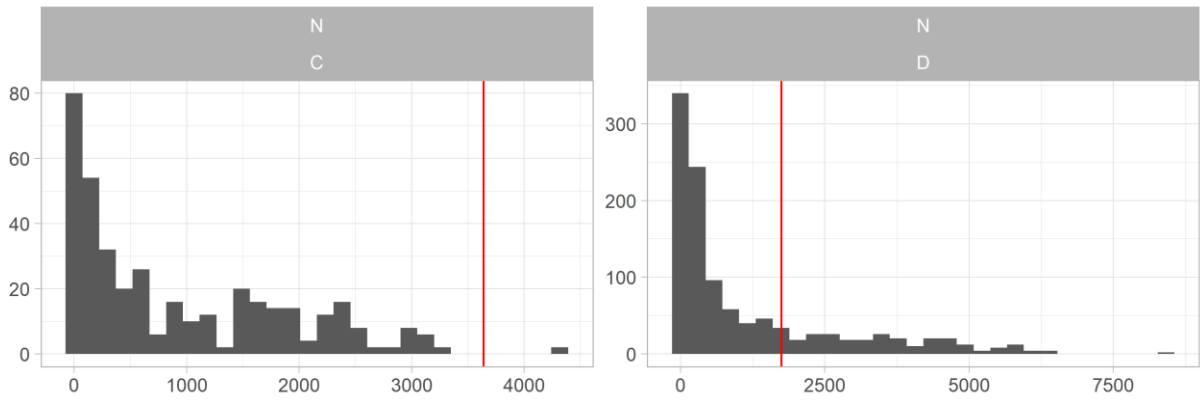
Monkfish Permit Category	Description	FY20-22 Monkfish Possession Limits (lb)	Previous Possession Limits
A	Only monkfish DAS (no NE multispecies or Atlantic scallop limited access permit)	Monk DAS: 1,250 lb tail weight or 3,638 lb whole weight	No change since at least FY 2011.
B	Only monkfish DAS (no NE multispecies or Atlantic scallop limited access permit)	Monk DAS: 600 lb tail weight or 1,746 lb whole weight	No change since at least FY 2011.
C	Monkfish DAS and either a NE multispecies or Atlantic scallop limited access permit	Monk DAS: 1,250 lb tail weight or 3,638 lb whole weight Monk DAS & NE Mult A DAS: Unlimited	Monk DAS: No change since at least FY 2011. Monk DAS & NE Mult A DAS: FW9 (FY16): eliminated limit; No change since then
D	Monkfish DAS and either a NE multispecies or Atlantic scallop limited access permit	Monk DAS: 600 lb tail weight or 1,746 lb whole weight Monk DAS & NE Mult A DAS: Unlimited	Monk DAS: No change in since at least FY 2011. Monk DAS & NE Mult A DAS: FW9 (FY16): eliminated limit; No change since then.

Table 5. Southern Fishery Management Area current monkfish limited access possession limits by permit category.

Monkfish Permit Category	Description	FY20-22 Monkfish Possession Limits (lb)	Previous Possession Limits
A	Only monkfish DAS (no NE multispecies or Atlantic scallop limited access permit)	Monk DAS: 700 lb tail weight or 2,037 lb whole weight	Monk DAS: Increased from 610 lb in FW8 (FY 14-16) to 700 lb (tail weight) in FW10 (FY17-19). No change since then.
B	Only monkfish DAS (no NE multispecies or Atlantic scallop limited access permit)	Monk DAS: 575 lb tail weight or 1,673 lb whole weight	Increased from 500 lb in FW8 (FY 14-16) to 575 lb (tail weight) in FW10 (FY17-19). No change since then.
C	Monkfish DAS and either a NE multispecies or Atlantic scallop limited access permit	Monk DAS OR Monk DAS & NE Mult A DAS: 700 lb tail weight or 2,037 lb whole weight	Increased from 610 lb in FW8 (FY14-16) to 700 lb (tail weight) in FW10 (FY17-19). No change since then.
D	Monkfish DAS and either a NE multispecies or Atlantic scallop limited access permit	Monk DAS OR Monk DAS & NE Mult A DAS: 575 lb tail weight (1,673 lb whole weight)	Increased from 500 lb in FW8 (FY14-16) to 575 lb (tail weight) in FW10 (FY17-19). No change since then.
F	Seasonal offshore monkfish fishery in SFMA (Oct. 1-April 30)	Monk DAS: 1,600 lb tail weight or 4,656 lb whole weight	No change since at least FY 2011
H	SFMA only	Monk DAS: 575 lb tail weight or 1,673 lb whole weight	Increased from 500 lb in FW8 (FY14-16) to 575 lb (tail weight) in FW10 (FY17-19). No change since then.

Provided here are data on monkfish landings frequency by permit category to help determine if possession limit adjustments are warranted (Figure 2, Figure 3). The data source is CFDEERS because it has the most updated information. Data from FY 2018 are provided because it is the last complete fishing year without any impacts from the pandemic, however, these data may not be indicative of current fishing effort. The PDT could also provide FY 2019 - FY 2021 to gain a better understanding of more recent fishing effort, though these additional years could be anomalous given the market disruptions from the pandemic and FY 2021 is not yet complete.

Figure 2. Histogram of monkfish landings relative to trip possession limits for permit categories C and D in FY 2018 in the Northern Fishery Management Area.



