

MAFMC Monkfish Report

Dr. Rachel Feeney

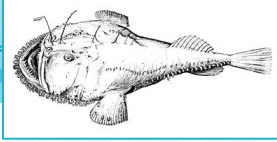
New England Fishery Management Council

December 14, 2022



New England
Fishery Management Council

Monkfish report plan



Framework Adjustment 13 (FY 2023-2025 specifications, other measures)

- Fishery overview
- Scope of FW13
- SSC recommendations for OFL, ABC, discard deduction
- Alternatives and impact analysis
- NEFMC decisions on December 7 including remanding ABCs to SSC
- Joint decision process with MAFMC
- Timeline implications

Monkfish fishery

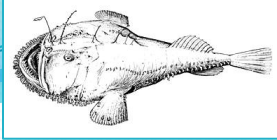


Table 16. Fishing vessels with federal monkfish permits, with number of vessels landing over 1 lb and 10,000 lb, FY 2012-2021.

Permit Category	2012			2015			2018			2021		
	All	>1lb	>10K lb	All	>1lb	>10K lb	All	>1lb	>10K lb	All	>1lb	>10K lb
A	22	6	4	22	4	*	20	*	*	18	8	6
B	44	9	5	42	4	*	38	6	4	38	19	15
C	295	148	60	267	128	30	268	110	30	255	114	42
D	292	94	28	242	59	10	226	77	18	229	115	50
F	9	6	4	17	9	*	17	14	4	14	13	0
H	8	5	4	8	6	5	7	6	3	8	*	0
Total LA	670	268	105	598	210	51	576	214	60	562	270	113
E	1,743	338	19	1,578	247	8	1,525	247	20	1,485	176	7

Source: GARFO Permit database and DMIS as of April 2022.

Monkfish fishery

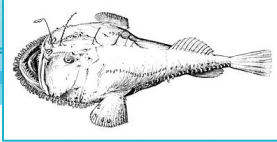
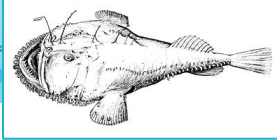


Table 17. Proportion of monkfish landings by permit category to total monkfish landings in the year, FY 2012-2021.

Permit Category	2012	2015	2018	2021
A and B	15%	13%	16%	12%
C and D	75%	80%	77%	83%
F	2%	2%	1%	>1%
H	1%	1%	1%	0%
E	7%	5%	5%	4%
All	100%	100%	100%	100%

Source: GARFO Permit database and DMIS as of April 2022.

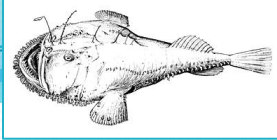


Monkfish fishery

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A	22	6	4	22	4	*	20	*	*	18	8	6
B	44	9	5	42	4	*	38	6	4	38	19	15
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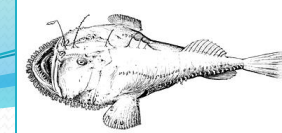


Monkfish fishery

Table 33. Monkfish landings by state, CY 2012 – 2021.

STATE	Monkfish landings (mt)											Total	
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021			
ME	488	115	257	345	243	178	219	170	411	442	4,062	4%	
NH	57	86	74	38	50	68	123	119	175	213	1,463	2%	
MA	5,247	3,812	4,972	4,303	4,227	4,581	5,067	5,943	6,306	6,057	55,961	61%	
RI	1,303	1,598	2,122	1,495	1,488	1,819	1,648	1,560	1,412	2,306	11,441	13%	
CT	347	305	457	547	724	380	464	275	246	324	2,123	2%	
NY	841	766	1,059	1,183	773	748	827	1,193	829	1,005	5,996	7%	
NJ	1,003	1,418	1,676	1,389	1,351	1,740	1,250	1,335	1,229	1,205	7,946	9%	
DE	0										0	0%	
MD	51	83	98	69	86	78	36	51	32	19	285	0%	
VA	412	402	638	567	413	352	259	218	88	142	1,748	2%	
NC	10	27	10	3	38	47	56	33	36	20	244	0%	
Total	9,758	8,612	11,365	9,940	9,394	9,992	9,949	10,897	10,765	11,735	91,271	100%	

Source: ACCSP database, accessed April 2022.



