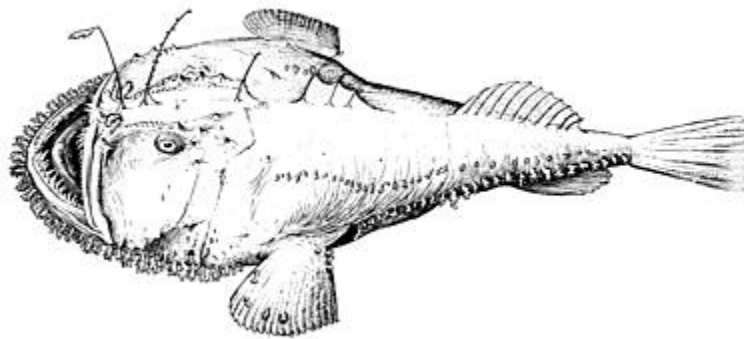


# Monkfish Fishery Management Plan

## Supplemental Information Report (SIR)

Fishing Years 2020-2022 Specifications



**DRAFT**

**September 20, 2019**

Prepared by the  
New England Fishery Management Council  
In consultation with the  
National Marine Fisheries Service



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***Cover image***

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## Supplemental Information Report TO THE Monkfish FISHERY MANAGEMENT PLAN

- Proposed Action:** Specifications for FYs 2020-2022
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- Abstract:** The New England Fishery Management Council, in consultation with NOAA's National Marine Fisheries Service, has prepared Framework Adjustment ??? to the ??? Fishery Management Plan, which includes a final environmental assessment that presents the range of alternatives to achieve the goals and objectives of the action. The proposed action focuses on ...???. The document describes the affected environment and valued ecosystem components and analyzes the impacts of the alternatives on both. It addresses the requirements of the National Environmental Policy Act, the Magnuson Stevens Fishery Conservation and Management Act, the Regulatory Flexibility Act, and other applicable laws.

# 1.0 TABLE OF CONTENTS

1.0	TABLE OF CONTENTS.....	4
1.1	Tables.....	5
1.2	Figures.....	5
1.3	Maps.....	5
1.4	Acronyms.....	5
2.0	PURPOSE OF THIS SUPPLEMENTAL INFORMATION REPORT (SIR).....	8
3.0	PROPOSED NEW ACTION.....	9
4.0	BACKGROUND OF ORIGINAL ACTION.....	12
5.0	NEW INFORMATION AND CIRCUMSTANCES.....	13
6.0	NEPA COMPLIANCES AND SUPPORTING ANALYSIS.....	19
7.0	CONCLUSION.....	21
8.0	RELATIONSHIP TO APPLICABLE LAWS.....	<b>ERROR! BOOKMARK NOT DEFINED.</b>
8.1	Magnuson-Stevens Fishery Conservation and Management Act – National Standards.....	<b>Error! Bookmark not defined.</b>
8.2	National Environmental Policy Act.....	<b>Error! Bookmark not defined.</b>
8.2.1	Finding of No Significant Impact (FONSI).....	<b>Error! Bookmark not defined.</b>
8.2.2	Environmental Assessment.....	<b>Error! Bookmark not defined.</b>
8.2.3	Point of Contact.....	<b>Error! Bookmark not defined.</b>
8.2.4	Agencies Consulted.....	<b>Error! Bookmark not defined.</b>
8.2.5	List of Preparers.....	<b>Error! Bookmark not defined.</b>
8.2.6	Opportunity for Public Comment.....	<b>Error! Bookmark not defined.</b>
8.2.7	Document Distribution.....	<b>Error! Bookmark not defined.</b>
8.3	Marine Mammal Protection Act (MMPA).....	<b>Error! Bookmark not defined.</b>
8.4	Endangered Species Act (ESA).....	<b>Error! Bookmark not defined.</b>
8.5	Administrative Procedure Act (APA).....	<b>Error! Bookmark not defined.</b>
8.6	Paperwork Reduction Act.....	<b>Error! Bookmark not defined.</b>
8.7	Coastal Zone Management Act (CZMA).....	<b>Error! Bookmark not defined.</b>
8.8	Information Quality Act (IQA).....	<b>Error! Bookmark not defined.</b>
8.9	Executive Order 13158 (Marine Protected Areas).....	<b>Error! Bookmark not defined.</b>
8.10	Executive Order 13132 (Federalism).....	<b>Error! Bookmark not defined.</b>
8.11	Executive Order 12898 (Environmental Justice).....	<b>Error! Bookmark not defined.</b>
8.12	Regulatory Impact Review.....	<b>Error! Bookmark not defined.</b>
8.12.1	Regulatory Flexibility Act – Initial Regulatory Flexibility Analysis.....	<b>Error! Bookmark not defined.</b>

8.12.2	E.O. 12866 (Regulatory Planning and Review).....	<b>Error! Bookmark not defined.</b>
9.0	LIST OF PREPARERS AND AGENCIES CONSULTED.....	<b>ERROR! BOOKMARK NOT DEFINED.</b>
10.0	REFERENCES .....	<b>ERROR! BOOKMARK NOT DEFINED.</b>
11.0	INDEX .....	<b>ERROR! BOOKMARK NOT DEFINED.</b>