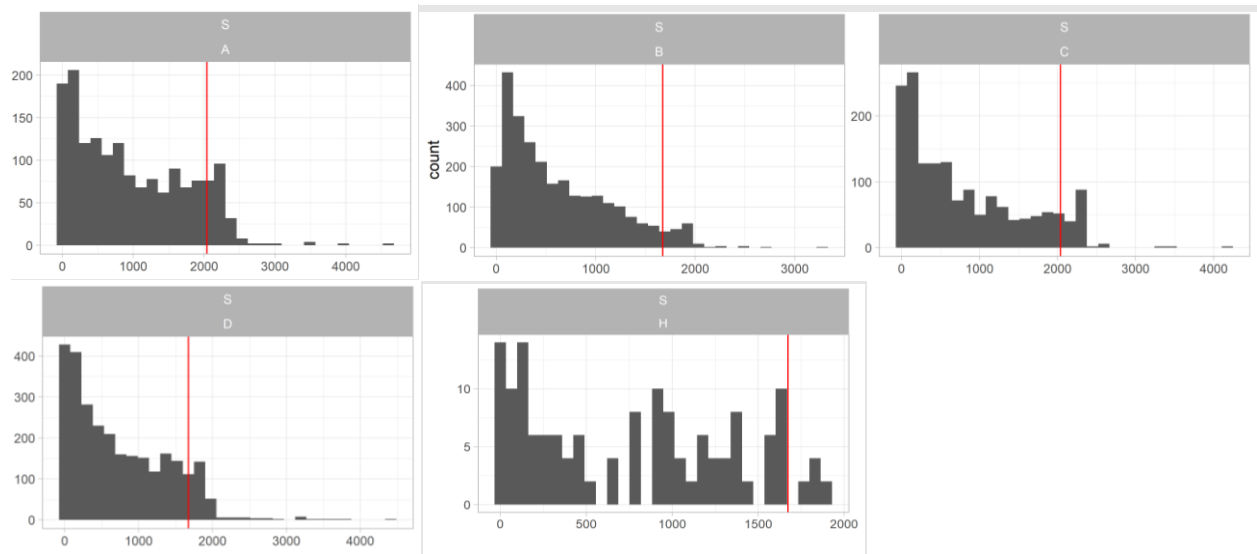
Source: CFDEERS 2018 and 2019, accessed March 2022.

Note: Red vertical lines represent the trip possession limits in whole weight (lb); x-axis is trip weight (monkfish whole weight, lb); y-axis is the number of trips. Permit categories C and D are only included in this figure as the vessels with these permit categories are larger vessels with the ability to land more monkfish. Only trips with an activity code 'MKN' are included. The DAS overage provision is accounted for in the data.

Main take-aways – northern area

- Many trips land minimal amounts of monkfish. This could be due to low value of monkfish relative to scallop if using a monkfish DAS while on a scallop DAS or low value of monkfish relative to other groundfish species when on a monkfish and NE multispecies DAS.
- Trip limits do not appear to be constraining landings given most trips are not landing close to the trip limit, especially for permit category C (which has about double the trip limit compared to category D).
- Some trips appear to be exceeding the possession limit, however, some of these trips have unlimited possession limits if using both a Monkfish DAS and a Northeast Multispecies DAS on a trip. It is possible that data entry errors, mismatch in reporting whole vs. tail weight, weight conversion errors, etc. are reasons why there are other trips exceeding the possession limits. The PDT plans to remove the RSA DAS trips from these figures.

Figure 3. Histogram of monkfish landings relative to trip possession limits for permit categories A, B, C, D, and H in FY 2018 in the Southern Fishery Management Area.



Source: CFERS 2018 and 2019, accessed March 2022.

Note: Red vertical lines represent the trip possession limits in whole weight (lb); x-axis is trip weight (monkfish whole weight, lb); y-axis is the number of trips. Only trips with an activity code ‘MNK’ are included. The DAS overage provision is accounted for in the data. Permit categories E and F did not have many trips in FY 2018, thus, are not included in this figure.

Main take-aways – southern area

- Many trips land minimal amounts of monkfish. This could be due to low value of monkfish relative to scallop if using a monkfish DAS while on a scallop DAS.
- Trip limits could be constraining landings for permit categories A, D, and H based on several trips landing close to, at, or exceeding the trip possession limit, however, additional data exploration is needed.
- Some trips appear to be exceeding the possession limit; this could be due to possible that data entry errors, mismatch in reporting whole vs. tail weight, weight conversion errors, etc. The PDT plans to remove the RSA DAS trips from these figures.

Incidental possession limits by monkfish permit category

To land only incidental amounts of monkfish, vessels must have a federal monkfish permit (permit category E, open access incidental permit) and not fish on a monkfish-only DAS. Incidental monkfish can be caught while on a Northeast Multispecies DAS, on a Scallop DAS or in the Sea Scallop Access Area Program, not under a DAS Program, and not under a DAS program that also hold permits in other fisheries/special cases. Incidental possession limits vary by the aforementioned categories, gear, and area (Table 6).

Vessels do have flexibility to land over the incidental limit when fishing on a Northeast Multispecies A DAS or a sector trip if the vessel fishes only in the NFMA and declares the ‘monkfish option’ on the VMS unit before leaving port. This ultimately charges the vessel a Monkfish DAS and NE Multispecies DAS.

The PDT is evaluating whether the incidental landings are being constrained by the current possession limits for the following DAS programs: using non-trawl gear on a Northeast DAS in SFMA, not under a DAS program, and not under a DAS program that also holds permits in other fisheries/special cases (NE Multispecies Small Vessel permit, Surfclam or Ocean Quahog permit, or Sea Scallop permit) (Table 7). Note the PDT is currently developing this table.

Table 6. Incidental possession limits for monkfish vessels by management area, gear, and permit category. Source: [GARFO](#).

Incidental Possession Limit Category		Management Area	Incidental Possession Limits by gear, permits
While on a NE Multispecies DAS		NFMA	<i>All gear</i> - 900 lb tail weight (permit C), 750 lb (permit D), up to 300 lb (permits E/F/H)
		SFMA	<i>Non-trawl</i> – 50 lb tail weight for permits C, D, H <i>Trawl</i> – 300 lb tail weight for permits C, D, H
While on a Scallop DAS or in the Sea Scallop Access Area Program		NFMA and SFMA	<i>All gear</i> - 300 lb tail weight
While not under a DAS Program			GOM, GB Reg. Mesh Areas – 5% of total fish weight on board SNE Reg. Mesh Area – 50 lb tail weight/day, up to 150 lb per trip MA Exemption Area – 5% of total fish weight on board up to 450 lb tail weight NFMA or SFMA – 50 lb tail weight/day, up to 150 lb per trip
While not under a DAS Program and fishing under skate bait Letter of Authorization		SNE Reg. Mesh Area	50 lb tail weight/day, up to 150 lb per trip
While not under a DAS Program and holds permits in other fisheries/special cases	NE Multispecies Small Vessel Permit	NFMA or SFMA	<i>All gear</i> - 50 lb tail weight/day, up to 150 lb per trip
	Surfclam or ocean quahog permit		<i>Hydraulic clam dredge or mahogany quahog dredge</i> - 50 lb tail weight/day, up to 150 lb per trip
	Sea scallop permit		<i>Scallop dredge only</i> - 50 lb tail weight/day, up to 150 lb per trip <i>If in scallop dredge exemption areas</i> - 50 lb tail weight/trip

Table 7. Incidental monkfish trips and landings for vessels fishing on NE Multispecies DAS in SFMA, not under a DAS program, and not under a DAS program but holds permits in other fisheries/special cases.