Monkfish fishery

Table 31. Fishing revenue (unadjusted for inflation) and vessels in top Monkfish ports by revenue, calendar years 2010 – 2019.

Port	Average revenue, 2010-2019			Total active monkfish vessels, 2010-2019
	All fisheries	Monkfish only	% Monkfish	
New Bedford, MA	\$368,627,420	\$4,240,639	1%	479
Gloucester, MA	\$48,514,248	\$2,924,748	6%	190
Boston, MA	\$15,999,540	\$1,809,192	11%	44
Pt. Judith, RI	\$47,753,305	\$1,604,760	3%	214
Long Beach, NJ	\$26,124,402	\$1,459,529	6%	74
Chatham, MA	\$11,764,003	\$817,736	7%	57
Little Compton, RI	\$2,398,385	\$802,384	33%	31
Montauk, NY	\$17,192,554	\$726,690	4%	116
Hampton Bay, NY	\$5,746,477	\$578,235	10%	64
Portland, ME	\$24,798,943	\$559,798	2%	71
Other (n=146)	\$368,846,866	\$3,750,338	1%	
Total	\$937,766,141	\$19,274,049	2%	

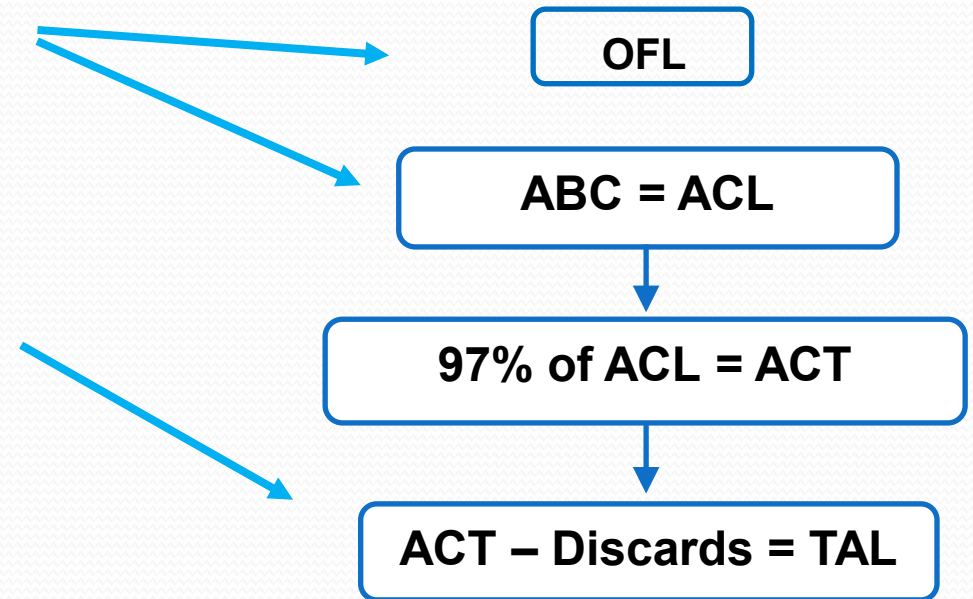
Source: NMFS Commercial Fisheries Database (AA data), accessed April 2022.

Note: "Active" defined as landing > 1 lb of monkfish.

Framework Adjustment 13 scope

Actions:

1. Overfishing limit and acceptable biological catch for North and South for FY 2023-2025 and other specifications (e.g., discard deduction, total allowable landings)
2. Effort controls (Days-At-Sea, possession limits)
3. Gillnet mesh size