## 1.1 TABLES

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## 1.2 FIGURES

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## 1.3 MAPS

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## 1.4 ACRONYMS

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
AIM	An Index Method of Analysis
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
ANPR	Advanced Notice of Proposed Rulemaking
AP	Advisory Panel
APA	Administrative Procedures Act
ASMFC	Atlantic States Marine Fisheries Commission
B <sub>MSY</sub>	Biomass that would allow for catches equal to Maximum Sustainable Yield when fished at the overfishing threshold (FMSY)
BiOp, BO	Biological Opinion, a result of a review of potential effects of a fishery on Protected Resource species
CAI	Closed Area I
CAII	Closed Area II
CEQ	Council on Environmental Quality
CPUE	Catch per unit of effort
DAM	Dynamic Area Management
DAS	Day(s)-at-sea
DFO	Department of Fisheries and Oceans (Canada)
DMF	Division of Marine Fisheries (Massachusetts)
DMR	Department of Marine Resources (Maine)
DPWG	Data Poor Working Group
DSEIS	Draft Supplemental Environmental Impact Statement

EA	Environmental Assessment
EEZ	Exclusive economic zone
EFH	Essential fish habitat
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
F	Fishing mortality rate
FEIS	Final Environmental Impact Statement
FMP	Fishery management plan
FW	Framework
FY	Fishing year
GARFO	Greater Atlantic Regional Fisheries Office
GARM	Groundfish Assessment Review Meeting
GB	Georges Bank
GIS	Geographic Information System
GOM	Gulf of Maine
GRT	Gross registered tons/tonnage
HAPC	Habitat area of particular concern
HPTRP	Harbor Porpoise Take Reduction Plan
IFM	Industry-funded monitoring
IFQ	Individual fishing quota
ITQ	Individual transferable quota
IVR	Interactive voice response reporting system
IWC	International Whaling Commission
LOA	Letter of authorization
MA	Mid-Atlantic
MAFAC	Marine Fisheries Advisory Committee
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MPA	Marine protected area
MRI	Moratorium Right Identifier
MRIP	Marine Recreational Information Program
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSY	Maximum Sustainable Yield
NEAMAP	Northeast Area Monitoring and Assessment Program
NEFMC	New England Fishery Management Council
NEFOP	Northeast Fisheries Observer Program
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NLSA	Nantucket Lightship closed area
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OBDBS	Observer database system
OLE	Office for Law Enforcement (NMFS)
OY	Optimum yield
PBR	Potential Biological Removal
PDT	Plan Development Team
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Act
RMA	Regulated Mesh Area
RPA	Reasonable and Prudent Alternatives

SA	Statistical Area
SAFE	Stock Assessment and Fishery Evaluation
SAP	Special Access Program
SARC	Stock Assessment Review Committee
SAS	Stock Assessment Subcommittee
SAW	Stock Assessment Workshop
SBNMS	Stellwagen Bank National Marine Sanctuary
SIA	Social Impact Assessment
SNE	Southern New England
SNE/MA	Southern New England-Mid-Atlantic
SSB	Spawning stock biomass
SSC	Scientific and Statistical Committee
TAL	Total allowable landings
TED	Turtle excluder device
TEWG	Technical Expert Working Group
TMS	Ten minute square
TRAC	Trans boundary Resources Assessment Committee
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
VMS	Vessel monitoring system
VEC	Valued ecosystem component
VPA	Virtual population analysis
VTR	Vessel trip report
WGOM	Western Gulf of Maine
YPR	Yield per recruit

## 2.0 PURPOSE OF THIS SUPPLEMENTAL INFORMATION REPORT (SIR)

The purpose of this SIR is to determine if the proposed modifications to the FY 2020-2022 monkfish specifications will require a supplement to the Environmental Assessment (EA) that was prepared for Framework Adjustment 10 (NEFMC 2017) to Monkfish Fishery Management Plan (FMP), as required by the National Environmental Policy Act (NEPA).

In making a determination on the need for additional analysis under the National Environmental Policy Act (NEPA), the NEFMC and NMFS have considered and have been guided by the Council on Environmental Quality (CEQ) NEPA regulations and applicable case law. The CEQ's regulations state that "[a]gencies shall prepare supplements to either draft or final environmental impact statements if: (i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 Code of Federal Regulations (C.F.R.) § 1502.09(c) (emphasis added). In addition, we have considered the CEQ's "significance" criteria at 40 C.F.R. § 1508.27 to determine whether any new circumstances or information are "significant," which could require a new environmental assessment. Any significant new circumstances or information that are relevant to environmental concerns and that have a bearing on the proposed action or its impacts are also considered in making this determination about whether a new or supplemental EA is needed.



### 3.0 PROPOSED NEW ACTION

The proposed action is in response to an assessment update that estimates changes in the stock biomass of northern and southern monkfish stocks. The “plan b” assessment updates the information that is used to determine the catch advice for each stock. The assessment produces a multiplier that is applied to the existing ABC to provide future catch advice for each stock.