TBD

4.3 MANAGEMENT MEASURES

Per the 2022 management priorities approved by the Council in December 2021, the following are being considered in this action:

- 12-inch minimum mesh size for monkfish gillnets,
- Vessel Monitoring System requirement, and
- Measures to reduce discards in the Southern Monkfish Management Area.

This background information is intended to provide a sense of the current conditions, possible approaches, and issues to consider when developing the path forward for this action. This information does not signal Plan Development Team (PDT) endorsement of any approach, nor is it an exhaustive review of possible approaches or the pros and cons of the ideas herein. The aim is to help identify specific issues these measures would help resolve and prompt the development of alternatives.

4.3.1 12-inch Minimum Mesh Size for Monkfish Gillnets

A “12-inch minimum mesh size for monkfish gillnets” is a type of measure being considered through Framework 13. This section focuses on the current monkfish gillnet regulations and other fisheries that have similar minimum mesh requirements. The Committee needs to evaluate the tradeoffs of requiring the increased mesh size for monkfish gillnets.

Questions/Considerations for the AP and Committee:

- *Should an alternative to increase from the current 10” gillnet mesh requirement in exemption areas to 12” be developed? If so, should the mesh size increase:*
 - *Apply to all vessels with a federal monkfish permit or a subset (e.g., vessels fishing on a monkfish-only DAS)?*
 - *Apply in all exemption areas or certain ones?*

What are the current gear regulations within the Monkfish FMP?

To fish on a monkfish-only day-at-sea (DAS, i.e., not using a groundfish or scallop DAS), vessels must fish exclusively in an exemption area or fishery. With some exemptions, the minimum gillnet mesh size while fishing on a monkfish DAS is 10” diamond mesh (50 CFR 648.91(c)(1)(iii)). There are five [exemption areas](#) that apply to the monkfish fishery, each with specific gear requirements; only exemptions pertaining to gillnet are included here. In the future, the PDT could supply more information about the landings and vessel activity within the areas if the Committee is interested in changing gear regulations in a particular area. Note that these exempted fisheries allow vessels to be exempt from certain Northeast Multispecies regulations (not required to use a NE multispecies DAS or to be on a NE multispecies non-DAS sector trip) provided a larger mesh size is used to help ensure bycatch of regulated groundfish species is minimal. If a vessel fishes outside these exemption areas in either the Gulf of Maine or Georges Bank Regulated Mesh Areas (thus, using both a monkfish DAS and a NE Multispecies DAS), then the gillnets must be a minimum of 6.5 inches throughout the entire net.

- *The Gulf of Maine/Georges Bank Monkfish Gillnet Exemption.* Seasonal exemption (July 1 – September 14) for vessels using gillnets with a minimum mesh size of 10 inches (diamond) throughout the net; vessels can only land monkfish and/or American lobster.

- *The SNE Monkfish Gillnet Exemption Area.* Year-round exemption for vessels using gillnets in Southern New England with a minimum mesh size of 10-inch diamond; vessels can also land skates, spiny dogfish, and incidentally caught species allowed in the SNE Regulated Mesh Area.
- *The Mid-Atlantic Exemption Area – trawl or gillnet gear.* Year-round exemption for vessels using or gillnet gear (minimum mesh size of 5 inches, maximum of 50 stand-up gillnets); vessels can land spiny dogfish, monkfish, whiting and red hake but are not permitted to land other regulated multispecies.

Has the idea of a 12-inch minimum mesh size been considered previously?

Yes. Developing a 12” minimum mesh size for gillnets was first discussed by the Skate Committee in 2020 as a gear modification to reduce bycatch and then scoped for in Skate Amendment 5 in early 2021, but it was determined that the measure was more appropriate as a monkfish action. Later in 2020, the Monkfish Committee supported this idea as a 2021 management priority. However, the Council disapproved it for 2021, noting that many fishermen targeting monkfish were already using this mesh size (e.g., 83% of observed gillnet hauls in the Northern Fishery Management Area from 2004-2007; Salerno, et al. 2010). The 12” minimum mesh size and other management measures are being considered in 2022 because the Council is already developing specifications for the fishery so any changes in mesh size would be part of a larger action.

Note: The 12” mesh gillnet size was not discussed during the monkfish and skate AP, Committee, and Council meetings since at least 2016.

What gear mesh data are available to evaluate how many vessels currently fish with 12-inch mesh size?

The PDT has heard from Advisory Panel members and other fishermen that vessels are already using 12”, in part, to reduce discards. Using the minimum mesh size for gillnet gear in the vessel trip reports (VTR) data, the PDT found that, in the southern area, 98% of monkfish trips used at least 12” mesh size in FY 2018 while 2% use <12” mesh (Table 8). If the Committee wants to develop this idea, the PDT could also provide active permits and monkfish landings in the gillnet exemption areas depending on data availability, and there could be useful observer data to examine.

Table 8. Number of monkfish gillnet trips by mesh size, FY 2018.

Mesh Size	Number of trips in SFMA	Percent of trips
10”	29	<1%
11”	31	<1%
12”	3,857	95%
12.5”	129	3%

Source: Vessel Trip Reports 2018-2019, accessed March 2022.
Note: Data only include activity code ‘MNK-SAM’ (southern fishery management area) given most gillnets operate in the southern region and only a minor number of trips use gillnet in the northern region. FY 2018 data were used due to disruptions in the fishing operations caused by the pandemic in proceeding years.