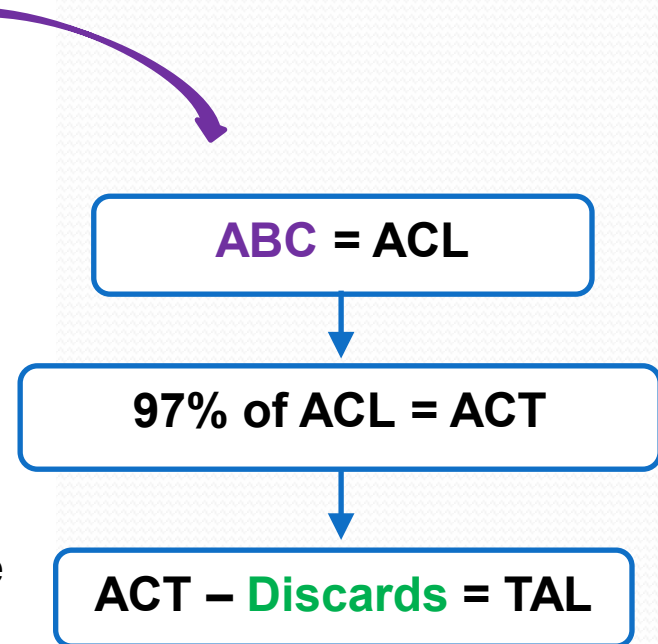
SSC – Terms of Reference

Overfishing Limits and Acceptable Biological Catches

1. Review information from the September 2022 management track assessment for monkfish and provided by the Monkfish Plan Development Team (PDT).
2. Comment on the conclusion of the assessment and peer review that the stock status of monkfish is unknown and the applicability of the *NOAA Fisheries Procedural Guidance for Changing Assessed Stock Status from Known to Unknown*.
3. Recommend overfishing limits (OFLs) and **acceptable biological catches** (ABCs) for monkfish in both the northern and southern management areas for fishing years (FY) 2023-2025 that will prevent overfishing, meet the objectives of the fishery management plan, and consider the Council's Risk Policy Statement.

Discard Deduction Approach

1. Review analyses provided by the Monkfish PDT of alternate approaches for setting the discard deduction from the annual catch target when setting specifications.
2. Recommend an approach for setting the **discard deduction**, commenting on the PDT's recommendations.



SSC recommendations – Overfishing Limit

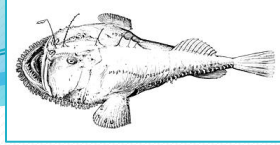


Table 1. Potential monkfish FY 2023-2025 OFLs for SSC consideration.

Management Area	Status Quo OFL	PDT recommended OFL
Northern	17,805 mt	undetermined
Southern	23,204 mt	undetermined

SSC recommended OFLs be undetermined

- Consistent with the unknown stock status conclusion of last three assessments.
- OFL cannot be calculated without absolute biomass and a fishing mortality rate.
- Status quo OFLs are based on an assessment that was invalidated in 2016.

SSC recommendations – Acceptable Biological Catch

- PDT presented two approaches

Ismooth approach (from 2016, 2019, 2022 assessments)

*Trawl survey multiplier * latest 3-year average catch = catch advice = ABC*

North: $0.829 * 6,265 \text{ mt} = 5,360 \text{ mt}$

South: $0.646 * 5,655 \text{ mt} = 3,653 \text{ mt}$

Recent ABC approach (discussed at 2022 peer review, used in FY 2020-22)

*Trawl survey multiplier * latest ABC = catch advice = ABC*

North: $0.829 * 8,098 \text{ mt} = 6,713 \text{ mt}$

South: $0.646 * 12,316 \text{ mt} = 7,956 \text{ mt}$

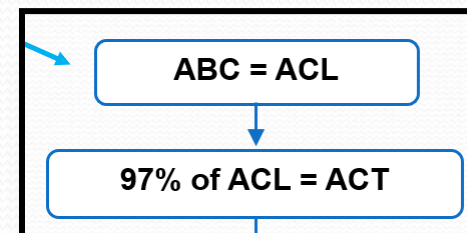
- SSC recommendation

Ismooth approach

*Trawl survey multiplier * latest 3-year average catch = catch advice = ACT*

North: $0.829 * 6,265 \text{ mt} = 5,360 \text{ mt} = \text{ACT}$

South: $0.646 * 5,655 \text{ mt} = 3,653 \text{ mt} = \text{ACT}$



North ABC = 5,526 mt
South ABC = 3,766 mt

SSC recommendations – Acceptable Biological Catch

- Rationale for ABC recommendations
 - Catch advice from the last three assessments used the Ismooth index-based approach. Application of multipliers to catch is more consistent with Ismooth's design.
 - The 2022 management track peer review did not reach consensus advice on whether the Ismooth multipliers should be applied to existing ABC or to recent catch.
 - Recent ABCs were propagated from a rejected assessment.
 - Recent catches have been below ABCs due to shifts in scallop fishing distribution (discards), low monkfish prices, increased fishing costs, etc.
 - Recommended application of multiplier to catch to be the ACT, with adjustment based on management uncertainty to calculate ABC.
 - Recommended ABCs are expected to prevent overfishing.