The proposed specifications for the 2020-2022 fishing years include adjustments to the northern and southern red hake specifications to respond to new assessment data. The assessment recommended an increase in the northern fishery management area (NFMA) monkfish ABC by up to 20%; no change was recommended for the southern fishery management area (SFMA) ABC (Figure 7). The survey trend methodology for adjusting catch advice calculates the proportional rate of change in smoothed survey indices (average of fall and spring NEFSC surveys) over the most recent 3 years and uses the rate of change to revise catch limits.

The PDT recommended an increase of 10% in the NFMA ABC. This is more conservative than the adjustment factor coming from the Plan B assessment (1.2) because of uncertainty about how long the 2015 year class will continue to influence biomass in the next 3 fishing years, the overall trend in the survey indices, and the recent performance of the fishery, which has only been achieving the TAL since FY2016. The PDT recommended a status quo ABC in the SFMA because the adjustment factor coming from the assessment (1.0) supported no change in the ABC. Landings in the SFMA have been below the TAL in recent years.

The overfishing limit (OFL) is defined as the product of the fishing mortality threshold ( $F_{max}$ ) and the current estimate of exploitable biomass. Since the age-based analyses were not updated in the 2019 operational assessment, the fishing mortality threshold was not recalculated. After the 2013 operational assessment, the OFL was revised in Framework 8, however, the ABCs were not revised at that time. The OFLs for the Northern and Southern Fishery Management Areas were 17,805 mt and 23,204 mt, respectively.

Revised specifications in the NFMA and status quo ABC in the SFMA would result in ABCs of 8,351 mt and 12,316 mt for the Northern and Southern Fishery Management Areas, respectively (Figure 1 and Figure 2). These were derived from applying the proportional rate of change based on the Plan B assessment to the status quo ABCs from FW10 (7,592 mt in the NFMA, 12,316 mt in the SFMA).

Discards are calculated from the assessment data using the most recent three year moving average of the ratio of discards to total catch for both management areas; in 2016 this was 13.9% in the NFMA and 24.6% in the SFMA. The 2019 operational assessment estimates discards as 18.2% in the NFMA and 50.8% in the SFMA. The large increase in the SFMA discards is likely because of the large 2015 year class and the data show there has been an increase in discards from dredge gear.

Figure 1 - Revised specifications for the Northern Fishery Management Area

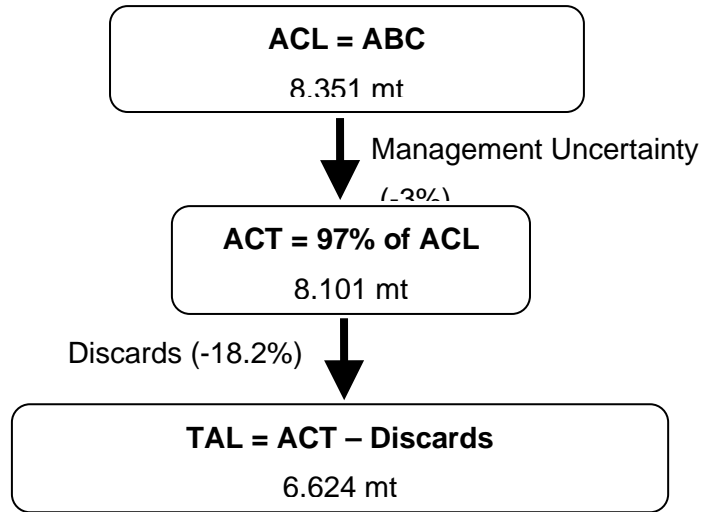
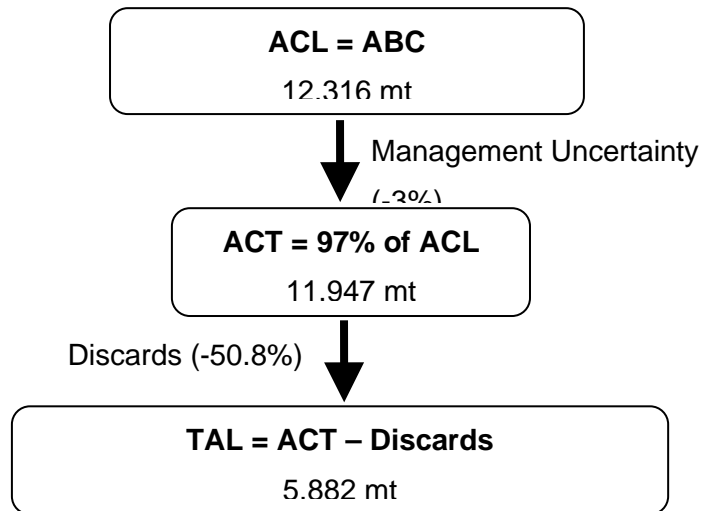


Figure 2 - Revised specifications for the Southern Fishery Management Area



**Table 1- Comparison of status quo (FYs 2016-2019) and alternative specifications (FYs 2020-2022) for the Northern Fishery Management Area**

	ABC	ACT	TAL	Estimated Discards	% Difference in TAL from status quo
Status quo	7,592	7,364	6,338	1,026	0%
Plan B adjustment factor (20%)	9,110	8,837	7,226	1,610	13%
<b>PDT recommended adjustment factor (10%)</b>	8,351	8,101	6,624	1,477	4.4%