What research may inform requirement of 12-inch minimum mesh size?

The PDT is aware of the following research that may inform the consideration of management alternatives but will continue looking for other prior studies. The PDT would like to investigate if and how the Council has used this research to inform decision-making in the past.

In 2007, the Monkfish Research-Set-Aside (RSA) program funded a study called “Determining the Best Size for Gillnetting Monkfish *Lophius americanus*” (Mike Pol and Brad Bowen, PIs) and the [final report](#) was completed in 2009. The project was a collaboration of the Massachusetts Division of Marine Fisheries and commercial fishermen. Mesh sizes of 10, 12 and 14” were tested for monkfish retention and bycatch reduction. Increasing mesh size from 10 to 12” resulted in: increased monkfish length and weight per trip, decreased bycatch including smaller monkfish. While fewer monkfish were caught in the larger mesh, revenues were similar as larger monkfish have higher prices.

In 2010, the Gulf of Maine Research Institute and Massachusetts Division of Marine Fisheries completed a study called “Analysis of Size Selectivity and Bycatch in the Gillnet Fishery for Monkfish.” The study evaluated the monkfish catch and bycatch rates for gillnet mesh sizes 10”, 12”, and 14” and otter trawl gear in the Gulf of Maine. For gillnet gear, 12” mesh sizes had the highest monkfish catch (by weight) and lowest bycatch levels, while the 14” mesh had the lowest monkfish catch (by weight and number) and the 10” mesh had the highest bycatch (Salerno et al. 2010).

In 2018, the Monkfish RSA program funded a study called “Increasing Twine Thickness and Mesh Size to Reduce Skate Bycatch in Monkfish Sink Gillnets” led by Cornell Cooperative Extension. In that study, 12” mesh is the control and 13” mesh is the test, with and without tie-downs. The project had several delays and extensions; the fieldwork is expected to be completed this winter, and the final report is due in October 2022. Data analysis is ongoing, so it is unclear if/how this research would inform the development of Framework 13.

What are some pros and cons for requiring 12-inch mesh size?

Pros: Would likely help reduce discards of groundfish and other species, particularly juveniles. However, if this gear is commonly used already, actual reductions may be limited.

Cons: Could prevent the use of a smaller mesh size if needed in the future. The body shape of monkfish could prevent changes in minimum mesh size from substantially improving monkfish selectivity.

4.3.2 Vessel Monitoring System Requirement

“Requiring VMS for the federal fishery, including evaluation of costs” is a type of measure being considered as part of Framework 13. This measure would apply to all vessels with a monkfish permit but given that most monkfish vessels also have permits in other fisheries that require VMS, it is likely that vessels with monkfish-only permits (limited access permit category A or B) would be most impacted by this management measure. The PDT recommends that this measure not apply to permit category E because this permit is open access (none of which require VMS) and is for incidental catch. This section focuses on the current VMS regulations and related issues. The Committee needs to evaluate the tradeoffs of requiring VMS across the fishery.

Questions/Considerations for the AP and Committee:

- What alternatives for requiring VMS across more of the federal monkfish fishery should be considered? Note: The PDT recommends not applying this to open access vessels.
- Rather than VMS, should an alternate electronic vessel tracking device be considered, like the device the Atlantic States Marine Fisheries Commission is recommending for the federal lobster and Jonah crab fisheries?

What portion of monkfish permits do not have a VMS requirement?

Monkfish Permit Category A and B vessels do not have VMS requirements given these vessels do not have other permits requiring VMS, such as limited access NE multispecies or scallop permits. In permit year 2021, there were 63 monkfish-only permits (Categories A and B), out of 2,153 total monkfish permits issued across all monkfish permit categories, ~3% of permits per year (Table 9). The PDT could provide additional data on the number of monkfish trips by permit category to understand how many trips have VMS requirements.

Table 9. Number of monkfish permits by permit category and year, 2019-2021.

Permit Category	Permit Year		
	2019	2020	2021
A	29	18	21
B	46	45	42
C	313	310	279
D	297	268	255
E	1,671	1,663	1,530
F	17	17	15
H	7	8	11
TOTAL	2,380	2,329	2,153

Source: NEFSC Permit database, accessed 2/15/2022.

Note: The number of permits in this table is different than the permit table in the Fishery Performance Report because this table represents all monkfish permits issued while the performance report only includes active permits with at least 1 lb monkfish landed.

Enforcement-related issues addressed with VMS

According to the Office of Law Enforcement, VMS is a tool for enforcement that helps enforce closures, gear conflicts, and Atlantic Large Whale Take Reduction Plan regulations. VMS is also used to calculate trip duration and possession limits, which can be provided to the enforcement field staff and partners dockside. This is important to note given the current IVR system can be used to start and end trips not necessarily during those times, which has implications for DAS charging and thus, landing limits a vessel can possess at a given time.

For the monkfish fishery specifically, VMS would also provide verified information on area fished, enabling the Office of Law Enforcement to track vessel movement for any violations of false reporting on areas fished. This is important in the monkfish fishery given the northern and southern fishery management areas have different possession limits and other requirements.

Current VMS requirements in the Monkfish FMP

Monkfish permit category F requires an operational VMS unit; this permit category allows for a higher possession limit than the other permit categories in exchange for a reduction in DAS allocation and requires fishing within the [Monkfish offshore program area](#) from October 1 - April 30 with a VMS unit.

A vessel with a federal monkfish permit can fish without a Vessel Monitoring System if the vessel 1) is not subject to VMS requirements imposed by other permits or FMPs, 2) fishes exclusively in either the Northern Fishery Management Area (NFMA) or the Southern Fishery Management Area (SFMA) on that trip, and 3) makes a trip declaration through the interactive voice response call-in system (IVR). If a vessel fishes in the NFMA, a Letter of Authorization (LOA) is required. An LOA is not required in the SFMA, but vessels are held to lower possession limits.