SSC recommendations – discard deduction

- Support the PDT recommendation to change the discard deduction approach to use: 10-year moving median of discards.
- Of the alternatives analyzed, this may best optimize the accuracy of the expected discards and the stability of the discard deduction.
- Explore the use of recruitment data as a predictor of future discards.
- Further evaluate the accuracy of discard data for fisheries that catch monkfish.

Alternatives: Action 1 – 2023-2025 specifications

Alternative 1: No Action. No rollover/default...Zero ACL...100% payback of any catch overage in 2025.

Alternative 2: Status Quo. Not viable – exceeds SSC ABC

Alternatives: Action 1 – 2023-2025 specifications

Alternative 3: Update. Based on 2022 assessment and SSC recommendations. Would continue to be in place until a subsequent action replaces them, creating default measures going forward.

	North		South	
	mt	% change	mt	% change
OFL	undetermined	n/a	undetermined	n/a
ABC = ACL	5,526.0	-34%	3,766.0	-69%
ACT (97% of ACL)	5,360.2	-34%	3,653.0	-69%
Expected Discards	728.5	-51%	2,204.5	-64%
Federal TAL (ACT – discards)	4,631.7	-30%	1,448.5	-75%

Relative to FY 2021 performance (2022 landings on similar trajectory):

- In North: 1,447 mt (21%) reduction in catch, 584 mt (11%) reduction in landings.
- In South: 1,532 mt (29%) reduction in catch, 520 mt (26%) reduction in landings.

Alternatives: Action 2 – Effort controls

Committee input on Aug. 30 after hearing news that survey indices have declined and catch reductions are likely:

If No Action is unlikely to keep fishery within new ACL, PDT to make alternatives that lower DAS and/or possession limits.

PDT considerations:

- FY 2021 landings ~500-600 mt higher relative to new TALs (based on SSC recommendation).
- Lowering DAS has greater potential to reduce catch (fewer, shorter trips) than lowering possession limits (may increase discarding).
 - North: most monkfish landings on trips NOT using monkfish DAS. PDT focused on reducing incidental possession limits.
 - South: most monkfish landings on trips using monkfish DAS.

North landings

Table 25. FY 2019 & 2021 average landings, vessels, trips by Plan code.

**NO
monkfish DAS**

Declaration/ Plan Code	Program Code Description	DAS used	Whole weight, live lb (mt in parentheses)	# of Vessels	# of Trips
		NORTH			
Monkfish	<i>Monkfish Northern Management Area Common Pool Vessel Trip</i>	Monkfish and Northeast Multispecies	C	C	C
	<i>Monkfish Northern Management Area Sector Vessel Trip</i>	Monkfish and Northeast Multispecies	1,347,155 (611)	21	222
	<i>Monkfish Northern Management Area Monkfish-Only Vessel Trip</i>	Monkfish	26,851 (12)	6	20
Northeast Multispecies	<i>Multispecies Common Pool Vessel Trip</i>	Northeast Multispecies	55,255 (25)	5	100
	<i>Multispecies Sector Vessel Trip</i>	Northeast Multispecies	8,289,963 (3,760)	99	2,992
Scallop	<i>Special Access Area</i>	Scallop	43,979 (20)	20	28
	<i>Limited Access General Category</i>	Scallop	17,145 (8)	19	223
	<i>Limited Access</i>	Scallop	12,611 (6)	7	11
Other	<i>Herring; undeclared; surfclam, ocean quahog, mussel; squid, mackerel, butterfish</i>	-	61,447 (28)	22	469
Declared out of Fishery (DOF)		-	10,820 (5)	11	32
NORTH Landings Total			> 9,865,226 (4,475)		

South landings

Table 25. FY 2019 & 2021 average landings, vessels, trips by Plan code.