**Table 2 - Comparison of status quo (FYs 2016-2019) and alternative specifications (FYs 2020-2022) for the Southern Fishery Management Area**

	ABC	ACT	TAL	Estimated Discards	% Difference in TAL from status quo
Status quo	12,316	11,947	9,011	2,936	0%
<b>PDT recommendation</b>	12,316	11,947	5,882	6,064	-42%

## 4.0 BACKGROUND OF ORIGINAL ACTION

Framework Adjustment 10 revised annual catch limits, increased the incidental monkfish trip limit in the NFMA, and increased the DAS allocation and trip limits in the SFMA (NEFMC 2017). The 2016 operational assessment moved from a model-based assessment to an empirical assessment based on commercial data and fishery-independent data (reference). The 2019 assessment update used the same empirical approach to provide catch advice as was previously analyzed, just updated with more recent information (reference).

The FY 2017-2019 specifications were based the Plan B stock assessment conducted in 2016, using estimates of 2012-2015 catch and 2013-2015 survey data. The overfishing limit (OFL) is defined as the product of the fishing mortality threshold ( $F_{max}$ ) and the current estimate of exploitable biomass. The OFLs for the Northern and Southern Fishery Management Areas remain at 17,805 mt and 23,204 mt, respectively because they cannot be updated without an age-based model. Discards were calculated from the ratio between the same 3 years of discards and catch; 2013-2015 were used in the calculation.

Current monkfish specifications for 2016-2019 fishing years are shown in Table 1 and Table 2 (7,592 mt ABC for the NFMA and 12,316 mt ABC for the SFMA). The 2016 operational assessment moved from a model-based assessment to an empirical assessment based on commercial data and fishery-independent data (reference).

## 5.0 NEW INFORMATION AND CIRCUMSTANCES

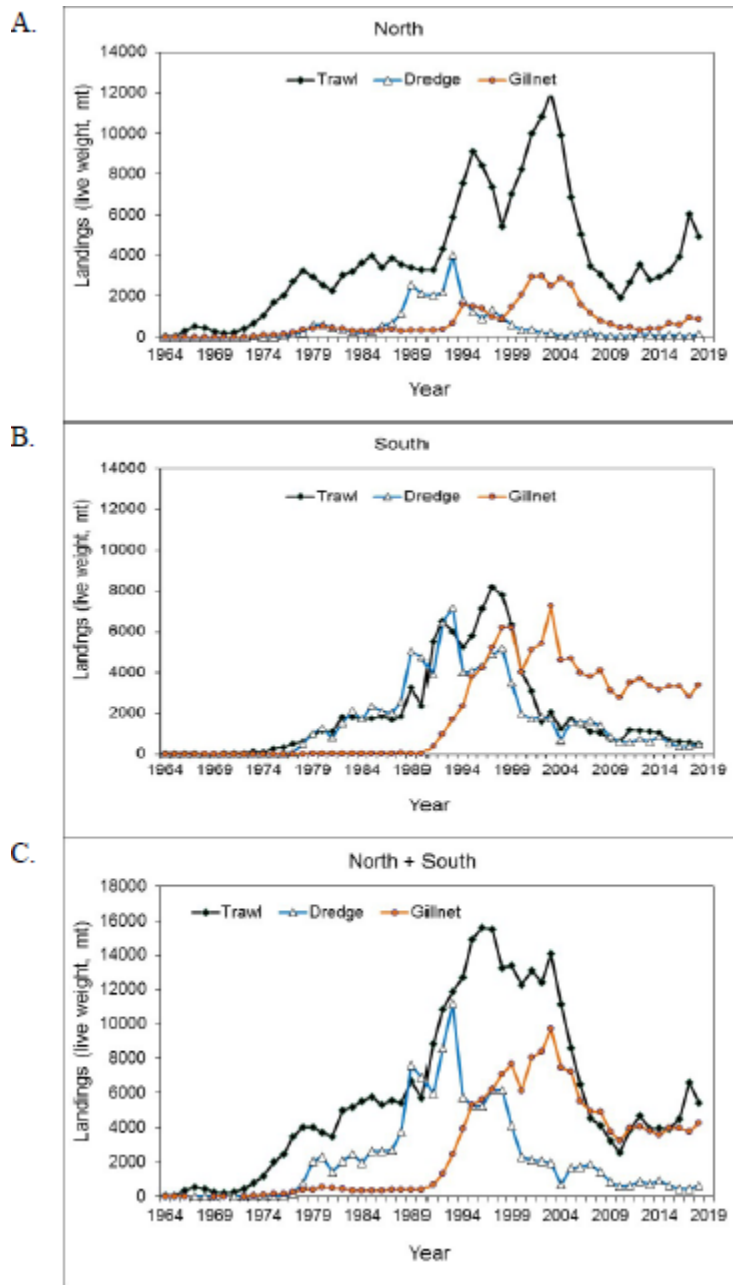
Commercial fishery statistics for monkfish were updated for 2015-2018. In the north, landings and catch have fluctuated around a steady level since 2009, but increased after 2015 (Figure 3). In the south, landings and catch had been declining since around 2000, but catch increased after 2015 due to discarding of a strong 2015 year class (Figure 3).