Monkfish-only vessels must submit a trip declaration, including the area fished, through the IVR call-in system, [online](#) from a smartphone, tablet, desktop or laptop computer, or through the IVR smartphone app (Fish Online eVTR App) prior to leaving port and must also call into the IVR system again at the end of the trip; if the vessel has other permits that require VMS, the vessel must declare the trip using VMS.

Has the idea of requiring VMS across the Monkfish FMP been considered previously?

Yes. In 2020, the Monkfish Committee supported this idea as a 2021 management priority (this was not considered a priority in at least the previous five years). However, the Council disapproved it for 2021. This issue is being considered in 2022 because the Council is already developing specifications for the fishery so any changes to VMS would be part of a larger action.

What data are collected by VMS vs IVR?

IVR [provides](#) owner and caller name and phone number, vessel name and permit number, type of trip to be taken, port of departure, and that the vessel is beginning a trip. These data are collected by VMS units as well. In addition, VMS data include plan code, program code, area identifier, DAS code, gear type, trip modifier (e.g., 'Monkfish Option'), and broad stock area. While on a trip, VMS units also provide vessel position (date, time, latitude, longitude) at intervals of 60 minutes.

What are the tradeoffs for requiring a VMS unit?

Pros: Will help standardized data collection systems across more FMPs; may be more efficient than calling in using the IVR system; will provide vessel positions with the hourly pings and additional data as detailed above that is not collected using the current call-in system.

Cons: Additional cost to purchase the VMS unit and transmit necessary data for vessels not already required to carry VMS; additional power required to run the unit; takes up more space on a vessel, particularly vessel with a center console; privacy concerns.

Current ASMFC action on lobster related to vessel tracking

[ASMFC](#) is considering taking final action on [Draft Addendum XXIX: Electronic Vessel Tracking](#) in the Federal American Lobster and Jonah Crab Fisheries (addendum to Amendment 3) in Spring 2022. The electronic vessel tracking device would be required for federally permitted lobster and Jonah crab vessels with commercial trap gear area permits for Lobster Conservation Management Areas 1 – 5 and Outer Cape Cod. The data resolution of these trackers is higher and can be used to link landings with the location of that catch from the electronic tracker (given some catch is biologically sampled).

Fishermen stated concern over the costs of the devices and the collection of the data during the ASMFC draft management plan comment period. There was uncertainty over who would pay and how much. The electronic tracking pilot program found that cellular based tracking systems were low in cost and still able to deliver vessel positions and detect individual trap hauls, with faster ping rates than satellite systems. The cost of the cellular tracking devices ranged from \$150 to \$650 with annual data service plans costing between \$191 to \$420 per year. These are cost estimates and may change depending on which electronic tracking device is approved and the ping rate (rates slower than one minute would decrease data storage size, though given the size of a fleet, the cost savings may or may not be minimal). The project was focused on collecting spatial and temporal effort data for the lobster and Jonah crab fleet while keeping costs low.

This information could be applicable to the monkfish fishery depending on the goals of the NEFMC. It is important to note that the electronic vessel tracking device recommended by the ASMFC is not a VMS unit and is not part of the federal VMS program. Federally permitted lobster and Jonah crab vessels with VMS units would be required to obtain these new electronic trackers.

4.3.3 Measures to Reduce Discards in Southern Fishery Management Area

“Measures to reduce discards in the southern monkfish management area” is being considered as part of Framework 13. This section describes the magnitude of monkfish discards in the SFMA, potential reasons for discards, current monkfish fishery discard requirements, and potential approaches to reduce discards in this area.

On March 24, the Committee identified the following goals for these measures:

- Reduce unnecessary waste and mortality of monkfish.
- Turn discards into landings where possible for economic reasons, including for fisheries that do not target monkfish.

Questions/Considerations for the AP and Committee:

- *What alternatives for reducing southern area discards should be considered? Note:*
 - *It may be more appropriate to consider some ideas through a future joint action with other FMPs.*
 - *The NEFMC has recommended to the NEFSC that recent discard mortality research be considered when updating discard data in the 2022 monkfish assessment. The assumed discard mortality rate is 100% across all gear types, but Weissman et al. (2021) suggest that discard mortality in dredge gear may be lower.*

Southern Monkfish Fishery Overlap with Scallop Access Areas

Scallop access areas change during the scallop annual specifications cycle based on where the scallop resource is located as determined by annual surveys. Scallop biomass is increasingly concentrated further north, thus, access areas and effort are shifting accordingly. More specifically, in FY 2022, access areas shifted from the Mid-Atlantic region further north to Southern New England and Georges Bank regions (Figure 4 - TBD). Despite this change, the FY 2022 access areas appear to still overlap with the Southern Fishery Management Area, thus, it is not clear if or how southern monkfish discards will be reduced or changed. Note, the PDT is working with the Scallop PDT to better understand the relevant scallop fishery data (landings and discards) and how best to represent the data.

Figure 4. Scallop access areas for FY 2022 with the northern and southern monkfish management areas delineated. Also shown is scallop biomass from FY 2021 surveys.

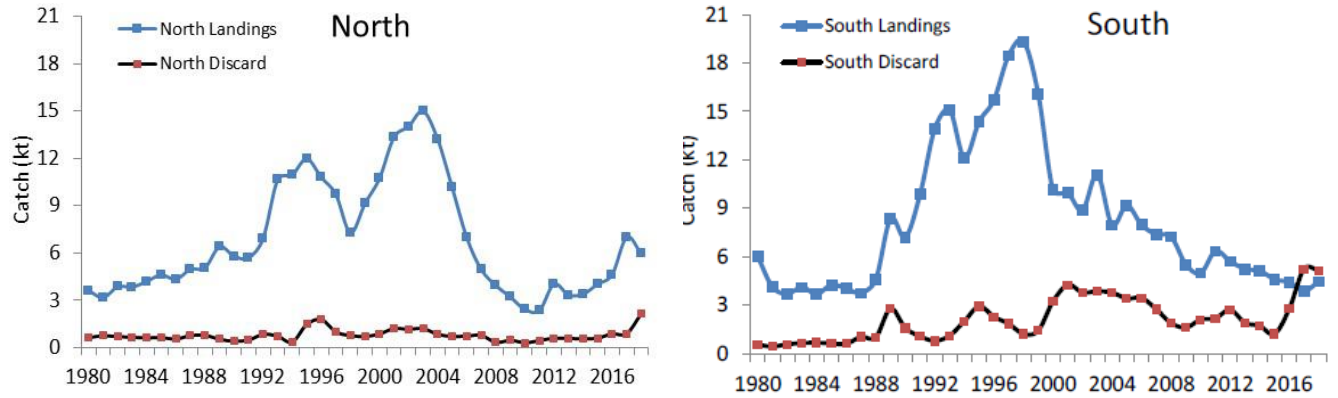
TBD

What level of discarding has occurred in the Southern Fishery Management Area?