NO monkfish DAS

		SOUTH			
Monkfish	<i>Monkfish Southern Management Area Common Pool Vessel Trip</i>	Monkfish and Northeast Multispecies	62,203 (28)	5	25
	<i>Monkfish Southern Management Area Sector Vessel Trip</i>	Monkfish and Northeast Multispecies	493,536 (224)	15	178
	<i>Monkfish Southern Management Area Monkfish-Only Vessel Trip</i>	Monkfish	3,200,563 (1,452)	50	1,183
Northeast Multispecies	<i>Multispecies Common Pool Vessel Trip</i>	Northeast Multispecies	50,555 (23)	14	145
	<i>Multispecies Sector Vessel Trip</i>	Northeast Multispecies	100,963 (46)	27	482
Scallop	<i>Special Access Area</i>	Scallop	168,319 (76)	91	210
	<i>Limited Access General Category</i>	Scallop	87,994 (40)	56	986
	<i>Limited Access</i>	Scallop	145,156 (66)	69	106
Other	<i>Herring, undeclared, surfclam/ocean quahog/mussel and squid/mackerel/butterfish</i>	-	575,484 (261)	243	2,195
DOF		-	293,271 (133)	152	2,094
SOUTH Landings Total			5,178,044 (2,349)		



Alternatives: Action 2 – Effort controls

Alternative 1: No Action

- DAS Allocation unchanged: 46 DAS per LA permit (45.2 after RSA deduction), 37 DAS may be used in the South.
- Possession limits unchanged. In North, monkfish C and D permits have incidental limit when on a groundfish DAS (900/750 lb), unlimited monkfish while on monkfish and groundfish DAS.

Alternatives: Action 2 – Effort controls

Alternative 2: DAS Allocation

Make North and South DAS distinct. Vessels can use up to total allocated in each area. Carryover of 4 DAS still allowed. RSA deduction to be subtracted.

NFMA DAS options

Option 2A – Set NFMA DAS at 20 DAS.

Option 2B – Set NFMA DAS at 10 DAS.

Option 2C – Set NFMA DAS at 0 DAS.

SFMA DAS options

Option 2A – Set SFMA DAS at 20 DAS.

Option 2B – Set SFMA DAS at 10 DAS.

Option 2C – Set SFMA DAS at 0 DAS.

Alternatives: Action 2 – Effort controls

Alternative 3: North Incidental Possession Limits (while using a NE Mult DAS)

Option 3A – Reduce NFMA incidental possession limits by 20%.

Option 3B – Reduce NFMA incidental possession limits by 40%.

Table 5. Potential NFMA Category C and D permit incidental possession limits under consideration.

Permit Category	No Action	Alternative 3	
		Option A (-20%)	Option B (-40%)
C	900 lb tail weight (2,619 lb whole weight)	720 lb tail weight (2,095 lb whole weight)	540 lb tail weight (1,571 lb whole weight)
D	750 lb tail weight (2,183 lb whole weight)	600 lb tail weight (1,746 lb whole weight)	450 lb tail weight (1,310 lb whole weight)

Action 2 – Effort Controls: DAS Analysis

Sect. 6.1.1 – How would effort, landings change?

	% Monk Landings using MNK DAS	# Vessels Impacted by DAS reduction	Total Monkfish Landings (w/ and w/o MNK DAS)	Keep landings within SSC recommended TALs?
NORTH	14%	12-33	8.5 M – 10.2 M lb	Yes, all 3 DAS options
SOUTH	73%	48-78	1.4 M – 4.1 M lb	Only Options B (10 DAS) and C (0 DAS)

Less of an impact by reducing MNK DAS

Greater impact by reducing MNK DAS

(Table 35)



Discards not likely to change substantially; analysis doesn't quantify any changes in discards.

Action 2 – Effort Controls: Incidental Limits Analysis

Sect. 6.1.1 – How would effort change?

(Table 37)

Alternatives	Trips Impacted by Alternatives	Permit Category	Landings (lb, whole weight)	Loss of landings from Alternative 2	Discards (lb, whole weight)
No Action	Landings, discards at full trip limits (≥ 90% trip limits)	C	5,439,572	N/A	135,199 (446,822 lb total in FY21)
		D	2,414,880	N/A	41,256 (295,018 lb total in FY21)
Option A: 20% reduction	Landings, discards at ≥ 80% trip limits	C	4,239,674	-1,199,898	169,000
		D	2,124,839	-290,041	49,244
Option B: 40% reduction	Landings, discards at ≥ 60% trip limits	C	3,658,754	-1,780,818	222,228
		D	1,923,608	-491,272	82,295

- Cannot model changes in fishing behavior
- Unclear degree landings turned into discards
- Likely no change in overall catch (landings + discards)

→ 1.5 M lb reduction

→ 2.3 M lb reduction

Action 2 – combined impacts

Selecting a combination of Alternative 2 and 3 options

- Impacts are largely distinct and additive.
- There are options within each alternative that may achieve the necessary landings reduction.
- Selecting an option under both alternatives.
 - May be seen as fairer, constraining directed and incidental fisheries.
 - May be more restrictive than necessary.