Strong recruitment in 2015 fueled an increase in stock biomass in 2016-2018, though abundance has since declined as recruitment returned to average levels. Biomass increases were greater in the northern area than in the southern area, and biomass has declined somewhat in the south.

The proportion of discards in the northern area catch was about 13% in the 1980s, 7% during 2002-2006, became slightly higher on average (12%) during 2007-2009, was 14% for 2010-2015 and 18% during 2016-2018 (Table D9, Figures 5, 6). During 2016-2018, the proportion of discards in the SFMA catch was 51%, and estimated discards (mt) exceeded landings in 2017 and 2018. These high discard rates are due primarily to regulatory discards in the scallop dredge fishery (Figure 4).

Survey data updated through 2018 indicate an increasing trend in biomass in both management areas since 2014; exploitable biomass (43+cm total length) indices have more than doubled in both areas since 2015, reflecting growth of the strong 2015 year class (Figure 5 and Figure 6). Abundance also increased, and remains relatively high but has been decreasing in most series since 2016. Recruitment indices were high in the north in 2015 and 2016, and in the south in 2015.

New estimates of area-swept minimum biomass and abundance were developed using results from a study of relative efficiency of chain and rock-hopper sweeps on the net used for NEFSC bottom trawl surveys. The area-swept estimates are approximately 3 times (total biomass) or 5 times (total abundance) higher than the un-adjusted estimates, but follow the same trends.



**Figure 3 - Commercial landings of monkfish by gear type and management area, 1964-2018. A. Northern management area, B. Southern management area, C. Management areas combined. Figure taken from draft 2019 assessment report.**

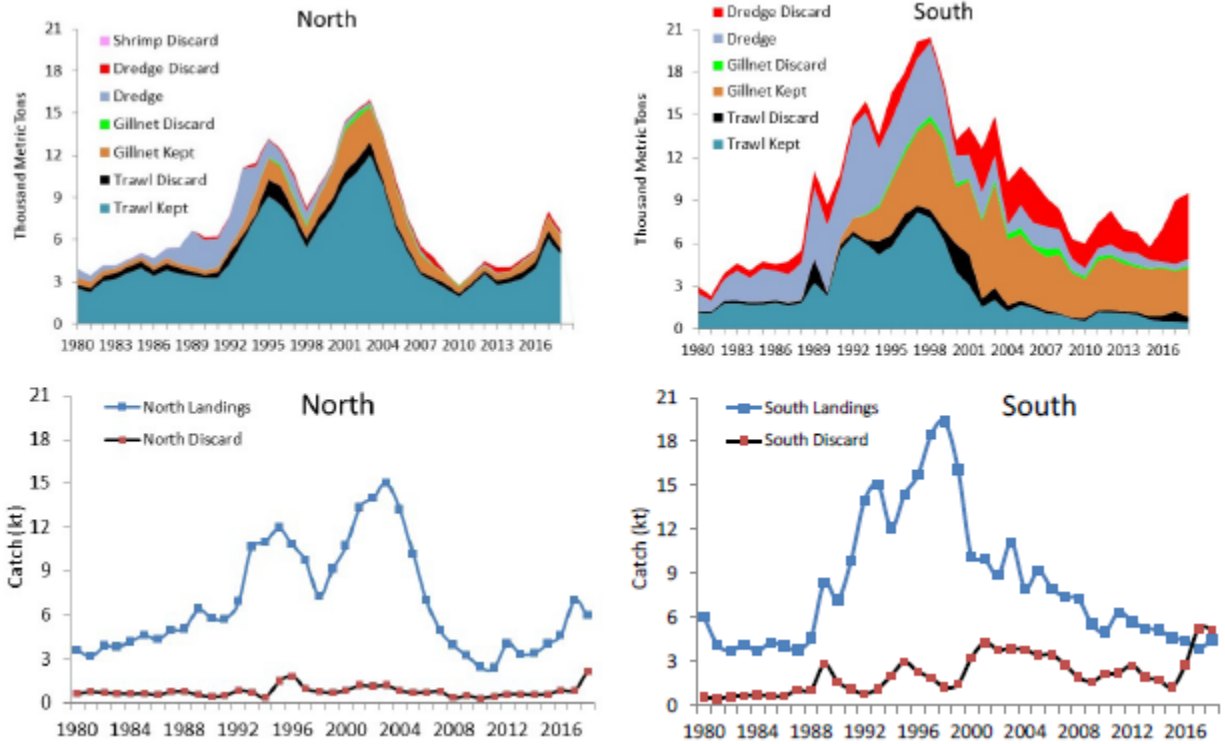


Figure 4 - Monkfish landings and discard by gear type (top panels) and total (bottom panels) for Northern (left) and Southern (right) Fishery Management Areas. Figure taken from draft 2019 assessment report.