The discard deduction from the total allowable landings (TAL) for the SFMA increased from 24.6% to 50.8% of the Acceptable Biological Catch (ABC) from the 2016 to 2019 operational assessments; the NFMA discard deduction from the TAL increased from 13.9% to 18.2% over the same timeframe (Figure 5). This large increase in SFMA percent discarded was likely due to the large 2015-year class. Also, discards primarily increased in dredge gear. Over the past decade, dredge discards in the southern area were significantly higher than trawl and gillnet gear and increased since 2015; while in the northern area, discards by trawl and dredge gear fluctuated over time, with an increase in dredge discards in 2017-2018 (Figure 6).

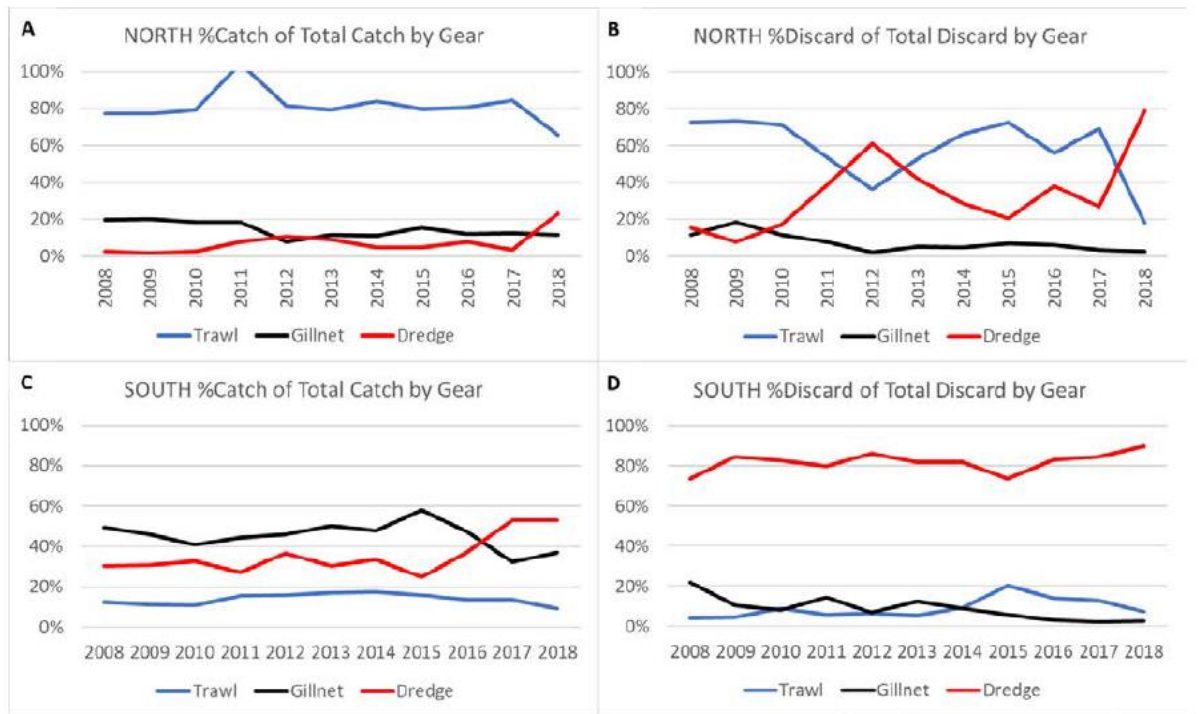
The PDT expects monkfish discard data to be updated as part of the 2022 management track assessment and available to the Committee later this year. The PDT can provide discard data by monkfish permit category (depending on data confidentiality concerns) if that is the desire of the Committee.

Figure 5. Monkfish landings and discards (kt) in the northern (left) and southern (right) areas from 1980-2018.



Source: Figure adapted from NEFSC (2020).

Figure 6. Percent catch and discard by gear type of total catch and discards for the northern area (A and B) and southern area (C and D), 2008-2018.