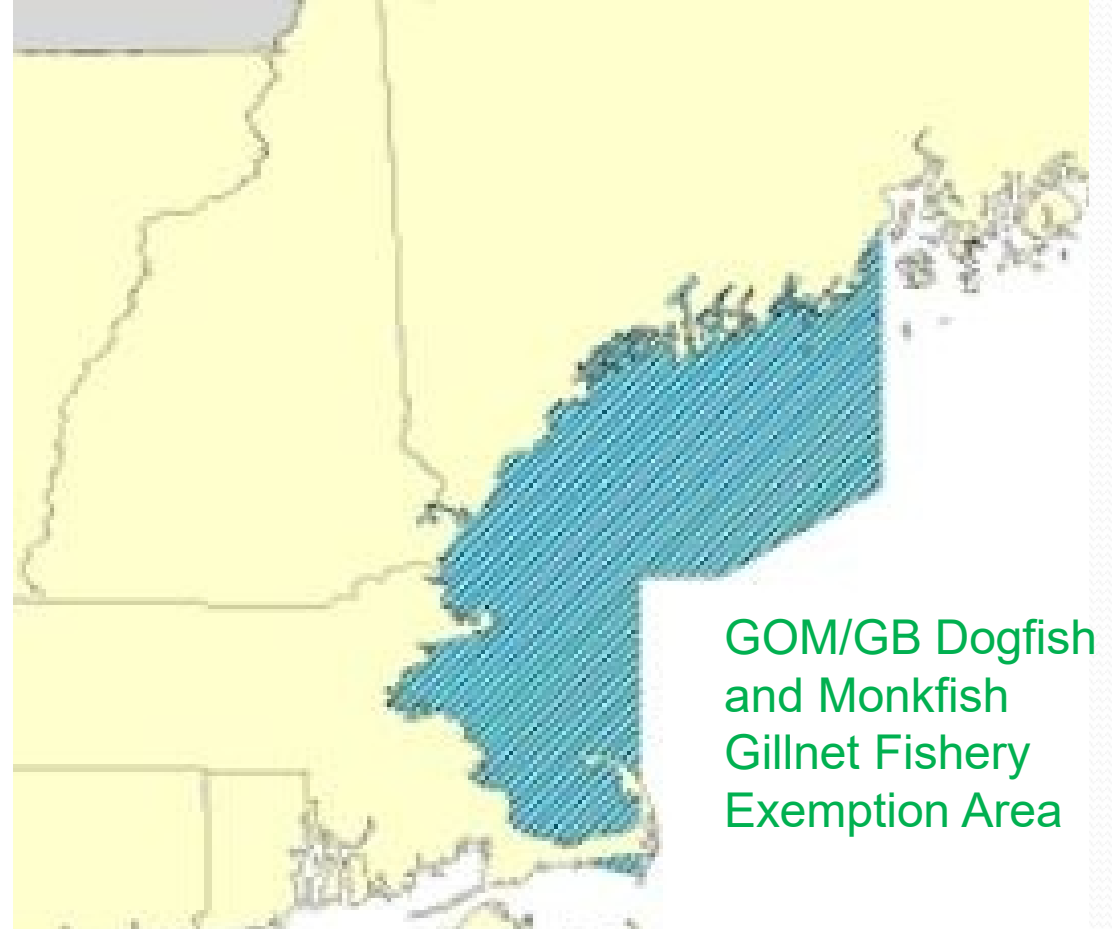
Councils could recommend a combination of options that are less restrictive than those included in the document, e.g., between No Action and Options A of Alternatives 2 and 3.

Alternatives: Action 3 – Gillnet mesh size

Alternative 1: No Action. 10” mesh on a monkfish-only DAS or in GOM/GB Dogfish and Monkfish Gillnet Fishery Exemption Area.

Alternative 2: Increase mesh but delay implementation until FY 2025.