North  
Biomass

W.F. D. Monk (11/23/2019)

Abundance

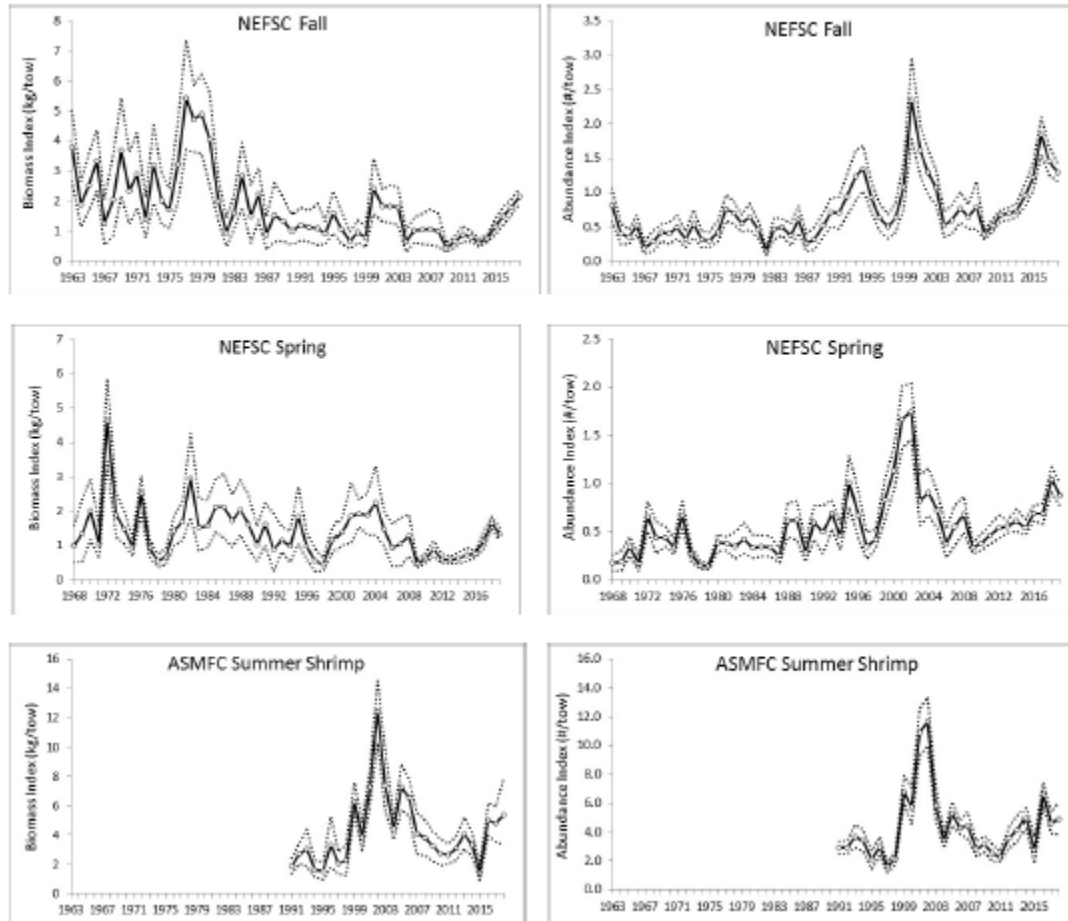


Figure 5 – Survey indices for monkfish in the Northern fishery management area. Points after 2008 in spring and fall surveys are from surveys conducted on the FSV Bigelow, converted to Albatross units. Figure taken from draft 2019 assessment report.