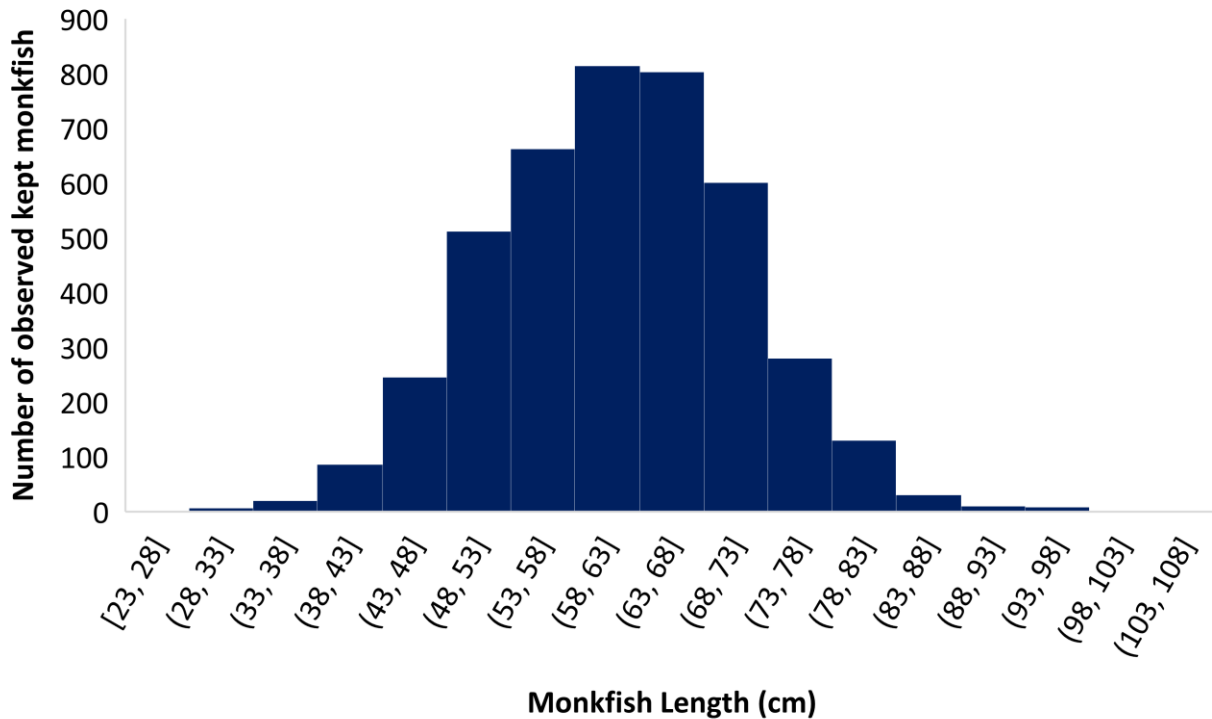


Source: O’Keefe (2020).

Length frequency of kept monkfish

Most kept monkfish were between 48 and 78 cm, with the greatest number of monkfish between 58 and 73 cm (Figure 7). As a potential next step, the PDT can explore other databases to better understand how price varies with the size of monkfish.

Figure 7. Length frequency of kept monkfish landings on observed trips, 2018.



Source: Observer database, accessed April 2022.

Possible reasons for discards and changes over time

PDT members have heard from fishermen that market demand and low monkfish prices contribute to discards in the SFMA, especially in the dredge fishery. The recent increase in discards in the southern area was likely due to the strong monkfish 2015-year class and an increase in dredge effort where fishermen spent more time searching for higher quality scallops without nematodes that were present in the area at that time (NMFS 2020).

Based on the observer program data, the main reasons for discarding monkfish in the scallop dredge fishery based on total monkfish weight discarded include: no market (reason not specified or won't keep until the end of the trip), monkfish too small (regulations prohibit retaining), regulations prohibit any retention, unknown discard reason, no quota available, and quota filled (Table 10). Additional comments in the observer database include only being able to retain so many fish and were getting a better price for fluke. Main reasons for discarding in the gillnet fishery are poor quality (reason not specified or damage from other species, parasites, or gear), and no market for small monkfish. Monkfish were discarded in bottom trawl gear because monkfish were too small (regulations prohibit retaining or no market for small monkfish), no market without reason specified, quota filled, regulations prohibit any retention, and retaining certain size for a better price.

The PDT can ask the Advisory Panel for additional information on this when completing the fishery performance report.

Table 10. Total hail weight (lb) for each discard reason by gear type in the southern fishery management area, 2018.

Reasons for discarding	Hail Weight (lb) by Gear Type		
	Scallop Dredge	Gillnet	Bottom Trawl
<i>No market, reason not specified</i>	473,173		16,774
<i>No market, won't keep until trip end</i>	19,874		
<i>Regulations prohibit retention, too small</i>	19,110	657	29,138
<i>No market, too small</i>	15,976	1,303	12,526
<i>Regulations prohibit any retention</i>	14,798		11,884
<i>Discarded, unknown reason</i>	10,110		8
<i>Regulations prohibit retention, no quota in area</i>	5,564		
<i>Regulations prohibit retention, quota filled</i>	3,123	390	18,258
<i>Retaining only certain size better price trip quota in effect</i>	1,071	120	7,220
<i>Poor quality, reason not specified</i>	841	13,057	324
<i>Poor quality, sandflea or shark or seal damage or grey meat/parasites observed</i>		3,540	7
<i>Poor quality, gear damage</i>	266	1,071	9
<i>Regulations prohibit retention, reason not specified</i>	183	53	
<i>No market, quota filled</i>	109		193
<i>Misc. discard reasons</i>	45		904
TOTAL	564,243	20,192	97,244

Source: Observer data, accessed April 2022.

Note: Southern fishery management area defined by the following NOAA Statistical Areas: 525, 526, 533, 534, 537, 538, 539, 541, 542, 543, 552, 562, 611, 612, 613, 614, 615, 616, 621, 622, 623, 624, 625, 626, 627, 628, 629, 631, 632, 633, 634, 635, 636, 637, 638, 702, 704.

The following gear types were excluded from the table because only relatively minor amounts of monkfish were discarded: scallop beam trawl, hydraulic clam dredge, drift-sink fish gillnet, bottom longline, lobster offshore NK pot/trap, bottom otter trawl scallop, bottom otter trawl shrimp, bottom otter twin trawl.

"Misc. discard reasons" account for relatively minor amounts of monkfish discards and include: no market but retained by vessel for alternate program; discarded by observer, intended kept catch; no market, but retained for observer for scientific purposes; discarded, other.

What are the current discard requirements?

Vessels are required to discard monkfish once possession limits are reached, which results in regulatory discards. There are no limits on the amount of monkfish that can be discarded.

What possible approaches could the Monkfish FMP have to reduce monkfish discards?