- Option A = 11” minimum
- Option B = 12” minimum



Action 3 – Gillnet mesh analysis

Table 38

- North: No trips used 10” mesh in FY 2018-2021
 - 22-42% of trips (3-5 vessels) used 11” mesh
 - 58-78% of trips used >12” mesh over FY18-21
- South: ~1% of trips used 10” mesh on avg. FY18-21 (0 trips in FY21)
 - 4-6% of trips (4-12 vessels) used 10” or 11” mesh
 - 94-96% of trips used >12” mesh over FY18-21
- Vessels using <12” mesh are mostly on Cape Cod, and in Rhode Island and New York. Most ports are confidential.

NEFMC Decisions – December 7

Action 1 (specifications)

- Suspended criteria for remanding ABCs back to the SSC.
- Accept the SSC ABC recommendations for FY 2023-2025 (for both areas).
- Remand the Monkfish ABCs for both areas back to the SSC to facilitate a transition to the appropriate application of I-Smooth for monkfish stocks. Consider setting ABCs as the **average** of the Ismooth approach and the recent ABC approach.
- Revisit use of Ismooth during the next monkfish assessment.

Ismooth approach (from 2016, 2019, 2022 assessments)

*Trawl survey multiplier * latest 3-year average catch = catch advice*

North: $0.829 * 6,265 \text{ mt} = 5,360 \text{ mt} = \text{ACT}$
South: $0.646 * 5,655 \text{ mt} = 3,653 \text{ mt} = \text{ACT}$

+ 3%

North ABC = 5,526 mt
South ABC = 3,766 mt

Recent ABC approach (used in FY 2020-22)

*Trawl survey multiplier * latest ABC = catch advice = ABC*

North ABC: $0.829 * 8,098 \text{ mt} = 6,713 \text{ mt}$
South ABC: $0.646 * 12,316 \text{ mt} = 7,956 \text{ mt}$

Average
North ABC
6,120 mt

South ABC
5,861 mt

NEFMC Decisions – December 7

Rationale:

- Substantial concern about whether the Ismooth approach is appropriate for setting monkfish catch advice.
- Trawl survey may not be catching monkfish consistently.
- Fishery landings have been low recently due to the pandemic, low prices, trip costs.
- Alternative 1 (ACL = 0) is not practical, Alternative 2 (ABC > SSC recommendation) not viable, and Alternative 3 has substantial economic impacts.
- An average of the Ismooth approach and recent ABC approach for these specifications would help the fishery transition to using Ismooth in the future.

NEFMC Decisions – December 7

- **Action 2 (effort controls):** PDT to make DAS reduction alternatives consistent with a new SSC ABC recommendation; rejected Alternative 3 (Northern incidental possession limits).
 - *Rationale:* Focus on DAS reductions in both areas, less likely to turn landings into discards.
- **Action 3 (gillnet mesh):** selected Alternative 2, Option B (12”) as **preferred**, to be implemented in FY 2026, not FY 2025 as written.
 - *Rationale:* Virtually everyone in the fishery is using 12” already to better optimize monkfish landings and reduce catch of unwanted fish. FY 2026 implementation would lessen economic impacts.

Decision Process – from the monkfish regulations

“Management adjustments made to the Monkfish FMP require **majority approval of each Council** for submission to the Secretary”

“If either the **NEFMC or MAFMC has rejected all options**, then the Regional Administrator **may select any measure** that has not been rejected by both Councils and that meets the Monkfish FMP's goals and objectives.”

“**If the Councils fail** to submit a recommendation to the Regional Administrator by February 1 that meets the goals and objectives of the Monkfish FMP, the Regional Administrator **may implement** through rulemaking in accordance with the Administrative Procedure Act one of the options reviewed and not rejected by either Council, provided the option meets the goals and objectives of the Monkfish FMP, and is consistent with other applicable law.”

Decision Process - timing

- For jointly-managed FMPs, the lead Council customarily takes final action first.
- Possible Final Action Scenarios
 - ~~December 7 NEFMC → December 14 MAFMC~~
 - January 24-26 NEFMC → February 6-9 MAFMC
 - April 18-20 NEFMC → June 6-8 MAFMC
 - A Council(s) call a special meeting
- Potential timeline
 - NEFMC SSC meeting mid-January.
 - NEFMC final action late January.
 - MAFMC final action early February.
 - Framework submission, proposed rule by May 1 likely, implementation by May 1 possible.