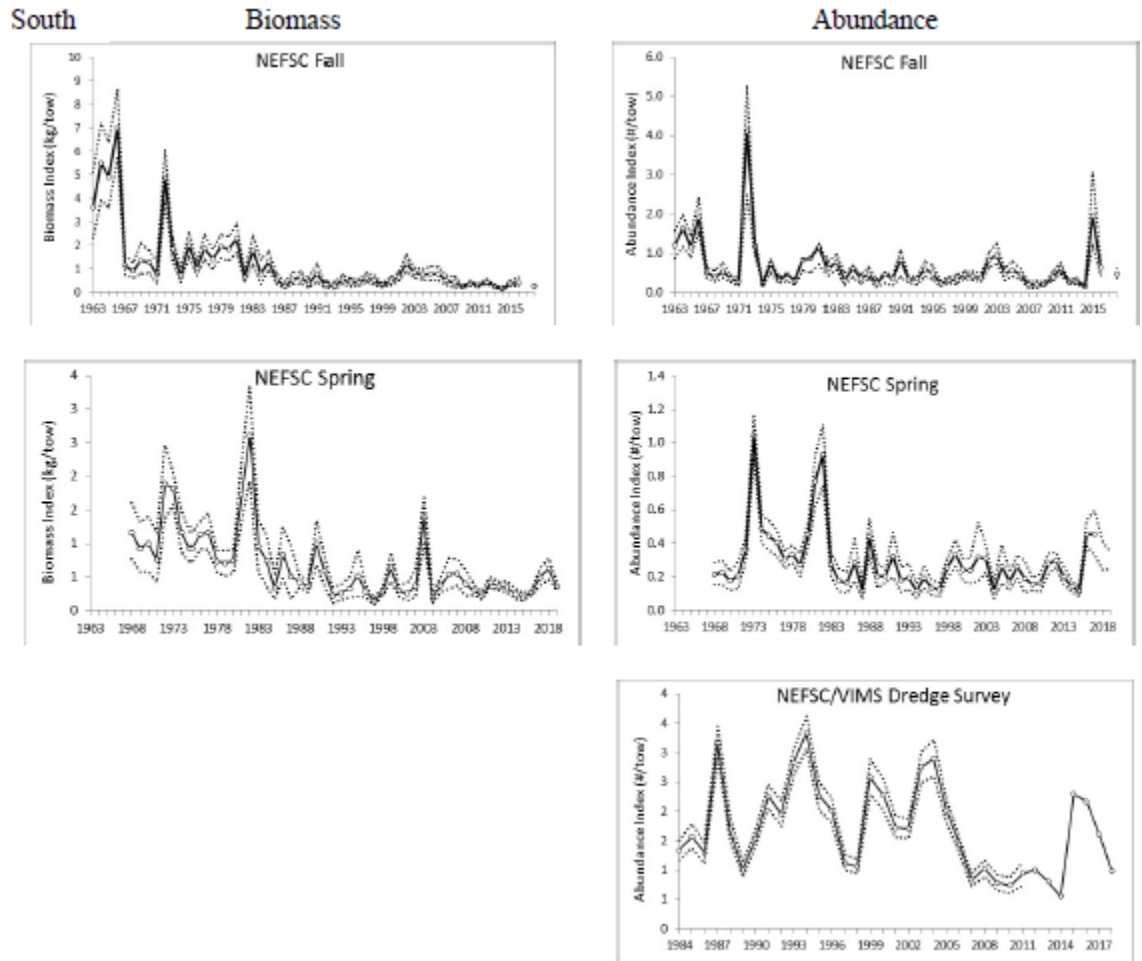


Figure 6 - Survey indices for monkfish in the Southern management area. Points after 2008 for NEFSC trawl surveys were conducted on the FSV Bigelow, converted to Albatross units. Scallop dredge survey indices after 2011 were calculated from combined data from surveys conducted by NEFSC and Virginia Institute of Marine Science. Figure taken from draft 2019 assessment report.

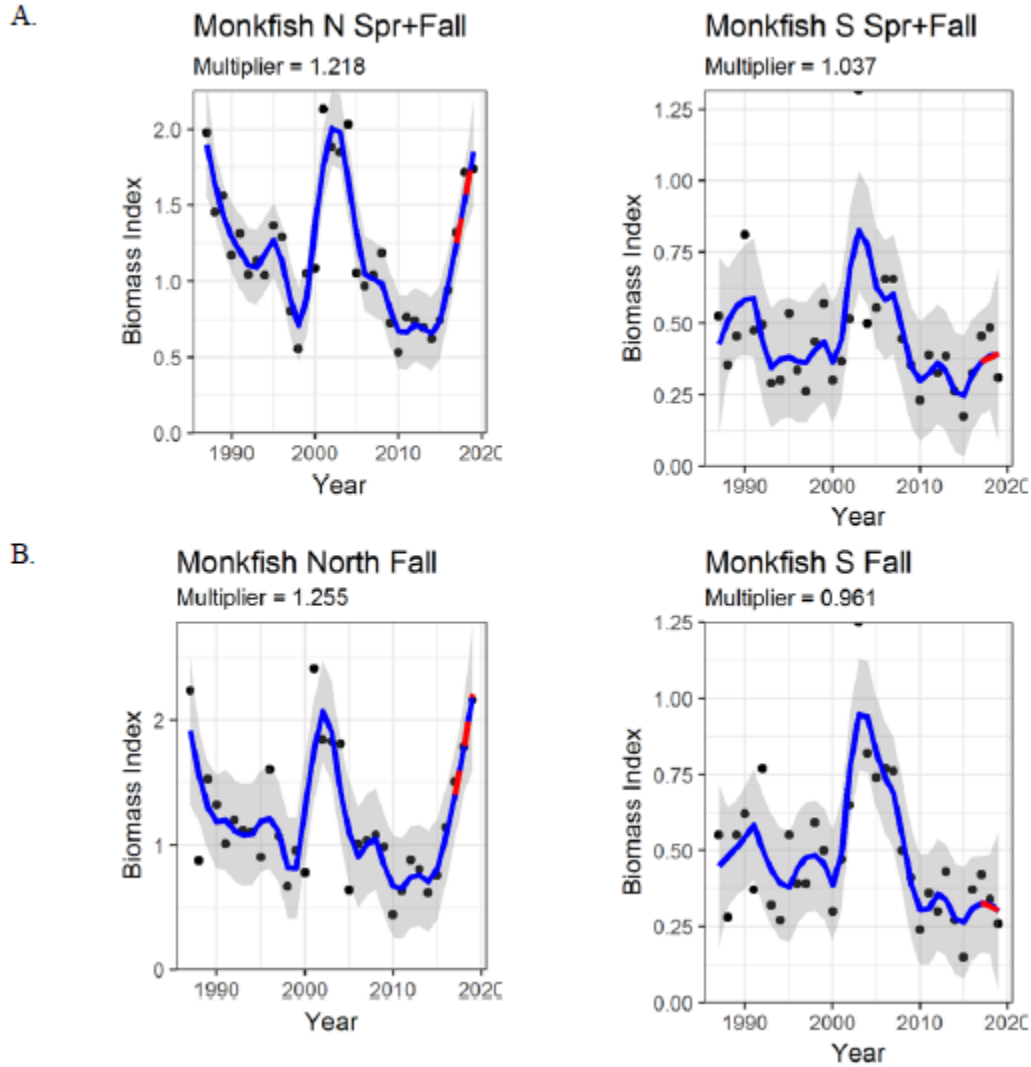


Figure 7 – Results of “Plan B” analysis. Points are observed biomass indices, lines are loess-smoothed indices, “multiplier” is slope of log-linear regression through terminal three smoothed points. A. Results using both spring and fall indices, B. Results using fall survey indices only. Figure taken from 2019 draft assessment report.