Potential Approach A: Allow vessels get charged Days-at-Sea based on landings

Currently, monkfish-only DAS trips using gillnet gear under 15 hours are rounded up and charged 15 hours. Because 1 DAS = 24-hour gillnet trip, a 6-hour trip = 0.625 DAS (15/24 hours). Trips > 15 hours are charged actual time; an 18-hour trip = 0.75 DAS for example (18/24 hours). Trips using trawl gear are charged actual time; a 6-hour trawl trip = 0.25 DAS. Related, NE multispecies DAS are charged in 24-hour increments. There is a [DAS adjustment for trip limit overage](#), meaning a limited access monkfish vessel may land up to one additional day's trip limit worth of monkfish than would otherwise be allowed based on the vessel's actual monkfish DAS usage for that trip. Thus, if a vessel has two trip limits' worth of monkfish on board but only declared one DAS, the provision permits the vessel to be charged for an additional DAS to land two trips' worth of monkfish.

- 1) The Monkfish FMP could allow vessels to get charged for DAS at the time of landing that corresponds with the actual amount of time at sea (like the Research Set-Aside program). This would allow vessels fishing < 15 hours to be charged the actual time versus the time being rounded up to 15 hours. This could also allow for vessels fishing more than two trip limits' worth of monkfish to be charged and land the corresponding DAS (beyond the current provision allowing for one additional day's worth of monkfish).
- 2) The FMP could allow the DAS clock to be started earlier before sailing to proactively allow for additional days' worth of monkfish. This would be a more proactive approach than what the current regulations allow under a trip limit overage and could potentially allow for more than two trip limits' worth of monkfish to be landed. The additional days' worth of monkfish must be declared using either VMS prior to crossing the demarcation line returning to port or through the call-in system 1 hour prior to landing.

Pros: This would make the fishery operate more efficiently by maximizing the trip if a daily trip limit is exceeded while out at sea and would also provide a conservation benefit with reduced discards (if DAS limits are constraining harvest); would allow for additional flexibility since [FW12](#) implemented in 2020 required vessels submit a trip declaration <1 hour prior to leaving port using the IVR system (to match the current regulations for vessels with VMS units).

Cons: Gillnet effort is largely about soak time versus time spent at sea, thus, it is uncertain how the additional DAS flexibility will improve fishing operations and reduce discards (unclear if there is a change in fishing behavior change when on an 'overage trip' versus a 'normal' trip, assuming both occur on a single day in real time); if the DAS clock starts early and a vessel is charged multiple DAS but does not end up using the full time then unused DAS could be wasted; could add additional complexity for enforcement of additional provisions.

Potential Approach B: Leasing of monkfish DAS

Leasing of monkfish-only DAS could help reduce discards and can be done through a framework action. Currently, monk-only DAS may not be leased. A vessel with monkfish-only DAS may choose to lease in NE multispecies Category A DAS, however, the leased DAS will then be tied to the monkfish DAS (i.e., no longer a monkfish-only DAS). DAS leasing by area could also be developed to help incentivize vessels to move away from areas of high interaction with stocks of concern.

Pros: Would help improve efficiency for vessels that have multiple vessels and permits for the same fishery.

Cons: Would need to create a DAS trading scheme within a narrow range of vessel size given DAS leasing could result in a change of fishing power, inadvertently increasing total effort, e.g., create a DAS equivalent whereby one DAS from a larger vessel would be leased as 1.5 DAS for a smaller

vessel. Could also reduce the value of monkfish DAS if scallopers lease their monkfish DAS (monkfish DAS are less valuable than scallop DAS).

Potential Approach C: Gear modifications

Requiring raised footrope in the trawl fishery could be a gear modification to consider. Research on this gear modification has already been conducted in New England fisheries. The PDT can compile this research if that is the will of the Committee. Observer data with and without raised footrope gear are likely available, thus, could be used to better understand any changes to monkfish bycatch.

Pros: Could help reduce bycatch of monkfish and other species.

Cons: Could be an added expense to the fishing industry; unclear how gear modifications would change the monkfish catch rate and if there would be any measurable impact on regulatory monkfish discarding.

Potential Approach D: Increase monkfish trip limits

Determine whether monkfish discards could be turned into landings by increasing the monkfish trip possession limits. Trip limits could be increased for monkfish trips on a scallop DAS where dredge discards are high for example. The reason for discarding in other gear types like trawl gear is unclear.

Pros: If trip limits are constraining monkfish landings, then an increase in trip limits could reduce discards; could help provide flexibility for fishermen to retain more of the monkfish they catch, thus, discarding less and avoiding unnecessary waste of monkfish as discards.

Cons: Likely ineffective at reducing monkfish discards given discarding is primarily due to low monkfish ex-vessel prices, especially relative to scallop prices where dredge discards account for most monkfish discards. The ability to discard monkfish is a valuable regulation in the scallop dredge fishery. If the Committee desires, the PDT could analyze the observer data for the reason for discards in the trawl and dredge gears (both gears account for most discards) and analyze available economic data to further evaluate if increasing monkfish trip limits would turn more discards into landings.

Potential Approach E: Increase monkfish incidental landing limit

Determine whether monkfish discards could be turned into landings by increasing the monkfish incidental possession limit. [Incidental catch limits](#) vary by permit category, area, gear, and DAS use. For example, while on a Northeast Multispecies DAS trawling in the SFMA, vessels with a C, D, or H permit category may land 300 lb tail weight/DAS. Meanwhile, if vessels are on a scallop DAS or in the scallop access area program, vessels may land 300 lb tail weight/DAS for every gear in either the SFMA or the NFMA. There are also incidental possession limits for vessels not under a DAS program and for vessels that also hold permits in other fisheries, though not under a DAS program.

Pros: Could help provide additional operational flexibility for fishermen to retain more of the monkfish they catch, thus, discarding less.

Cons: Likely ineffective at reducing monkfish discards given discarding is primarily due to low monkfish ex-vessel prices.

5.0 AFFECTED ENVIRONMENT

The Affected Environment is described in this action based on valued ecosystem components (VECs), including target species, non-target species, predator species, physical environment and Essential Fish Habitat (EFH), protected resources, and human communities. VECs represent the resources, areas and human communities that may be affected by the alternatives under consideration in this amendment. VECs are the focus since they are the “place” where the impacts of management actions occur.

[NOTE: To be developed. See Frameworks 10 and 12 for earlier information. See DRAFT fishery performance report for latest information.]

6.0 REFERENCES

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