Backup Slides

PDT work on potential approaches

Current method for setting the discard deduction

Equation 1: $\text{discard rate} = \text{latest 3-year mean discards} / \text{catch}$

Equation 2: $\text{expected discards} = (\text{ACT} * \text{discard rate})$

Equation 3: $\text{TAL} = \text{ACT} - \text{expected discards}$

- For FY 2020-22, discard rate and expected discards increased due to 2015-year class discards in FY2017-19, mostly in dredge gear, mostly in South.
 - North: discard rate 14% to 18%; discards 1,026 to 1,477 mt
 - South: discard rate 25% to 51%; discards 2,936 to 6,065 mt
- PDT (and earlier contract work) examined
 - 2, 5, and 10-year approaches, discard:catch vs discards, mean vs median, etc....
 - What would the FY 2023-2025 specifications be under each alternative.
 - How would expected and realized discards and TAL compare back to FY 2002?
- Caution: overestimating discards sets TAL unnecessarily low; underestimated discards risks exceeding ACL, triggering future reductions in the ACT for the directed fishery.

Alternatives: Action 1 – 2023-2025 specifications

Alternative 1: No Action. OFL, ABC, ACL, TAL = 0 mt. This FMP does not have default specifications. Accountability measure still in place (pound for pound payback of ACL in 2nd year following an overage).

Alternative 2: Status Quo. Keep current numbers. Above SSC's recommendations, so not approvable per Magnuson-Stevens Act. Discards are 2016-2018 average of monkfish discards: monkfish catch.

	North (mt)	South (mt)
OFL	17,805	23,204
ABC = ACL	8,351	12,316
ACT (97% of ACL)	8,101	11,947
Expected Discards	1,477	6,065
Federal TAL (ACT – discards)	6,624	5,882

Impacts: Action 1 – Specifications

Target Species – Monkfish

- Uncertain impacts due to unknown stock status.
- Alt 1 (ACL = 0). Directed fishery precluded, minimum mortality (moderate +).
- Alt 2 (Status Quo). Fishery higher than SSC recommendations (slight -).
- Alt 3 (update). Fishery within SSC recommendation (less + than Alt 1).

Economic and Social

- Alt 1 (ACL = 0). Directed fishery precluded, no landings, businesses may fail (high -).
- Alt 2 (Status Quo). Fishery would continue as is, for short term. Caution that this may lead to overfishing, needed future catch limit reductions (moderate +).
- Alt 3 (update). Reduced revenue, 16% lower than FY 2021 (-\$1.6M), \$800K profit loss, reduced fishery participation, but less long-term risk (negative).

Impacts: Action 2 – Effort Controls

Target Species – Monkfish

- Alt 1 (46 DAS, 900/750lb). No change in fishing effort, may not prevent exceeding ACLs/ABCs (slight –).
- Alt 2 (DAS ↓). Likely to reduce #/length of trips in the S, minimal effect in N (slight to moderate +).
- Alt 3 (Incl PL ↓). Likely to reduce landings, could increase discards (negligible to slight +).

Economic and Social

- Alt 1. Fishery continues as is; no reduction in revenue/profit; TALs likely to be exceeded (negligible to slight -).
- Alt 2 (DAS ↓). 1-yr losses in profit (\$240k-690k in N, \$531k-1.34M in S); mostly impacts directed fishery (negative).
- Alt 3 (Incl PL ↓). ~\$500-740k 1-yr loss in profit; 43-54 vessels impacted; loss in crew earnings; mostly impacts incidental landings (negative).

Impacts: Action 3 – Gillnet Mesh

Target Species – Monkfish

- Alt 1 (10"). Any discarding of small monkfish would continue at 100% assumed mortality rate (slight -).
- Alt 2 (11" or 12"). Catch of smaller monkfish could be reduced, more so with 12" (slight +).

Economic and Social

- Alt 1 (10"). No additional costs, continue to have flexibility (negligible to slight +).
- Alt 2 (11" or 12"). No vessels used 10" gillnets in 2021. Cost to replace nets is up to ~\$235K for fleet, but two year-delay allows time to adjust, mitigating impacts (slight – to slight +).