## 6.0 NEPA COMPLIANCES AND SUPPORTING ANALYSIS

The basis for previously analyzed management measures are not proposed to be changed in this action. The 2016 operational assessment moved from a model based assessment to an empirical assessment based on commercial data and fishery-independent data (reference). The 2019 assessment update used the same empirical approach to provide catch advice as was previously analyzed, just updated with more recent information (reference). The most recent information results in changes to the NFMA specifications; a small increase in the NFMA ABC and an update to the discard rate, which (referring to discards only fix later) helps to offset the increase in the ABC. There was a change in the discard rate applied to this region, however the method for calculating discards did not change and there was no recommendation to adjust the SFMA ABC. This decrease did reduce the SFMA TAL from the previous EA but it is not expected to constrain fishery operations or result in changes to how the fishery operates given that the SFMA fishery has not achieved its TAL (or the lower TAL proposed here) in the last 5 fishing years. Overall, the specifications for both management areas are not substantially different than what was previously analyzed in the EA for the 2017-2019 specifications (Table 3). The revised specifications would not warrant changes to effort controls, possession limits and day-at-sea (DAS) allocations, in either region.

The revised TAL in the NFMA represents a small increase (10%) when compared to the specifications established in the previous specifications EA (NEFMC 2017). The previous specifications EA also established the current possession limits and DAS allocations for both management areas and evaluated the impacts on the Valued Ecosystem Components (target, non-target/bycatch, protected species, habitat, and human communities) of the monkfish fishery. Changes in impacts to these VECs are not expected from this proposed action. When considered in this context, there is very little change in the specifications beyond what has been previously analyzed. These effort controls have been in place for 3 fishing years (2016-2019) and the ABC has not been exceeded, in that time. The TAL in the NFMA has only recently been achieved, which could be a combination of revised management measures (possession limits) and the large 2015 year class. Individuals from the 2015 year class have grown large enough to be retained by the fishery and are less likely to be discarded because of minimum size regulations. The TAL in the SFMA has not been fully achieved in the last 5 fishing years (Table 4).

The impacts of the proposed action are largely the same as in the previous action (NEFMC 2017), since the risk of monkfish overfishing in either management area (Table 5) is about the same as previously analyzed (NEFMC 2017) and the changes in catch limits are expected to cause little change in fishing behavior, targeting of monkfish or other species, fishing costs, or revenue from landing monkfish. Updated information and analyses that have bearing on adjusting the monkfish specifications are presented in Section 6.0 of this document.

**Table 3 – Recent landings in the NFMA compared to target TAL (data from [GARFO quota monitoring site](#))**

NMFA			
Fishing Year	Landings (mt)	TAL (mt)	Percent of TAL achieved
2014	3,403	5,854	58
2015	4,080	5,854	70

2016	5,447	5,854	93
2017	6,807	6,338	107
2018	6,168	6,338	97

**Table 4 – Recent landings in the SFMA compared to target TAL ([data from GARFO quota monitoring site](#))**

SMFA			
Fishing Year	Landings (mt)	TAL (mt)	Percent of TAL achieved
2014	5,415	8,925	61
2015	4,733	8,825	53
2016	4,345	8,925	49
2017	3,802	9,011	42
2018	4,600	9,011	51

**Table 5 – Summary of impacts on VECs from Framework 10 (NEFMC 2017)**

	Habitat Impacts	Allocated Target Species	Non-allocated Target Species and Bycatch	Endangered/ Protected Species	Human Community Impacts
ACL	Neutral	Neutral	Neutral	Low negative to neutral	Neutral to low positive
Effort Controls: NFMA	Neutral	Neutral to low positive	Neutral	Low negative	Neutral to low positive
Effort Controls: SFMA	Neutral	Neutral to low positive	Neutral	Low negative	Low positive to positive

## 7.0 CONCLUSION

After considering the proposed action in Section 3.0, new information in Section 5.0, NMFS has determined that a supplement to the EA for the 2017-2019 specifications (NEFMC 2017) is unnecessary because the adjustments are limited to these specifications and have impacts that were analyzed previously on the fishery and the managed stocks. Considerations in support of this conclusion include the following: 1) the changes to the monkfish specifications are not expected to substantially change the risk of overfishing, change the number or length of trips targeting monkfish, or change the profits or revenue from fishing for monkfish, and 2) no new information or circumstances exist that have a bearing on environmental concerns that are significantly different from when the original Finding of No Significant Impact was signed on July 12, 2017. The specifications EA (NEFMC 2017) thus remains valid to support the proposed action.